



Alcatel-Lucent 1665

Data Mutiplexer (DMX) | Release 9.0

TL1 Message Details

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About This Document

Purpose

This document specifies the TL1 messages supported by Alcatel-Lucent 1665 Data Multiplexer, subsequently referred to as Alcatel-Lucent 1665 DMX. Within the TL1 messages, Alcatel-Lucent 1665 Data Multiplexer may be referred to simply as DMX.

Product naming

As a result of the Alcatel-Lucent merger and new corporate branding guidelines, Metropolis[®] DMX Access Multiplexer (Metropolis[®] DMX) is now Alcatel-Lucent 1665 Data Multiplexer (Alcatel-Lucent 1665 DMX). The company logo and product name will be changed on many items including the shelves, circuit packs, cables, software banners, the WaveStar[®] CIT, documentation, ED drawings, software CD labels, configurators, OMS, and INC. Please be patient as we migrate each of these items. You may experience a period of transition when you may receive a mixture of the company logo and product names on any of these items. For example, a document may say Alcatel-Lucent 1665 DMX while the software says Metropolis[®] DMX. Despite the name change, rest assured that Metropolis[®] DMX and Alcatel-Lucent 1665 DMX are the same product with the same product features, interoperability, and operations remain unchanged.

Intended Audience

This document is written primarily for network operations planners, facility maintenance center personnel, transmission engineers, and technical support staff. It may be used by anyone who needs specific information about the TL1 messages supported by the product.

Reason for Reissue

This issue documents the TL1 messages for Alcatel-Lucent 1665 DMX Release 9.0.

Introduction

1

Overview

This document specifies the TL1 messages supported by Alcatel-Lucent 1665 Data Multiplexer.

TL1 Overview

Alcatel-Lucent 1665 DMX uses TL1 messages for installation and service provisioning, alarm/status and performance monitoring (PM) reporting, and maintenance operations. Both TL1 autonomous and command/response messages are supported. The TL1 messages support full local and remote reporting and control capabilities.

The TL1 provisioning messages are based on Telcordia Technologies GR-199. The TL1 maintenance messages are based on GR-833. The TL1 security messages are based on TR-NWT-835.

Operations Interfaces

Alcatel-Lucent 1665 DMX supports TL1 messages to communicate with systems such as the PC-CIT, SNMS, and other TL1 operations systems (OS)s over the following Alcatel-Lucent 1665 DMX operations interfaces:

- Front- and rear-access IAO LAN ports, supporting OSI or TCP/IP communications
- Front- and rear-access serial ports

- Section Data Communications Channel (DCC).

Refer to the Alcatel-Lucent 1665 Data Multiplexer *User Operations Guide* (365-372-301) for complete coverage of the operations interfaces supported by Alcatel-Lucent 1665 DMX.

TL1 Security

Access to Alcatel-Lucent 1665 DMX via TL1 is controlled by user IDs, passwords, and multiple user privilege levels.

An active TL1 login session is required at each NE in order to communicate with that NE (including both TL1 command/response and autonomous messages). The TL1 **ACT - USER** command is used to set up this session with each NE.

The TL1 **CANC - USER** command is normally used to terminate a TL1 login session with the NE. TL1 login sessions terminate automatically if the Alcatel-Lucent 1665 DMX system controller resets or if there is a lower-level communication failure between a user and an NE.

Each user ID has a privilege level associated with it. Refer to the **ACT - USER** command for general information about the TL1 access privileges. Refer to the **LOGIN PRIVILEGE** section of each TL1 command page for the privilege level required to use each command.

The following TL1 commands are provided to administer user access:

DLT - USER - SECU	ENT - USER - SECU
ED - PID	RTRV - CID - SECU
ED - USER - SECU	RTRV - USER - SECU
ENT - CID - SECU	SET - SID

Overview

This section provides detailed information about the input and output parameters for the supported Transaction Language 1 (TL1) messages. Unless otherwise specified, these messages are not supported on a subshelf in a multi-shelf DCS system utilizing a single TID

The following parameter detail tables are included in the Appendices:

- Access Identifiers (AIDs)
- Alarm and status condition descriptions
- Monitored parameter types
- Provisionable performance monitoring parameters
- Condition types

Alcatel-Lucent 1665 Data Multiplexer is case insensitive for all TL1 commands. For example, Alcatel-Lucent 1665 DMX accepts both **RTRV-ALM-ALL** and **rtrv-alm-all** as equivalent commands. All parameter values received are also case insensitive, except for the user identifier (*uid*) and private identifier (*pid*) parameters.

Most alphabetic characters in the TL1 command responses and autonomous messages are output in uppercase except:

- Correlation tag (*ctag*). The *ctag* is output exactly as it is received from the OS to assure compatibility.
- Access identifier (*aid*). The *aid* is always displayed in lowercase in the TL1 messages.
- Condition description (*conddescr*). The *conddescr* is output in mixed case for readability.

- Alarm message description (*alarmmsg*). The *alarmmsg* is output in mixed case for readability.
- Error text. Error text is output in mixed case for readability.

Alcatel-Lucent 1665 DMX does not support parameter grouping.

TL1 commands and command parameter values are to be input exactly as shown (upper-, lower-, or mixed-case alphabetic characters are acceptable, as mentioned above). TL1 commands are printed in **bold type** in this document.

Input parameter names are in *italic*, **bold**, lowercase characters. Input parameter values are shown as **bold**, UPPERCASE characters.

Output parameter names are in *italic*, lowercase characters. Output parameter values are UPPERCASE.

Items enclosed in brackets ([]) indicate optional parameters.

Where an **INPUT FORMAT** parameter appears in braces ({ }), one (and only one) of these parameters may be used.

NAME

ACT-USER: Activate User

The **ACT-USER** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

Starting in Release 4.0, this command is available to users with Privileged, Administration, General, Maintenance and Reports Only access.

INPUT FORMAT

ACT-USER: *tid:uid:ctag::pid;*

DESCRIPTION

ACT-USER commands are used to set up a TL1 session with a network element (NE). Access via an active TL1 login session is required at each NE in order to interact with the NE (including receiving autonomous message outputs and using TL1 commands).

Prior to creating a TL1 session, the CIT or management system establishes a connection with the DMX NE via an OSI association, Telnet session, X.25 connection or local CIT connection. There can be only one active TL1 session for each OSI association, Telnet session, X.25 connection or local CIT connection per NE. If a valid **ACT-USER** command is sent over one of these OSI associations, Telnet sessions or X.25 connections that has an existing active TL1 session, and if the user ID (**uid**) in the command line is the same as the **uid** of the active session, then the command returns a COMPLD response (See the **OUTPUT FORMAT** section). If the **uid** is different than the **uid** of the active session, then the command returns a DENY response. Note that the same **uid** may be used for multiple simultaneous TL1 sessions, as long as the TL1 sessions use different OSI associations, Telnet sessions or X.25 connections.

Starting in Release 6.0, X.25 is not supported.

The number of simultaneous active login sessions is determined by the number of simultaneous OSI associations, Telnet sessions and X.25 connections that are supported. The two CIT ports can each support only one OSI association or Telnet session. The two IAO LAN ports and the DCC taken together as a group can support up to eight simultaneous TL1 login sessions, in any combination. The

X.25 port can support up to nine simultaneous TL1 login sessions. Thus, there can be up to a maximum of 19 simultaneous login sessions. Attempts to create additional OSI associations or X.25 connections for the purposes of establishing new TL1 sessions beyond the number of connections that can be supported (i.e., one for each CIT port, nine for the X.25 port and eight total for the two IAO LAN ports and the DCC taken together) will be denied. Thus, for example, no additional TL1 sessions will be allowed on the X.25 ports if there are nine existing X.25 connections, but additional logins will be allowed on the IAO LAN ports and the DCC if there are less than eight OSI associations and/or Telnet sessions on this group of ports.

Starting in Release 6.0, X.25 is not supported.

If a communications failure occurs between a remote network element (RNE) and the gateway network element (GNE), all active TL1 sessions over the affected communications channels are terminated without notice to the user.

Communications failures that result in the termination of TL1 sessions include X.25 failures, DCC failures and the resetting or initialization of the GNE, the RNE, or an intermediate NE.

Starting in Release 6.0, X.25 is not supported.

Until a successful login is completed for a given NE, there are no outbound communications (autonomous or command responses) from the NE, except DENY responses to unsuccessful login attempts.

If a user's password has expired, and the **ACT-USER** command is executed, the **ACT-USER** will be accepted, but the **ACT-USER** will not be able to perform any of the functions until the user's password has been successfully changed. The only actions that are allowed are **CANC-USER** to exit or **ED-PID** to edit (change) the password.

A message will be displayed during the command completion response, informing the user that the password has expired and must be updated (see the "**EXAMPLE INPUT/OUTPUT**" section for an example). The only options at this point are for the user is to change the password identifier via the **ED-PID** command or **CANC-USER**.

TL1 login security is always enabled.

Starting in Release 9.0, **ACT-USER** is can be executed directly on a subshelf in a multi-shelf DCS system utilizing a single TID. Valid *uid* and *pid* values are those provisioned on the main shelf of the system. Once logged in on a subshelf, the user has access to the subshelf only.

Execution of this command will not be recorded in the Security log.

The **ACT-USER** command does not generate a **REPT DBCHG** message.

If the NE receives an **ACT-USER** command for a **uid** after the User Id Lockout Threshold for unsuccessful login attempts has been exceeded, and before the User Id Lockout Threshold counter has been reset by the lockout aging, the NE shall issue a Security Alert **REPT EVT** message.

INPUT PARAMETERS

Table 2-1. ACT-USER Input Parameters

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
uid	User Identifier. This is the unique user identifier (uid) for which the ACT-USER login command is used during login. Groups and/or ranges of uid values for this command are not allowed. Valid uid values for the ACT-USER command are case-sensitive alphanumeric strings of 5 to 10 characters which have been previously provisioned as valid login IDs in the NE(s).
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
pid	Password Identifier. This required parameter is the confidential password authenticator for a given uid. Valid pid values consist of case-sensitive strings of six to ten alphabetic, numeric, and symbolic characters where at least two are non alphabetic and at least one is symbolic (white space is ignored). Password strings are transmitted in unencrypted form in the ACT-USER command. Password strings are encrypted when stored in the NE and are never transmitted from the NE. If RADIUS authentication for the local NE is disabled (RTRV-SYS:radius=DISABLED), the minimum and maximum number of characters in the pid is specified by the pwmin and pwmax parameters (see RTRV-NE-SECU). If RADIUS authentication is enabled for the local NE (RTRV-SYS:radius=ENABLED), valid pid values consist of case-sensitive strings of 6 to 20 characters, with characters @ , : = " ; * \ ! ? not allowed due to their special TL1 meaning.

Refer to Telcordia TR-831 for definitions of the terms: alphabetic, numeric, and symbolic.

OUTPUT FORMAT

If the login request completes successfully, and no customer proprietary banner has been provisioned, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "uid"
/*  LUCENT TECHNOLOGIES <system>
    <release>
    User Privilege Level: <privilege>
    LUCENT TECHNOLOGIES - PROPRIETARY
    THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
    IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
    UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
    */
;
```

Starting in Release 3.1, if the login request completes successfully, and no customer proprietary banner has been provisioned, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "uid"
/*  LUCENT TECHNOLOGIES <system>
    <release>
    User Privilege Level: <privilege>
    Last Login: <lastlogin>, Attempts: <attempts>
    LUCENT TECHNOLOGIES - PROPRIETARY
    THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
    IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
    UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
    */
;
```


If the login request completes successfully, and a customer proprietary banner has been provisioned, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "uid"
/*  LUCENT TECHNOLOGIES <system>
  <release>
  User Privilege Level: <privilege>
  LUCENT TECHNOLOGIES - PROPRIETARY
  THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
  IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
  UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
  */
/*
<LINE1>
<LINE2>
...
...
...
<LINE10>
<LINE11>
*/
;
```

The customer provisioned banner that is transmitted to alert the user that a login has been granted must be left-justified with no leading spaces, except for line 1 which has 6 leading spaces. See **ENT-BANNER** and **RTRV-BANNER**.

Starting in Release 3.1, if the login request completes successfully, and a customer proprietary banner has been provisioned, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "uid"
  /* LUCENT TECHNOLOGIES <system>
    <release>
    User Privilege Level: <privilege>
    Last Login: <lastlogin>, Attempts: <attempts>
    LUCENT TECHNOLOGIES - PROPRIETARY
    THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
    IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
    UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
  */
  /*
  <LINE1>
  <LINE2>
  ...
  ...
  ...
  <LINE10>
  <LINE11>
  */
;
```

The customer provisioned banner that is transmitted to alert the user that a login has been granted must be left-justified with no leading spaces, except for line 1 which has 6 leading spaces. See **ENT-BANNER** and **RTRV-BANNER**.

For a new network element that does not have a software generic downloaded to it, the user may be required to log in to the Network Element to provision communications parameters and to initiate the software download. When the user logs into the Network Element prior to the downloading of the initial software generic, the third line of the response includes the text "INIT" as follows:

```
sid date time
M ctag COMPLD
  "uid:INIT"
/*  LUCENT TECHNOLOGIES <system>
    <release>
    User Privilege Level: <privilege>
    LUCENT TECHNOLOGIES - PROPRIETARY
    THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
    IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
    UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
    */
;
```

Starting In Release 3.1, when the user logs into the Network Element prior to the downloading of the initial software generic, the third line of the response includes the text "INIT" as follows

```
sid date time
M ctag COMPLD
  "uid:INIT"
/*  LUCENT TECHNOLOGIES <system>
    <release>
    User Privilege Level: <privilege>
    Last Login: <lastlogin>, Attempts: <attempts>
    LUCENT TECHNOLOGIES - PROPRIETARY
    THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
    IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
    UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
    */
;
```

A network element that does not have a single valid software generic and database, or has multiple valid releases or databases on its NVMs, will start in Maintenance Mode so that a software release and database can be selected or downloaded. The user will be required to log in to the Network Element to select a software release and database or to initiate a software download. When the user

logs into the Network Element when it is in Maintenance Mode, the third line of the response includes the text "INIT - MAINTENANCE MODE" as follows:

```
sid date time
M ctag COMPLD
  "uid:INIT - MAINTENANCE MODE"
/*  LUCENT TECHNOLOGIES <system>
  <release>
  User Privilege Level: <privilege>
  Last Login: <lastlogin>, Attempts: <attempts>
  LUCENT TECHNOLOGIES - PROPRIETARY
  THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
  IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
  UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
  */
;
```

A network element that has a single operational NVM will be put into an NVM Write Disabled mode. When the user logs into the Network Element when it is in this mode, the third line of the response includes the text "NVM WRITE DISABLED" as follows:

```
sid date time
M ctag COMPLD
  "uid:NVM WRITE DISABLED"
/*  LUCENT TECHNOLOGIES <system>
  <release>
  User Privilege Level: <privilege>
  Last Login: <lastlogin>, Attempts: <attempts>
  LUCENT TECHNOLOGIES - PROPRIETARY
  THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
  IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
  UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
  */
;
```

Starting in Release 4.0, if the login request completes successfully, and a customer proprietary banner has been provisioned, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "uid"
  /* LUCENT TECHNOLOGIES <system>
    <release>
    Session ID: <sessionid>
    User Privilege Level: <privilege>
    Last Login: <lastlogin>, Attempts: <attempts>
    LUCENT TECHNOLOGIES - PROPRIETARY
    THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
    IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
    UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
    */
  /*
  <LINE1>
  <LINE2>
  ...
  ...
  ...
  <LINE10>
  <LINE11>
  */
;
```

Starting in Release 4.0, if the login request completes successfully, and a customer proprietary banner has not been provisioned, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "uid"
  /* LUCENT TECHNOLOGIES <system>
    <release>
    Session ID: <sessionid>
    User Privilege Level: <privilege>
    Last Login: <lastlogin>, Attempts: <attempts>
    LUCENT TECHNOLOGIES - PROPRIETARY
    THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
    IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
    UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
    */
;
```

Starting in Release 7.1, "LUCENT TECHNOLOGIES" in the normal **ACT-USER** output is replaced with "ALCATEL - LUCENT", as shown in the following output format example:

```

sid date time
M  ctag COMPLD
  uid"
/*  ALCATEL-LUCENT <system>
    <release>
    Session ID: <sessionid>
    User Privilege Level: <privilege>
    Last Login: <lastlogin>, Attempts: <attempts>
    ALCATEL-LUCENT - PROPRIETARY
    THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
    IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
    UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
    */
;

```

If a valid **ACT-USER** command is received over an interface that has an existing active TL1 session, and if the user ID (**uid**) in the command line is the same as the **uid** of the active session, then the following normal completion response is returned:

```

sid date time
M  ctag COMPLD
;

```

OUTPUT PARAMETERS

Table 2-2. ACT-USER Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>uid</i>	User Identifier. This is included in the command input and is repeated by the network element as a confirmation that the given user identifier is successfully logged in.

Table 2-2. ACT-USER Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>lastlogin</i>	Date and time of the of the last successful login for this <i>uid</i>. The format is "YY-MM-DD, HH-MM-SS". If this is the first use of the uid, the value returned for <i>lastlogin</i> shall be "00-00-00, 00-00-00". If this is the first successful login for a <i>uid</i> since it was disabled and is now enabled, the value returned for <i>lastlogin</i> shall be "00-00-00, 00-00-00". The value returned for this parameter shall be "00-00-00, 00-00-00" if the User Identifier (<i>uid</i>) is not in the local database and the user login is authenticated by the RADIUS server.
<i>attempts</i>	The number of unsuccessful login attempts for this uid since the last successful login for this <i>uid</i>. The value returned for this parameter shall be "0" if the User Identifier (<i>uid</i>) is not in the local database and the user login is authenticated by the RADIUS server.
<i>system</i>	This parameter specifies the type of system. The values include: ■ METROPOLIS DMX Starting in Release 7.1, the system values are: ■ DMX
<i>release</i>	This is the software release of the system, in the form: RELEASE xx.yy.zz In the example, xx.yy.zz reflects the actual software release.
<i>privilege</i>	This parameter specifies the user privilege level. See the ENT-USER-SECU command's <i>UAP</i> parameter for valid privilege values.
<i>sessionid</i>	Session Identifier. This parameter is a unique identifier assigned to this login session. <i>sessionid</i> is an integer number in the range 1 to 255.

EXAMPLE INPUT/OUTPUT

If the login request would normally complete successfully, but the user's password age (enabled by the PAGE parameter using the **ENT-USER-SECU** command or

ED-USER-SECU command) has expired, the following completion response is returned:

```
ACT-USER:TID123:user1:123456::N*v*rL*d3;

TID123 00-10-26 16:42:11
M 123456 COMPLD
"user1"
/* LUCENT TECHNOLOGIES <system>
<release>
User Privilege Level: <privilege>
LUCENT TECHNOLOGIES - PROPRIETARY
THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
*/
>

TID123 00-10-26 16:42:11
M 123456 PRTL
/* Your password has expired. Until you change your password (ED-PID),
you will not be allowed further access to this Network Element */
;
```

Starting in Release 3.1, the following is an example of the normal output without a customer proprietary banner:

```
ACT-USER:TID123:user1:123456::N*v*rL*d3;

TID123 00-10-26 16:42:11
M 123456 COMPLD
"user1"
/* LUCENT TECHNOLOGIES METROPOLIS <system>
<release>
User Privilege Level: GENERAL
Last Login: 00-10-18, 7-23-31, Attempts: 1
LUCENT TECHNOLOGIES - PROPRIETARY
THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
*/
;
```


Starting in Release 4.0, the following is an example of the normal output without a customer proprietary banner:

```
ACT-USER:TID123:user1:123456::N*v*rL*d3;

TID123 00-10-26 16:42:11
M 123456 COMPLD
"user1"
/* LUCENT TECHNOLOGIES METROPOLIS <system>
<release>
Session ID: 137
User Privilege Level: GENERAL
Last Login: 00-10-18, 7-23-31, Attempts: 1
LUCENT TECHNOLOGIES - PROPRIETARY
THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
*/
;
```

Starting in Release 4.0, when a user first logs in after a restore from a remote backup file using the **CPY-MEM** command, the value of the last login date and time is the default value, i.e., 00-00-00, 00-00-00, and the value of the number of failed attempts is the value since the remote restore.

Starting in Release 7.1, the following is an example of the normal output without a customer proprietary banner:

```
ACT-USER:TID123:user1:123456::N*v*rL*d3;

TID123 07-10-26 16:42:11
M 123456 COMPLD
"user1"
/* ALCATEL-LUCENT <system>
<release>
Session ID: 137
User Privilege Level: GENERAL
Last Login: 07-10-18, 7-23-31, Attempts: 1
ALCATEL-LUCENT - PROPRIETARY
THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
*/
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

For invalid login tries, the error response message is not transmitted until both the **uid** and **pid** are provided by the session requester. The error response message does not indicate whether the **uid**, the **pid**, or both are invalid.

Exception: When an **ACT-USER** command is used with punctuation *after* the **pid**, (other than an end-of-message semicolon), if there is no active login to the NE an error response is returned. Usually, if non-null **uid** and **pid** values are received, the NE provides a response.

If the NE receives an **ACT-USER** command and the **uid**, the **pid** or both entries are invalid, or if a different login session is already active on the access channel, the following DENY error response is returned:

```
sid date time
M  ctag DENY
DENY
/* Login Failed */
;
```

If the NE receives an **ACT-USER** command by a non-privileged user when the channel is in *locked state*, access is denied and the following PIUI error response is returned:

```
sid date time
M  ctag DENY
PIUI
/* Privilege, Illegal User Identity, locked state - no non-privileged
access */
;
```

If the Gateway NE (GNE) receives an **ACT-USER** command, and the maximum number of associations (TL1 logins) are already in use, the following SARB error response is returned:

```
sid date time
M  ctag DENY
SARB
/* Status, All Resources Busy, TL1-GNE maximum associations
already in use */
;
```

If an **ACT-USER** command is addressed to a Remote NE (RNE), but the GNE is unable to determine a Target Identifier-to-Network Service Access Point

(TID-to-NSAP) translation, the following IITA error response is returned by the GNE using the **sid** value of the addressed RNE:

```
sid date time
M ctag DENY
IITA
/* Input, Invalid Target identifier, TL1-GNE unknown TID */
;
```

If an **ACT-USER** command is addressed to a RNE, but the GNE's association setup attempt fails, the following SARB error response is returned by the GNE using the **sid** value of the addressed RNE:

```
sid date time
M ctag DENY
SARB
/* Status, All Resources Busy, TL1-GNE association setup failure */
;
```

If an **ACT-USER** command is received for a **uid** that's disabled, either through login aging or through explicit action of a security administrator, the following DENY error response is returned:

```
sid date time
M ctag DENY
PLNA
/* Privilege, Login Not Active, login disabled */
;
```

The above error response is returned only after the login **uid** and **pid** are authenticated.

If the NE receives an **ACT-USER** command for a **uid** after the User Id Lockout Threshold for unsuccessful login attempts has been exceeded, and before the User Id Lockout Threshold counter has been reset by the lockout aging, the following DENY error response is returned:

```
sid date time
M ctag DENY
DENY
/* Login Failed */
;
```

If the NE receives an **ACT-USER** command but access is denied due to the Access Control List (see **RTRV-ACL**), the following error response is returned:

```
sid date time
M  ctag DENY
  SNVS
/* Status, Not in Valid State, access denied */
;
```

RELATED TL1 MESSAGES

CANC-USER

DLT-USER-SECU

ED-PID

ENT-USER-SECU

RTRV-USER-SECU

ED-NE-SECU

RTRV-NE-SECU

NAME

ALW-MSG: Allow Message

The **ALW-MSG** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

Beginning in Release 3.0 this command is available to users with Privileged, General, Maintenance, and Reports Only access.

Starting in Release 1.0, this command is available to users with Privileged, Administration, General, Maintenance, and Reports Only access.

INPUT FORMAT

ALW-MSG *-modifier:tid:[aid]:ctag[:,,];*

DESCRIPTION

The **ALW-MSG** command allows the NE to resume the forwarding of autonomous messages previously suspended with the **INH-MSG** command. See the **INH-MSG** command for a discussion on suspending the forwarding of autonomous messages.

ALW-MSG commands are initiated by users to resume transmission of all autonomous messages from a network element (NE) if autonomous message reporting from that NE had been inhibited.

When an NE receives an **ALW-MSG** command from a user, the NE resumes transmission of all autonomous messages if autonomous message reporting had been inhibited.

When autonomous message reporting to all users is resumed after having been inhibited, the NE reports that autonomous message reporting is allowed in an autonomous **REPT EVT** message.

The network element reports all active alarm and status conditions to all users (depending on OS type) in autonomous (REPT) messages when the reporting of autonomous messages is resumed by any user after having been inhibited.

If there are no active alarm or status conditions to report, the NE returns a normal completion (COMPLD) response to the **ALW-MSG** command, and reports that

autonomous message reporting is allowed in an autonomous **REPT EVT** message.

Beginning in Release 3.0, the **ALW-MSG** command is executed on a per user basis instead of on a network element basis. Due to that change, the following description replaces the previous description.

ALW-MSG commands are initiated by users to resume transmission of autonomous messages on a user session basis if autonomous message reporting from that NE had been inhibited.

When an NE receives an **ALW-MSG** command from a user, the NE resumes transmission of autonomous messages for that user session if autonomous message reporting had been inhibited.

The network element reports all active alarm and status conditions to the user initiating the **ALW-MSG** command (depending on OS type) in autonomous (REPT) messages when the reporting of autonomous messages is resumed by that user after having been inhibited.

If there are no active alarm or status conditions to report, the NE returns a normal completion (COMPLD) response to the **ALW-MSG** command.

The default system state is **ALW-MSG**.

Starting in release 3.1, execution of this command, whether successful or denied, will not be recorded in the Security log.

The **ALW-MSG** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-3. ALW-MSG Input Parameters

Parameter Name	Description
<i>modifier</i>	Modifier. The <i>modifier</i> value must be ALL .
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter
<i>aid</i>	Access Identifier. The <i>aid</i> value must be ALL or NULL (default= ALL) because the entire system is affected.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the **ALW-MSG-ALL** request, the following completion response is returned:

```
sid date time  
M ctag COMPLD  
;
```

If the NE receives an **ALW-MSG** command from a user when autonomous message reporting to the user had already been allowed, the NE provides a normal completion response.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **RTRV-HDR OUTPUT PARAMETERS** section.

EXAMPLE INPUT/OUTPUT

```
alw-msg-all:TID123::123xyz;  
IP 123xyz  
<  
  
TID123 00-06-06 09:30:49  
M 123xyz COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **ALW-MSG** command.

If an **ALW-MSG** command is received with any command code modifier other than **ALL**, the following error response is returned:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid MODIFIER */
;
```

If an **ALW-MSG** command is received with an invalid **aid** value (anything other than **ALL** or **NULL**), the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access identifier */
;
```

RELATED TL1 MESSAGES

INH-MSG

REPT EVT

NAME

ALW-PORTMNTC: Allow Port Maintenance

The **ALW-PORTMNTC** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.0

LOGIN PRIVILEGE

This command is available only to users with Privileged access.

INPUT FORMAT

The input syntax for **ALW-PORTMNTC** is:

ALW-PORTMNTC-*modifier:tid:aid:ctag;*

DESCRIPTION

This command, along with **INH-PORTMNTC**, provides Privileged level control over the use of the existing ports and lines on which loopbacks may be set up and on which **TEST-TRMSN** can be executed.

When executing **ALW-PORTMNTC**, if some of the specified ports or lines are already in the port maintenance allowed state, they will remain in the allowed state and the remaining specified ports or lines will be put into the port maintenance allowed state.

The default port maintenance control state is determined by the value of **ENT-SYS:portmntc_default**, which has an initial value of **ALLOWED**. New ports or lines that result when a circuit pack is inserted into an unprovisioned slot will have the port maintenance control state specified by the currently-provisioned value of **portmntc_default**.

Allowing Loopbacks on Ports and Lines

OPR-LPBK will be denied if the port maintenance control state of the specified port or line AID is **INHIBITED**. Executing **ALW-PORTMNTC** will allow loopbacks to be set up on ports or lines for which loopbacks were previously denied.

Note that this command allows provisioning loopbacks on the specified ports or lines but does not change any pre-existing loopbacks on the specified ports or lines.

Allowing Test Transmission on Ports

The **TEST - TRMSN** command sets up a one minute transmission test on a specified DS1, E1 or DS3 port. To prevent this transmission test from affecting service, **TEST - TRMSN** will be denied if the port maintenance control state of the specified port AID is **INHIBITED**. Executing **ALW - PORTMNTC** will allow **TEST - TRMSN** transmission tests on ports for which transmission testing was previously inhibited.

Port Maintenance State When Port Interface Type is Changed

The port interface type on some circuit packs can be provisioned to be

- either DS1 or E1 ports (**ED - EQPT: *intftype***)
- either DS3 or EC1 ports (**ENT - rr: *elf***)
- OC-3, OC-12 or OC-48 on multirate circuit pack (**ENT - rr: *signaltype***).
- OC-n, GbE, FICON or Fibre Channel on a MUXPONDER circuit pack (**ENT - OTPE: *signaltype***).

When the port interface type is changed, the value of the port maintenance control state for each changed port on the circuit pack is changed to the default value specified by **ENT - SYS: *portmntc_default***.

Execution of this command, whether successful or denied, is recorded in the Security log.

This command generates a **REPT DBCHG** message for each port or line for which the port maintenance control state is changed from **INHIBITED** to **ALLOWED**.

INPUT PARAMETERS

Table 2-4. ALW-PORTMNTC Input Parameters (cont 1 of 3)

Parameter Name	Description
<i>modifier</i>	This is the command modifier for the ALW - PORTMNTC command. The modifier is a required field, and must have one of the following values: ■ EC1 This request is to allow loopbacks on an EC-1 interface. ■ ENET This request is to allow loopbacks on an Ethernet interface.

Table 2-4. ALW-PORTMNTC Input Parameters (cont 2 of 3)

Parameter Name	Description				
	■ DATA This request is to allow loopbacks on a DATA interface. ■ OC3 This request is to allow loopbacks on an OC-3 interface. ■ OC12 This request is to allow loopbacks on an OC-12 interface. ■ OC48 This request is to allow loopbacks on an OC-48 interface. ■ OC192 This request is to allow loopbacks on an OC-192 interface. ■ OTU2 This requests to allow loopbacks on an OTU2 interface. ■ T1 This request is to allow loopbacks or transmission tests on a DS1 interface. ■ E1 This request is to allow loopbacks or transmission tests on an E1 interface. ■ T3 This request is to allow loopbacks or transmission tests on a DS3 interface. ■ ALL This requests is to allow loopbacks on all ports and lines on the NE and transmission tests on all T1, E1 and T3 ports on the NE.				
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.				
aid	Access Identifier. The aid determines the interface for which allowing port maintenance is being requested. aid can be an individual port or line or it can be a range of ports or lines. See Appendix A - AID Table for valid AIDs. The aid value for each interface type is: <table> <tr> <td>ALL</td><td> All ports or lines of the type specified by modifier In a multi-shelf DCS system, ALL applies to entities on the main shelf only. To allow port maintenance on all entities in a subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number. </td></tr> <tr> <td>T1</td><td>DS1 Port AID</td></tr> </table>	ALL	All ports or lines of the type specified by modifier In a multi-shelf DCS system, ALL applies to entities on the main shelf only. To allow port maintenance on all entities in a subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number.	T1	DS1 Port AID
ALL	All ports or lines of the type specified by modifier In a multi-shelf DCS system, ALL applies to entities on the main shelf only. To allow port maintenance on all entities in a subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number.				
T1	DS1 Port AID				

Table 2-4. ALW-PORTMNTC Input Parameters (cont 3 of 3)

Parameter Name	Description
	E1 E1 Port AID T3 DS3 Port AID EC1 EC1 Port AID ENET Ethernet LAN Port AID DATA DATA Port AID OCn OC-n line AID OTU2 OTU2 line AID If modifier=ALL is specified, then the value of aid is assumed to be ALL, regardless of the specified value of aid. If the value of modifier is not ALL, then a value for aid must be specified. Beginning in Release 9.0, if modifier=ALL, aid may be omitted, in which case its value defaults to ALL (as defined above). If modifier=ALL and aid is specified, the only accepted values are ALL and {shelf}-ALL.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Starting in Release 7.1, the **modifiers** OC3, OC12 or OC48 apply to the ports on a multirate circuit pack according to the provisioned signal type (see **ENT-r r:signaltype**).

Starting in Release 7.1, the **modifiers** ENET, DATA, OC3, OC12 or OC48 apply to the client ports on a muxponder circuit pack according to the provisioned signal type (see **ENT-OTPE:signaltype**).

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **ALW-PORTMNTC** command.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

EXAMPLE INPUT/OUTPUT

The following is an example of provisioning the port maintenance control state of a DS1 port on a 56 DS1/E1 LNW8 circuit pack.

ALW-PORTMNTC-T1:LT-TID123:a-1-1-1:123456;

IP 123456
<

LT-TID123 06-10-26 16:42:11
M 123456 COMPLD
;

The following is an example of provisioning the port maintenance control state of all DS3 ports:

ALW-PORTMNTC-T3:LT-TID123:all:123456;

IP 123456
<

LT-TID123 06-11-22 16:42:11
M 123456 COMPLD
;

The following is an example of provisioning the port maintenance control state of all ports and lines on the NE:

ALW-PORTMNTC-ALL:LT-TID123::123456;

IP 123456
<

LT-TID123 07-02-06 16:42:11
M 123456 COMPLD
;

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **ALW-PORTMNTC** command with a *modifier* other than that supported by the NE, the following error response is returned:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

If the NE receives an **ALW-PORTMNTC** command with an *aid* that is not valid or without an *aid* if *modifier* does not equal **ALL**, or if the *aid* does not match the *modifier* type, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

If the NE receives an **ALW-PORTMNTC** command with a valid *aid* value, but one for which the corresponding equipment is provisioned to be unequipped, the following error response is returned:

```
sid date time
M ctag DENY
ENEQ
/* Equipage, Not Equipped */
;
```

RELATED TL1 MESSAGES

OPR-LPBK

RLS-LPBK

RTRV-LPBK

ENT - SYS

RTRV - SYS

TEST - TRMSN

RTRV - PORTMNTC

INH - PORTMNTC

NAME

ALW-TRIBMNTC: Allow Tributary Maintenance

The **ALW-TRIBMNTC** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.0

LOGIN PRIVILEGE

This command is available only to users with Privileged access.

INPUT FORMAT

ALW-TRIBMNTC-modifier:tid:aid:ctag;

DESCRIPTION

This command, along with **INH-TRIBMNTC**, provides Privileged level control over the use of connected tributaries in test access sessions. Executing this command changes the tributary maintenance control state of the specified tributaries to allow their use as the **etrib** or **ftrib** in **CONN-TACC**.

The default tributary maintenance control state is determined by the value of **ENT-SYS:tribmntc_default**, which has an initial value of **ALLOWED**. New tributaries that are created when cross-connections are provisioned via **ENT-CRS-rr** or via **ENT-ROLL** will have the tributary maintenance control state specified by the currently-provisioned value of **tribmntc_default**.

When executing **ALW-TRIBMNTC**, if some of the specified tributaries are already in the maintenance control allowed state, they will remain in the allowed state and the remaining specified tributaries will be put into the tributary maintenance allowed state.

Both input tributaries to a 1WAYPR cross-connection need to have the same tributary maintenance control state. Thus when changing the tributary maintenance control state of a tributary that is input to a 1WAYPR cross-connection to **ALLOWED**, the other input tributary will also be changed to **ALLOWED**, even if the tributary is not specified in the **INH-TRIBMNTC** command.

This command does not change any pre-existing test access sessions.

If there are no existing tributaries specified by **modifier** and **aid**, the **ALW-TRIBMNTC** command returns a normal completion response. The provisioned value for these tributaries that don't currently exist is not stored, and when these

tributaries are created when cross-connects are provisioned, they will have the tributary maintenance control state specified by ***tribmntc_default***.

Execution of this command, whether successful or denied, is recorded in the Security log.

This command generates a **REPT DBCHG** message for each tributary for which the tributary Maintenance control state is changed from **INHIBITED** to **ALLOWED**.

INPUT PARAMETERS

Table 2-5. ALW-TRIBMNTC Input Parameters

Parameter Name	Description
<i>modifier</i>	This is the message modifier for the ALW-TRIBMNTC command. The modifier is a required field, and must only have one of the following values: ■ VT1 This is for VT1.5- or DS1-level tributary maintenance control. ■ STS1 This is for STS-1- or DS3-level tributary maintenance control. ■ STS3C This is for STS-3c-level tributary maintenance control.
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description for this parameter.
<i>aid</i>	Tributary Identifier. This is the AID of a VT, STS-1 or STS-3c tributary (on an OLIU, or a DS1, DS3, TMUX or EC1 port). <i>aid</i> can be an individual tributary AID or it can be a range of tributary AIDs. See Appendix A - AID Table for valid AIDs. AID ranges are allowed up to all STS tributaries in a line or all VT tributaries in an STS tributary.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **ALW-TRIBMNTC** command.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also.

EXAMPLE INPUT/OUTPUT

The following is an example of provisioning the maintenance control state of a VT1 tributary in the FN A group.

```
ALW-TRIBMNTC-VT1:LT-TID123:a1-1-2-4:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 06-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following is an example of provisioning the maintenance control state of all VT1 tributaries within a VT group:

```
ALW-TRIBMNTC-VT1:LT-TID123:a1-1-2-1-all:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 06-11-22 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following is an example of provisioning the maintenance control state of all VT1 tributaries within a VT group:

```
ALW-TRIBMNTC-VT1:LT-TID123:m2-1-9-4-all:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 06-11-22 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following is an example of provisioning the maintenance control state of all VT1 tributaries within an STS-1 tributary:

```
ALW-TRIBMNTC-VT1:LT-TID123:a1-1-2-all:123456;  
  
IP 123456  
<  
  
    LT-TID123 07-02-06 16:42:11  
M 123456 COMPLD  
;
```

The following is an example of provisioning the maintenance control state of all STS-1 tributaries within an optical line:

```
ALW-TRIBMNTC-ST511:LT-TID123:a1-2-all:123456;  
  
IP 123456  
<  
  
    LT-TID123 07-02-06 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **ALW-TRIBMNTC** command with a *modifier* other than that supported by the NE, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

If the NE receives an **ALW-TRIBMNTC** command with an **aid** that is not valid or if the **aid** does not match the **modifier** type, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID is missing, wrong or
  inconsistent with modifier */
;
```

If the NE receives an **ALW-TRIBMNTC** command with a valid **aid** value, but one for which the corresponding equipment is provisioned to be unequipped, the following error response is returned:

```
sid date time
M ctag DENY
  ENEQ
  /* Equipage, Not EQuipped */
;
```

If the NE receives an **ALW-TRIBMNTC** command addressed to a tributary of an inter-shelf interface in a multi-shelf DCS system utilizing a single TID, the NE returns the following error response:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, provisioning not allowed in mutli-
  shelf DCS system */
;
```

RELATED TL1 MESSAGES

CHG-ACCMD

CONN-TACC

DISC-TACC

RTRV-TACC

ENT-SYS

RTRV - SYS

RTRV - TRIBMNTC

INH - TRIBMNTC

NAME

APPLY: Apply

The **APPLY** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

The input format of **APPLY** is as shown below.

APPLY:*tid:[aid]:ctag[::[time],[date],[action]
[:spec_block]];*

Beginning with Release 2.0, the input format of **APPLY** is as follows:

APPLY:*tid::ctag[::[time],[date],[action] [:spec_block]];*

DESCRIPTION

The **APPLY** command can be used to upgrade an network element's (NE's) software generic by activating a dormant software generic (from the NE's flash memory) to replace the NE's currently executing software generic.

Whenever the dormant software version does not match the currently executing software version, a standing status condition is raised indicating that the software versions do not match. When the NE determines it is time to install the new software and activates the dormant software, the software mismatch status condition is cleared and a "install program IP" (In Progress) standing status condition is raised.

While the dormant software generic is being activated, no other commands that could cause a system controller reset are allowed. When dormant software generic activation is scheduled, but it is not yet in progress, any other command that causes a system controller reset will also delete the scheduled software generic activation.

Using this command to activate the dormant software generic on the system controller (SYSCTL) isn't service-affecting. However, normal alarming and protection switching are temporarily disabled when the system controller resets as a result of this command.

When the system controller resets, all alarms and conditions are cleared and then rediscovered by the new software generic. After the system controller reset, the user must reestablish communications with the NE.

The **time** and **date** parameters can be used to schedule activation of the NE software generic. Both parameters may be provided, or only the **time** parameter may be provided. If only **time** is provided, the activation is scheduled to commence within the next 24 hours. If no **time** or **date** are specified, the default is to schedule activation for 15 minutes after processing the **APPLY** command.

Starting in Release 5.1, if **action=INSTALL_NOW** is specified, the activation occurs immediately after processing the **APPLY** command. If the **time** and/or **date** parameters are also specified, they will be ignored and they will not be checked for validity.

If a previous execution of **APPLY** has scheduled an install activation which hasn't yet occurred, executing **APPLY** with **action=INSTALL_NOW** will cause an immediate activation and cancel the scheduled future activation.

If **APPLY** has been executed with **action=INSTALL_NOW** and an install activation is in progress, executing **APPLY** with **action=CANCEL** will be denied.

After software activation completes, the dormant copy of the software generic is retained in flash memory so that it can be copied to other NEs of the same type, as required. The dormant copy of the software generic is always stored in compressed form.

If activation of the dormant NE software generic is interrupted, the "nesw install program IP" status condition is cleared, and an "NE SW generic corrupted" major (MJ) alarm is declared. This indicates that the **APPLY** command should be rescheduled. If the new **APPLY** command completes successfully, then the "NE SW generic corrupted" alarm is cleared.

Starting in Release 5.0, while the system controller is resetting, and before there is any other indication displayed on the IND, a flashing "b" will be displayed to indicate that a controller reboot is in progress. There is a short delay between the time that the system controller starts to reset and the time that the flashing "b" is displayed.

Starting in Release 5.1, if **APPLY** is used to install a software generic that is an earlier version than the release that is currently running in the NE and the forced option is not specified, i.e., **type=FORCED**, the command will be denied.

Starting in Release 6.0, the user has the option of selecting **generic=PREVIOUS_REL** as the generic to apply. Since this release is an earlier version than the release that is currently running in the NE, if the forced option is not specified, i.e., **type=FORCED**, the command will be denied.

When **generic=PREVIOUS_REL** is specified and applied, the database associated with this release is restored. Any provisioning since the last time this previous database was updated will be lost and service may be affected. see **RTRV-GENERIC:previous_db**.

This command also upgrades software running on those circuit packs which have software. These will be referred to as Smart Packs. Refer to Appendix D to determine which packs are Smart Packs.

Prior to Release 2.0, this command can also be used to upgrade Smart Pack software by activating dormant software (from the NE's flash memory) to replace the currently executing software on the addressed circuit pack. The circuit pack software is upgraded immediately upon request, and cannot be scheduled. If the upgrade is for an unprotected pack, the pack will lose transmission during the reboot phase.

Beginning in Release 2.0, this command upgrades the software generic on the system controller (SYSCTL) and all Smart Packs. The NE resets the system controller to activate the dormant software generic. The NE then checks the current software version of all of the Smart Packs. If the version of software on any of these circuit packs is different from the version included in the new software generic, the NE blinks the green LED on the affected circuit pack(s) while each of the affected circuit packs is automatically upgraded to the new version. If a circuit pack upgrade is successful, the green LED is solidly lit, unless it is standby, in which case the LED is turned off. If a circuit pack upgrade fails, a standing condition is raised corresponding to whether the dormant software was corrupted or activation failed.

Note: Smart Pack software upgrades may be service-affecting.

When upgrading a protected Smart Pack, the service affect is limited to one automatic equipment protection switch. If an upgrade is taking place on an unprotected non-Ethernet pack, transmission is lost during the circuit pack's reboot phase.

With Ethernet circuit pack software upgrades, the NE performs a non-service affecting upgrade to restart the pack if the DOS FPGA does not have to be reloaded. The system controller will reject all new provisioning commands destined for Ethernet circuit packs while the software upgrade is taking place, and the NE will output a denial message for all Ethernet provisioning commands.

Starting in Release 5.0, at most one dormant software generic can be stored in the system at a time. This software generic can be for the local NE type or it can be for a different product type. If the dormant software generic is for a different NE type, executing **APPLY** will be denied.

Starting in Release 6.0, the NE stores three software generics: the currently active generic (i.e., the **active_rel**), the previous generic (i.e., the **previous_rel**)

and a dormant software generic (i.e., the **dormant_rel**),. Any new generic that is downloaded to the NE via the **CPY-MEM** or **CPY-PRGM** command is downloaded as the **dormant_rel**. This software generic can be for the local NE type or it can be for a different product type. It may also be a DMX release prior to Release 6.0, in which case it is treated as if it's a release for a different product type.

When a new **dormant_rel** generic is applied, the currently active generic, i.e., the **active_rel** is relabeled as the **previous_rel** and the **dormant_rel** is applied to the **active_rel**. The original copy of the **dormant_rel** is unchanged.

Starting in Release 6.0, the user can select either the **DORMANT** or the **PREVIOUS** to apply. If the **DORMANT** is selected but is for a different NE type, or for an incompatible controller for this NE type, or if the selected generic is NULL, executing **APPLY** will be denied. If the **PREVIOUS** is selected, it becomes the new **active_rel**, the old **active_rel** becomes the new **previous_rel** and the **dormant_rel** is unchanged.

Starting in Release 6.0, when the NE first starts up in the normal mode, it raises a "generic validation IP" standing condition while it validates the **previous_rel** and **dormant_rel** on each of the NVMs. The NE also raises a "generic validation IP" standing condition while it synchronizes the downloaded generic on the NVMs after the user executes **CPY-MEM:class=DOWNLOAD** or an incoming **CPY-PRGM** has finished receiving the generic. **APPLY** will be denied while the "generic validation IP" standing condition exists.

Starting in Release 6.0, if one of the NVMs is missing or failed, writing to the remaining NVM is disabled and an "NVM write disabled" standing condition is raised. **APPLY** will be denied while the "NVM write disabled" standing condition exists.

Starting in Release 7.0, when executing **APPLY:type=SMART** for a generic which includes service affecting downloads to Smart OLIUs, the command will be denied.

type=FORCED continues to download all of the software and firmware to a Smart OLIU, regardless of any existing alarms and conditions, and **type=SMART-ALM-OVERRIDE** allows a SMART download to a Smart OLIU, overriding a denial of **APPLY: type=SMART**.

Starting in Release 7.0, if **APPLY:type=SMART** for a generic is scheduled and accepted when there are no Smart OLIUs in the NE for which service may be affected, and a Smart OLIU is installed in the NE before the **APPLY:type=SMART** is initiated, the program installation will be cancelled. An "install program failed" transient condition will be issued.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-6. APPLY Input Parameters (cont 1 of 3)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
aid	The aid parameter is only used prior to Release 2.0. Access Identifier. This is the address of the Function Unit or Growth slot equipped with a Smart Pack. The aid parameter is required (and only allowed) if pgmtype is not NESW. If aid = NULL, then pgmtype = NESW. CAUTION: Smart Pack software upgrades are service affecting! Protected Smart Pack software upgrades should be applied to the inactive protection circuit pack before the active service circuit pack within each functional unit slot pair. This limits the service effect to one automatic equipment protection switch. If an ALL aid value is used, the NE applies the software upgrade to all circuit packs of the same type (per the pgmtype parameter) in order from left-to-right across the shelf without considering which circuit pack in each slot pair is active or inactive. The aid value of ALL is not recommended for protected Smart Packs, to ensure that the service effect is limited to one automatic equipment protection switch per function unit slot pair.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
time	Time. The time parameter has the form: HHMM[SS]. This parameter specifies the time of day the NE software generic is scheduled to be activated. If no time parameter is specified and the action parameter has a value of INSTALL or is NULL, the software is scheduled for activation 15 minutes after the command is processed. The 15-minute interval is designed to give the user a chance to cancel the command and/or to issue similar commands to other NEs in the network while being assured that operations communications aren't disrupted by the activation of a new NE software generic. This parameter is only allowed with pgmtype=NESW or ALL. Prior to R2.0, Smart Pack software is upgraded immediately upon request and cannot be scheduled.

Table 2-6. APPLY Input Parameters (cont 2 of 3)

Parameter Name	Description
	■ HH HH expresses the hour on a 24 hour clock and must have a value between 00 and 23 inclusive with leading zeros required for single digit numbers; ■ MM MM expresses the minutes and must have a value between 00 and 59 inclusive with leading zeros required for single digit numbers; ■ SS SS expresses the seconds and must be null or have a value between 00 and 59 inclusive with leading zeros required for single digit numbers. The specified time is assumed to refer to a time that occurs within 24 hours of the current time, if no date is specified. If a date is specified, a time must be specified, too.
date	Date. This parameter specifies the date the NE software generic is scheduled to be activated. This parameter is only allowed with pgmtype=NESW or ALL. Prior to R2.0, Smart Pack software is upgraded immediately upon request and can't be scheduled. The date parameter has the form: YYMMDD. ■ YY YY represents the last two digits of the year where leading zeros are required for single digit numbers. ■ MM MM represents the month of the year and must have a value between 01 and 12 inclusive with leading zeros required for single digit numbers. The date is assumed to refer to a date within the next 12 months. ■ DD DD expresses the day of the month and must have a value between 0 and 31 inclusive with leading zeros required for single digit numbers.
action	Action to be taken. This parameter may be one of the following values: ■ INSTALL This is the default. Activate the specified pgmtype software. If NE software generic activation is currently scheduled, a subsequent INSTALL request with a different time or date causes the activation to be rescheduled to the new time/date. If the time and date parameters are not specified, activation is schedule for 15 minutes after processing the APPLY command.

Table 2-6. APPLY Input Parameters (cont 3 of 3)

Parameter Name	Description
	■ INSTALL_NOW Starting in Release 5.1, specifying action=INSTALL_NOW activates the software generic immediately after processing the APPLY command. This option overrides any specified time and date, and it applies equally to type=SMART and type=FORCED. Starting in Release 7.0, action=INSTALL_NOW also applies to type=SMART-ALM-OVRIDE. ■ CANCEL This cancels the currently scheduled NE dormant software generic activation. Beginning with Release 2.0, INSTALL is the default value and activates the entire dormant software generic.
spec_block	The following are the spec_block parameters.

Table 2-7. APPLY Input **spec_block** Parameters (cont 1 of 3)

Parameter Name	Descriptions of Spec Block Parameter
pgmtype	Software Program Type. This parameter has the following values ■ NESW Apply the NE (SYSCTL) software generic (default prior to R2.0). In Release 2.0 and later, NESW has the same behavior as ALL. ■ ALL In Release 2.0 and later, this is the default value. When the shelf reboots as part of APPLY, it upgrades all Smart Packs if necessary. The following values are not legal in Release 2.0 and later: ■ ETHSW Apply 1 GbE or 10/100 Fast Ethernet circuit pack software ■ DS3SW Apply DS3/EC1 circuit pack software ■ DS1SW Apply DS1 circuit pack software
type	Apply Type.

Table 2-7. APPLY Input *spec_block* Parameters (cont 2 of 3)

Parameter Name	Descriptions of Spec Block Parameter	
	■ FORCED	Since installing a new software generic to the SYSCTL and to Smart circuit packs can affect service, the default is to install the generic only if the version of the dormant software generic is different than the version of the currently installed generic. By executing APPLY with type=FORCED, the NE installs the dormant software generic to the SYSCTL and all Smart Packs, even if the version of software on those circuit packs is the same as the dormant software generic. Setting type=FORCED does not change the effect of the other input parameters. For example, if the date and time parameters are also specified, the “forced” APPLY will occur at the specified date and time. If the date and time parameters are not specified, the “forced” APPLY will occur 15 minutes after processing the APPLY command, which is the normal default. Note: This option is not recommended, because it may unnecessarily affect service; however, it is provided as a fall-back in case of unexpected circumstances.
	■ SMART	The NE only upgrades the SYSCTL and Smart Packs if the version of software on a circuit pack is different from the version included in the dormant software generic. This is the default. Starting in Release 7.0 type=SMART will be denied if service on a Smart OLIU will be affected by the software generic being downloaded.

Table 2-7. APPLY Input *spec_block* Parameters (cont 3 of 3)

Parameter Name	Descriptions of Spec Block Parameter	
	■ SMART-ALM-OVERRIDE	Starting in Release 7.0, type=SMART-ALM-OVERRIDE will do a smart download, including service affecting downloads to Smart OLIUs. This option overrides a denial of a service affecting download to a Smart OLIU when APPLY:type=SMART is executed. NOTE: type=SMART-ALM-OVERRIDE may result in service outages.
generic	Software generic to apply. ■ DORMANT ■ PREVIOUS The current generics that are stored as the previous release and the dormant release are reported by RTRV-SYS and by RTRV-GENERIC.	Apply the dormant release. This is the default. Apply the previous release.

OUTPUT FORMAT

If the requested command is deemed redundant the NE does not deny the command. For example, if the NE software generic to be activated is scheduled again for the same date and time, or an attempt is made to cancel a scheduled activation when none is scheduled, the NE responds with a normal completion response.

If the NE is able to verify that the dormant Ethernet software generic is not corrupted, the normal completion response shown below is output prior to the Ethernet circuit pack(s) software being upgraded; *<pack_name>* has the value "10/100 FE" for the Fast Ethernet circuit pack, or "1 GbE SX" or "1 GbE LX" for the Gigabit Ethernet (GbE) circuit pack.

```
IP ctag
<
  sid date time
M ctag COMPLD
/* New Software generic (ethsw) will be installed. Pack
will Reset when program installation is complete */
  "TID=tid"
  "AID=aid"
  "System=system"
  "Pgmttype=ethsw" (<pack_name>)
  "NewRelease=newrelease"
  "OldRelease=oldrelease"
;
```

The above does not apply, starting with Release 2.0.

If the NE is able to verify that the dormant DS3 software is uncorrupted, the normal completion response shown below is output prior to the DS3 circuit pack(s) software being upgraded.

```
IP ctag
<
  sid date time
M ctag COMPLD
/* New Software generic (ds3sw) will be installed. Pack
will Reset when program installation is complete */
  "TID=tid"
  "AID=aid"
  "System=system"
  "Pgmttype=ds3sw"
  "NewRelease=newrelease"
  "OldRelease=oldrelease"
;
```

The above does not apply, starting with Release 2.0.

If the NE is able to verify that the dormant DS1 software is uncorrupted, the normal completion response shown below is output prior to the DS1 circuit pack(s) software being upgraded; <pack_name> has the value "28DS1" or "28DS1PM".


```
IP ctag
<
  sid date time
M ctag COMPLD
/* New Software generic (ds1sw) will be installed. Pack
will Reset when program installation is complete */
  "TID=tid"
  "AID=aid"
  "System=system"
  "Pgmtype=ds1sw"
  "NewRelease=newrelease"
  "OldRelease=oldrelease"
;
```

The above does not apply, starting with Release 2.0.

If the NE is able to verify that the dormant NE software generic is uncorrupted, the normal completion response shown below is output prior to scheduling activation of the dormant NE software generic.

```
IP ctag
<
  sid date time
M ctag COMPLD
/* New Software generic (nesw) installation scheduled */
  "TID=tid"
  "System=system"
  "Pgmtype=nesw"
  "NewRelease=newrelease"
  "OldRelease=oldrelease"
  "Time=time"
  "Date=date"
;
```

The above does not apply, starting with Release 2.0.

If the scheduled activation of the dormant NE software generic is canceled, the following normal completion response is output:

```
IP ctag
<
    sid date time
M ctag COMPLD
/* Scheduled software (nesw) installation has been canceled */
"TID=tid"
"System=system"
"Pgmtype=nesw"
"NewRelease=newrelease"
"OldRelease=oldrelease"
;
```

The above does not apply, starting with Release 2.0.

Beginning with Release 2.0, because the software upgrade is bundled, the NE will verify the entire dormant software generic. If the software generic is not corrupted, the normal completion response shown below is output to the shelf prior to scheduling activation of the dormant software generic:

```
IP ctag
<
    sid date time
M ctag COMPLD
/* New Software generic installation scheduled */
"TID=tid"
"System=system"
"Pgmtype=all"
"Type=type"
"NewRelease=newrelease"
"OldRelease=oldrelease"
"Time=time"
"Date=date"
;
```

Starting in Release 6.0, when **APPLY** is executed, the normal completion response is shown below:

```
IP ctag
<

    sid date time
M ctag COMPLD
/* New Software generic installation scheduled */
"TID=tid"
"System=system"
"Pgmtype=all"
"Type=type"
"Generic=generic"
"NewRelease=newrelease"
"OldRelease=oldrelease"
"Time=time"
"Date=date"
;
```

Starting in Release 5.1, when **APPLY** is executed with **action=INSTALL_NOW**, the normal completion response is shown below:

```
IP ctag
<

    sid date time
M ctag COMPLD
/* New Software generic immediate installation */
"TID=tid"
"System=system"
"Pgmtype=all"
"Type=type"
"NewRelease=newrelease"
"OldRelease=oldrelease"
"Time=time"
"Date=date"
;
```

Starting in Release 6.0, when **APPLY** is executed with **action=INSTALL_NOW**, the normal completion response is shown below:

```
IP ctag
<

  sid date time
M ctag COMPLD
/* New Software generic immediate installation */
"TID=tid"
"System=system"
"Pgmtype=all"
"Type=type"
"Generic=generic"
"NewRelease=newrelease"
"OldRelease=oldrelease"
"Time=time"
"Date=date"
;
```

If the scheduled activation of the dormant software generic for installation is canceled, the following normal completion response is output:

```
IP ctag
<

  sid date time
M ctag COMPLD
/* Scheduled software installation has been canceled */
"TID=tid"
"System=system"
"Pgmtype=all"
"Type=type"
"NewRelease=newrelease"
"OldRelease=oldrelease"
;
```

The NE sends the following autonomous message when NE or Smart Pack software activation begins:

```
sid date time
A REPT EVT COM
"address:E0C,SC,date,time,,,:\ "<pgmtype> install program IP\""
```

A history log entry is created for the above condition.

The above does not apply, starting with Release 2.0.

The NE sends the following autonomous message upon completion of NE or Smart Pack software activation:

```
sid date time
A REPT EVT COM
  "address:E0C,CL,date,time,,,,:\ "<pgmtype> install program compl.\""
;
```

A history log entry is created for the above condition.

The above does not apply, starting with Release 2.0.

Beginning with Release 2.0, because the software upgrade is bundled, the autonomous messages will correspond to the stage the software upgrade process is in at any time.

The NE sends the following TL1 autonomous message when software activation begins. This occurs in concert with the NE's system controller (SYSCTL) reset, but only if there is new SYSCTL software:

```
sid date time
A atag REPT EVT COM
  ":SWFTDWN,SC,date,time,,,,:\ "install program IP\\""
;
```

A history log entry is created for the above condition.

In Release 2.0 only, the NE sends the following TL1 autonomous message upon completion of software activation on all circuit packs, or if software activation is interrupted for any reason. This message is specifically intended to clear the preceding standing status condition that reported software activation in progress (IP), and is not to indicate whether the software activation was successful or failed:

```
sid date time
A atag REPT EVT COM
  ":SWFTDWN,CL,date,time,,,,:\ "install program compl.\\""
;
```

A history log entry is created for the above condition.

Beginning with Release 2.1, the "CL" message will have the same text as the "SC" message.

The NE sends the following autonomous message upon completion of software activation on a circuit pack:

```
sid date time
A atag REPT EVT COM
  ":SWFTDWN,CL,date,time,,,,:\install program IP\"";
```

A history log entry is created for the above condition.

Starting in Release 6.0, the NE sends the following autonomous message if the software activation fails:

```
sid date time
A REPT EVT COM
  ":SWFTDWN,TC,date,time,,,,:\install program failed\"";
```

In Release 2.0, the NE sends the following autonomous message once a circuit pack is identified for a software download:

```
sid date time
A REPT EVT COM
  "address:E0C,SC,date,time,,,,:\Waiting for download\"";
```

A history log entry is created for the above condition.

The NE sends the following autonomous message when software activation begins on the circuit pack(s):

```
sid date time
A REPT EVT COM
  "address:E0C,SC,date,time,,,,:\install program IP\"";
```

A history log is also created for the above condition.

In Release 2.0 only, the NE sends the following autonomous message once software activation on a circuit pack is completed:

```
sid date time
A REPT EVT COM
  "address:E0C,CL,date,time,,,,:\install program compl\"
;
```

A history log is created for the above condition.

Beginning with Release 2.1, the “CL” message will have the same text as the “SC” message.

The NE sends the following autonomous message once software activation on a circuit pack is completed:

```
sid date time
A REPT EVT COM
  "address:E0C,CL,date,time,,,,:\install program IP\"
;
```

A history log entry is created for the above condition.

Starting in Release 2.0, the NE sends the following autonomous message if circuit pack activation fails:

```
sid date time
A REPT EVT COM
  "address:E0C,SC,date,time,,,,:\install failed\"
;
```

A history log is also created for the above condition.

The NE sends the following autonomous message once it has cleared the standing condition “install failed” caused by a software activation failure on a circuit pack:

```
sid date time
A REPT EVT COM
  "address:E0C,CL,date,time,,,,:\install failed clrd\"
;
```

A history log is created for the above condition.

The NE sends the following autonomous message if the circuit pack can't be upgraded because the dormant software is missing or corrupted:

```
sid date time
A REPT EVT COM
  "address:E0C,SC,date,time,,,,:\CP software upgrade required\""
;
```

A history log is created for the above condition.

Beginning in Release 5.0, the previous condition is superseded by the following one.

The NE sends the following autonomous message if the circuit pack can't be upgraded because the active generic (***active_rel***) is missing or corrupted:

```
sid date time
A REPT EVT COM
  "address:E0C,SC,date,time,,,,:\CP software upgrade required\""
;
```

A history log is created for the above condition.

The NE sends the following autonomous message when it clears the standing condition "CP software upgrade required" because the dormant software was missing or corrupted, and the circuit pack could not be upgraded:

```
sid date time
A REPT EVT COM
  "address:E0C,CL,date,time,,,,:\CP software upgrade clrd\""
;
```

A history log entry is created for the above condition.

The NE sends the following TL1 autonomous message after the generic software is loaded on the controller and reboot has not yet taken place:

```
sid date time
A atag REPT EVT COM
  ":E0C,TC,date,time,,,,:\System resetting for upgrade\""
;
```

A history log entry is created for the above condition.

The NE sends the following TL1 autonomous message if software activation was interrupted or failed on any of the circuit packs:

```
sid date time
A atag REPT EVT COM
":EOC,TC,date,time,,,,:'\"at least one circuit pack failed download\""
;
```

Note: This message appears before clearing the "Install IP" standing condition for the shelf.

A history log entry is created for the preceding condition.

Note: The **date** and **time** in the header of all the preceding TL1 autonomous messages indicates the date and time the message is actually output and may be different than the date and time in the body of the same TL1 autonomous messages.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there apply to this command also.

Table 2-8. APPLY Output Parameters (cont 1 of 3)

Parameter Name	Description
<i>tid</i>	Target Identifier. This is the system name.
<i>aid</i>	Access Identifier. This is the <i>aid</i> of the specified Smart Pack. This <i>aid</i> parameter is only output if the <i>pgmtype</i> parameter value is not NESW or ALL. Beginning with Release 2.0, the <i>aid</i> parameter is not used.
<i>system</i>	System Type. ■ DMX
<i>pgmtype</i>	Software program type. Beginning with Release 2.0, <i>pgmtype</i> is not used. This parameter has one of the following values: ■ NESW the NE (sysctl) software generic

Table 2-8. APPLY Output Parameters (cont 2 of 3)

Parameter Name	Description
	■ ETHSW either the 1 GbE or 10/100 Ethernet circuit pack software ■ DS3SW the DS3/EC1 circuit pack software ■ DS1SW the DS1 circuit pack software
<i>type</i>	Apply Type. This parameter is used to specify the criteria for Smart Pack software upgrades ■ FORCED The NE upgrades the SYSCTL and all Smart Packs, even if the version of software on those circuit packs is the same as that included in the dormant software generic. ■ SMART The NE only upgrades the SYSCTL and Smart Packs if the version of software on a circuit pack is different from the version included in the dormant software generic. Starting in Release 7.0, type=SMART will be denied if service on a Smart OLIU will be affected by the software generic being downloaded. ■ SMART-ALM-OVERRIDE Starting in Release 7.0, the NE only upgrades the SYSCTL and Smart Packs if the version of software on a circuit pack is different from the version included in the dormant software generic and overrides the denial of an APPLY: type=SMART when the download of a new software generic to a Smart OLIU may cause a service outage.
<i>newrelease</i>	New Release Number. This parameter value is pulled off the header of the downloaded file and represents the software release contained in the file. It has the form X.Y.Z where X.Y.Z reflects the actual software release number.
<i>oldrelease</i>	Old Release Number. This parameter value is the software release currently executing. It has the form X.Y.Z where X.Y.Z reflects the actual software release number.
<i>time</i>	Time of Day. This parameter value indicates the time of day (in the form HH-MM-SS) that the NE software generic is scheduled to be activated. This parameter is not output if <i>pgmtype</i>=NESW or if the scheduled activation of the NE software generic is cancelled.

Table 2-8. APPLY Output Parameters (cont 3 of 3)

Parameter Name	Description
	Starting in Release 5.1, if action=INSTALL_NOW is specified, the time indicated by this parameter is the current time, that is, the time at which the immediate activation occurs.
<i>date</i>	Date. This parameter value indicates the date (in the form YY-MM-DD) that the NE software generic is scheduled to be activated. This parameter is not output if <i>pgmtype</i>=NESW or if the scheduled activation of the NE software generic is cancelled. Starting in Release 5.1, if action=INSTALL_NOW is specified, the date indicated by this parameter is the current date, that is, the date on which the immediate activation occurs.

EXAMPLE INPUT/OUTPUT

The following Release 1.1 example shows an **APPLY** command that requests activation of a dormant NE software generic on a DMX system currently running Release 1.1.0. The input parameters **date** and **time** are not specified. The command was processed by the NE when its local clock read 22:25:30. Note that the activation is scheduled for 15 minutes after the NE processes the command.

```

APPLY:LT-TID123::123456;

IP 123456
<

    LT-TID123 00-10-30 22:25:30
M 123456 COMPLD
/* New Software generic (nesw) installation scheduled */
"TID=LT-TID123"
"System=DMX"
"Pgmtype=nesw"
"NewRelease=1.1.2"
"OldRelease=1.1.0"
"Time=22-40-30"
"Date=00-10-30"
;

```

The following Release 1.1 example shows an **APPLY** command that cancels scheduled activation of a NE software generic:

```
APPLY:LT-TID123::123456::,cancel;

IP 123456
<

    LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
/* Schedule Software (nesw) installation has been canceled */
"TID=LT-TID123"
"System=DMX"
"Pgmtype=nesw"
"NewRelease=1.1.2"
"OldRelease=1.1.0"
;
```

The following Release 1.0 example shows an **APPLY** command that requests the immediate upgrade of dormant DS1SW software on a DS1 circuit pack currently running Release 1.0.0:

```
APPLY:LT-DMX:fn-d-2:123456::pgmtype=ds1sw;

IP 123456
<

    LT-DMX 00-10-30 22:25:30
M 123456 COMPLD
/* New Software generic (ds1sw) will be installed */
"TID=LT-DMX"
"AID=fn-d-2"
"System=DMX"
"Pgmtype=ds1sw"
"NewRelease=2.0.0"
"OldRelease=1.0.0"
;
```

The following Release 2.0 example shows an **APPLY** command that requests that the dormant software generic on a DMX shelf, currently running Release 2.0.0, be activated. The input parameters **date** and **time** are not specified. The command was processed by the NE when its local clock read 22:25:30. Note that the activation is scheduled for 15 minutes after the NE processes the command.

```
APPLY:LT-TID123::123456;  
  
IP 123456  
<  
  
    LT-TID123 02-07-18 22:25:30  
M 123456 COMPLD  
  /* New Software generic installation scheduled */  
  "TID=LT-TID123"  
  "System=DMX"  
  "Pgmtype=all"  
  "Type=SMART"  
  "NewRelease=3.0.0"  
  "OldRelease=2.0.0"  
  "Time=22-40-30"  
  "Date=02-07-18"  
;
```

The following Release 2.0 example shows an **APPLY** command that cancels the activation of a scheduled DMXtend software generic installation:

```
APPLY:LT-TID123::123456::,,cancel;  
  
IP 123456  
<  
  
    LT-TID123 02-07-18 16:42:11  
M 123456 COMPLD  
  /* Scheduled software installation has been canceled */  
  "TID=LT-TID123"  
  "System=DMX"  
  "Pgmtype=all"  
  "Type=SMART"  
  "NewRelease=3.0.0"  
  "OldRelease=2.0.0"  
;
```

The following Release 5.1 example shows an **APPLY** command executed with **action=INSTALL_NOW**:

```
APPLY:LT-TID123::123456::,install_now;

IP 123456
<

LT-TID123 05-09-18 22:25:30
M 123456 COMPLD
/* New Software generic immediate installation */
"TID=LT-TID123"
"System=DMX"
"Pgmtype=all"
"Type=SMART"
"NewRelease=5.1.0"
"OldRelease=5.0.0"
"Time=22-25-30"
"Date=05-09-18"
;
```

The following Release 6.0 example shows an **APPLY** command executed with **action=INSTALL_NOW** and with the previous release selected for installation:

```
APPLY:LT-TID123::123456::,install_now:generic=previous,type=forced;

IP 123456
<

LT-TID123 05-12-17 22:25:30
M 123456 COMPLD
/* New Software generic immediate installation */
"TID=LT-TID123"
"System=DMX"
"Pgmtype=all"
"Type=FORCED"
"NewRelease=6.0.2"
"OldRelease=6.0.8"
"Time=22-25-30"
"Date=05-09-18"
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an **APPLY** command is entered but there isn't a dormant copy of the software for the specified **pgmtype** value, or the dormant software is corrupted, the operation fails and the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, dormant file corrupted or missing
*/
;
```

If an **APPLY** command is entered with **generic=PREVIOUS** but there isn't a previous copy of the generic, or the previous generic is corrupted, the operation fails and the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, previous file corrupted or missing
*/
;
```

If the **APPLY** command is entered with **pgmtype=ETHSW**, but the **ETHSW** in the dormant generic area is incompatible with the current (running) NE software generic, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed. Dormant Ethernet software not
compatible with NE generic. */
;
```

The above error message does not apply in Release 2.0 and later.

If an **APPLY** command is entered with a valid **pgmtype**, but the addressed slot is not equipped with the corresponding circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  ENEQ
  /* Equipage, Not Equipped */
;
```

The above error message does not apply in Release 2.0 and later.

If an **APPLY** command is entered with **pgmtype=NESW**, but the **aid** value is invalid, missing or inconsistent, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid AAccess identifier, AID is missing, wrong or inconsistent
with modifier */
;
```

The above error message does not apply in Release 2.0 and later.

If an **APPLY** command is entered, but the **aid** value is invalid, missing or inconsistent, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid AAccess identifier, AID is missing, wrong or inconsistent
with modifier */
;
```

The above error message does not apply in Release 2.0 and later.

If the activation of the dormant NE software generic (**NESW**) is already scheduled, and another **APPLY** command is entered with a valid **pgmtype** other than **NESW**, the following error response is returned:

```
sid date time
M ctag DENY
  SROF
  /* Status, Requested Operation Failed, Apply command is IP */
;
```

The above error message does not apply in Release 2.0 and later.

If an **APPLY** command is entered but the **time** or **date** parameter is invalid, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input Data Not Valid, invalid date or time specified */
;
```

Starting in Release 7.1, the previous error response is returned if the NE receives an **APPLY** command with a with a requested start time (**date/time**) that is before the present time.

If an **APPLY** command is entered but the **action** parameter is invalid, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input Data Not Valid, invalid Action specified */
;
```

If an **APPLY** command is entered with an invalid **pgmtype** value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input Data Not Valid, invalid Program Type */
;
```

If an NE with a software download or copy in progress (such as receiving software via a remote **INS-PRGM** or a **CPY-PRGM**), or sending software via a **CPY-PRGM** or **CPY-MEM**, and an **APPLY** command is entered, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Program installation is already IP in
the Target NE */
;
```

If the activation of dormant software is already in progress, and another **APPLY** (or **CPY-MEM**, **CPY-PRGM** or **INS-PRGM**) command, or any other command that would cause a system controller reset is entered, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Apply command is IP */
;
```

If an **APPLY** command is entered with an invalid **type** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid Apply Type */
;
```

If an NE with a software download or copy in progress (such as receiving software via a remote **INS-PRGM**, **CPY-PRGM** or **CPY-MEM**), or sending software via a **CPY-PRGM**, and an **APPLY** command is entered, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, program installation is already IP
in the target NE*/
;
```

Starting in Release 5.1, if **APPLY** is used to install a software generic that is an earlier version than the release that is currently running in the NE and the **FORCED** option is not specified, the following error response is returned:

```
sid date time
M ctag DENY
  SROF
  /* Status, Requested Operation Failed,type=FORCED must be used to
  downgrade */
;
```

If the user attempts to execute the **APPLY** command when the NE is in Ring Upgrade mode, the following error response will be returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, command not allowed in Ring Upgrade mode */
;
```

Starting in Release 5.0, if the dormant software generic is for a different NE type than the local NE and an **APPLY** command is entered, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, input Data Not Consistent with ne data, dormant generic for a
  different product type */
;
```

Starting in Release 6.0, if the dormant software generic is for the same NE type as the local NE but for an incompatible system controller and an **APPLY** command is entered, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, input Data Not Consistent with ne data, dormant generic for a
different system controller */
;
```

Starting in Release 6.0, if the generic selected for installation doesn't exist or is invalid, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, input Data Not Consistent with ne data, selected generic does
not exist */
;
```

Starting in Release 6.0, **APPLY** will be denied while a “generic validation IP” standing condition exists and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed while generic
validation IP */
;
```

If an **APPLY** command is entered with an invalid **generic** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid generic value */
;
```

If an **APPLY** command is entered while the NE is in the NVM write disabled mode, the command will be denied and the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, command not allowed in current NE
operating mode */
;
```

Starting in Release 7.0, if an **APPLY** command is entered with **type=SMART** which will result in a service affecting software download to a Smart OLIU, the command will be denied and the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, command may cause a service outage on
an OLIU */
;
```

RELATED TL1 MESSAGES

CPY-MEM

CPY-PRGM

INS-PRGM

RTRV-SYS

APPLY
TL1 Message Details

APPLY
Alcatel-Lucent 1665 DMX, R9.0

NAME

CANC-USER: Cancel User

The **CANC-USER** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

Starting in Release 4.0, this command is available to users with Privileged, Administration, General, Maintenance and Reports Only access.

INPUT FORMAT

CANC-USER: *tid:uid:ctag;*

DESCRIPTION

CANC-USER commands can be initiated to terminate a login session with the network element (NE).

When the NE receives a **CANC-USER** command, the given login identifier will terminate a login session on the NE provided that:

- A provisioned login identifier is entered, and
- The login identifier is currently active on the access channel on which the command is received

The **CANC-USER** command is used by a user to terminate their own login session. It cannot be used to terminate the login sessions of other users.

Beginning in Release 3.1, a user with Privileged access can use the **CANC-USER** command to individually terminate the login sessions of other users. When logging out another user, all login sessions of the other user shall be terminated, even if the other user has Privileged access.

Beginning in Release 3.1, a user with Privileged access shall be able to use the **CANC-USER** command to terminate, as a group, the login sessions of all other users who do not have Privileged access.

Beginning in Release 4.0, a user with Privileged or Administration access can use the **CANC-USER** command to terminate the login sessions of other individual users, including other users with Privileged or Administration access. By

specifying **uid=ALL**, a user with Privileged or Administration access can terminate the login sessions of all users who do not have Privileged or Administration access. In summary:

- When a user specifies their own **uid**, only the login session from which **CANC-USER** is executed is terminated.
- When a user with Privileged or Administration access executes **CANC-USER**, specifying the **uid** of another user, all login sessions of the other user are terminated, even if the other user has Privileged or Administration access.
- “**uid=ALL**” affects only users with General, Maintenance and Reports-only access. When a user with Privileged or Administration access executes **CANC-USER** specifying the **uid=ALL**, all active login sessions for all users with General, Maintenance and Reports-only access are terminated. Active login sessions for other users with Privileged or Administration access are not affected.

Starting in Release 9.0, **CANC-USER** is a supported command on a subshelf in a multi-shelf DCS system utilizing a single TID.

After the **CANC-USER** command successfully completes, a TL1 autonomous **REPT EVT** message is sent via all access channel(s) provisioned to receive such message, and on which a login session is active to report that the login session has been terminated.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

Execution of this command on a subshelf in a multi-shelf DCS system, whether successful or denied, will be recorded in the Security log on the subshelf and on the main shelf of the system, if communication with the main shelf is operational.

The **CANC-USER** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-9. CANC-USER Input Parameters (cont 1 of 2)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
uid	User Identifier. This is the unique user identifier (uid) for which the CANC-USER logout command is intended.

Table 2-9. **CANC-USER** Input Parameters (cont 2 of 2)

Parameter Name	Description
	The uid value that was used to initiate a login session, even if changed or deleted by a system administrator while the current login session is still active, is the uid value expected in the CANC-USER command to terminate the login session. That is, the only valid uid is that of the user executing the CANC-USER command. This command cannot be used to terminate the login session of other users Beginning in Release 3.1, a user with PRIVILEGED access can use the CANC-USER command to terminate the login sessions of other users, by specifying the other user's uid. For users with PRIVILEGED access, the uid of any users with an active login session is a valid value. For users that do not have PRIVILEGED access, the only valid uid is that of the user executing the CANC-USER command. When a user with PRIVILEGED access logs out another user, all login sessions of the other user are terminated, even if the other user has PRIVILEGED access. Beginning in Release 3.1, a user with PRIVILEGED access can use the CANC-USER command to terminate the login sessions of all other non-PRIVILEGED users by specifying the value uid = ALL. Beginning in Release 4.0, user with PRIVILEGED or ADMINISTRATION access can use the CANC-USER command to terminate the login sessions of other individual users, including other users with PRIVILEGED or ADMINISTRATION access, by specifying the other user's uid. All of the current login sessions of the other user will be terminated. By specifying the value uid = ALL, a user with PRIVILEGED or ADMINISTRATION access can terminate the login sessions of all users who do not have PRIVILEGED or ADMINISTRATION access. Grouping and/or ranging of uid values for this command is not allowed.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the logout request completes successfully, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command also.

EXAMPLE INPUT/OUTPUT

The following example shows a successful login session termination:

```
CANC-USER:LT-TID123:PeterPan:123456;
```

```
IP 123456  
<  
  LT-TID123 00-01-02 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If there is an attempt to cancel a user by entering an invalid user id (*uid*), the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid user ID */  
;
```

If an NE receives an **CANC-USER** command with *uid* that is not the *uid* of the user executing the command, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, cannot logout another user */  
;
```

Starting in Release 3.1, the previous error message does not apply.

Starting in Release 3.1, if an NE receives an **CANC-USER** command with **uid** that is not the **uid** of the user executing the command, and if the user executing the command does not have PRIVILEGED access, the following error response is returned:

```
sid date time
M ctag DENY
  PICC
  /* Privilege, Illegal Command Code, only users with PRIVILEGED access can
logout another user */
;
```

Starting in Release 4.0, the above error message is replaced by the following: If an NE receives an **CANC-USER** command with **uid** that is not the **uid** of the user executing the command, and if the user executing the command does not have PRIVILEGED or ADMINISTRATION access, the following error response is returned:

```
sid date time
M ctag DENY
  PICC
  /* Privilege, Illegal Command Code, only users with PRIVILEGED or
ADMINISTRATION access can logout another user */
;
```

RELATED TL1 MESSAGES

ACT-USER

DLT-USER-SECU

ED-PID

ENT-USER-SECU

RTRV-USER-SECU

REFERENCES

NAME

CHG-ACCMD-rr: Change Test Access Mode

The **CHG-ACCMD-rr** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 4.0

LOGIN PRIVILEGE

The **CHG-ACCMD-rr** command is available to users with Privileged, General and Maintenance access.

INPUT FORMAT

CHG-ACCMD-modifier:*tid:tatrib1:ctag:::spec_block;*

Beginning in Release 7.0:

CHG-ACCMD-modifier:*tid:[tatrib1]:ctag:::spec_block;*

DESCRIPTION

The **CHG-ACCMD** command is used to change the mode of an existing test access session in the system. It does not terminate the test access session. It can be used to change test modes between **MONE** and **SPLTE** or between **MONEF** and **SPLTEF** modes. The test access mode may be changed an arbitrary number of times between the compatible monitoring and splitting modes, in either direction.

Beginning in Release 7.0, **CHG-ACCMD** can also be used to change test modes between **MONE** and **SPLTA**.

This command may be service-affecting.

Execution of this command, whether successful or denied, is recorded in the Security log.

This command generates a **REPT DBCHG** message if the mode changes as a result of its execution. The message reports *ccb*=**CHG-ACCMD-rr**.

INPUT PARAMETERS

Table 2-10. CHG-ACCMD-rr Input Parameters

Parameter Name	Description
<i>modifier</i>	This is the message modifier for the CHG-ACCMD-rr command. The modifier is a required field, and must only have one of the following values: ■ VT1 This is for VT1.5 or DS1-level test access. ■ STS1 This is for STS-1 or DS3-level test access. ■ STS3c This is for STS-3c-level test access.
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description for this parameter.
<i>tatrib1</i>	Test Access Tributary Identifier. This is the AID of an unconnected VT or STS tributary (on an OLIU, or a DS1, DS3, or EC1 port) previously established as the primary test access tributary for a test session. Allowable values are VT1.5 or STS-1 Channel AIDs for drop connections to electrical DS1 or DS3/EC1 ports, or for tributaries in UPSR or 1+1 lines. Beginning in Release 6.0, logical ring channel AIDs are used to specify all test access tributaries. Refer to Appendix A - AID Tables for the syntax of supported AIDs. Allowable values are Ring Channel AIDs for tributaries in BLSR lines. Beginning in Release 6.0, test access tributaries on optical lines are only allowed if the line application is 1+1 (see RTRV-rr). Beginning in Release 7.0, if the test session was initiated using tatrib1, then tatrib1 must be included; otherwise it must be omitted, and tsn must be included.
<i>tag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The spec_block parameters are listed and described in the following table:

Table 2-11. CHG-ACCMD-rr Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of Spec Block Parameters
<i>tstmde</i>	Test Mode. This parameter specifies the test mode to be used. Valid values are: ■ MONE This is a non-service-affecting monitor of the E leg of a cross connection, or of an idle tributary. In a UPSR application, the monitor point is after the path selector. This is the default. It is valid if the existing mode is MONE or SPLTE. Beginning in Release 7.0, MONE is also valid if the existing mode is SPLTA. ■ SPLTE Split access E-end mode of test access. This test access mode splits the connection between the E end and F end of a cross connection. It is service-affecting. It can be used with an idle tributary. It is valid if the existing mode is MONE or SPLTE. For <i>tsn</i>-initiated sessions, if no test signal generator is assigned (see CHG-TSTSIG), AIS is inserted toward the E end. ■ MONEF This is a non-service-affecting monitor of the E and F legs of a cross connection. This mode is not valid for idle tributaries. In a UPSR application, the monitor point is after the path selector. It is valid if the existing mode is MONEF or SPLTEF. ■ SPLTEF Split E-end and F-end mode of test access. This test access mode splits both ends of a cross connection to allow testing at both the E end and F end. It is valid if the existing mode is MONEF or SPLTEF. ■ SPLTA Split the A-direction mode of test access. This mode splits the connection between the E end and F end of a cross connection. It is not valid for idle tributaries. It is valid if the existing mode is MONE or SPLTA. SPLTA is only valid for <i>tsn</i>-initiated sessions. If no test signal generator is assigned (see CHG-TSTSIG), AIS is inserted toward the F end. For a <i>tsn</i>-initiated session, <i>ftrib</i> must be a tributary on an OC-n or EC-1 interface.

Table 2-11. CHG-ACCMD-rr Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of Spec Block Parameters
<i>tsn</i>	Test session number. Beginning in Release 7.0, in shelves with VLF mains (see Appendix D), <i>tsn</i> identifies a previously-established session to an internal test head. If the test session was initiated using <i>tsn</i> , then <i>tsn</i> must be included; otherwise it must be omitted, and <i>tatrib1</i> must be included. valid values are 1-12 .

OUTPUT FORMAT

Upon receiving a valid **CHG-ACCMD-rr** command, the NE responds with the completion message shown below:

```
sid date time  
M ctag COMPLD  
;
```

A **REPT DBCHG** message is only issued if the mode of the test session changes.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also.

EXAMPLE INPUT/OUTPUT

The following example shows the successful completion of **CHG-ACCMD-rr** command by the network element. The example below changes the test access mode on a VT connection to **SPLTE**.


```
CHG-ACCMD-VT1:LT-TID123:a-1-2-4:123456:::TSTMDE=SPLTE;  
IP 123456  
<  
    LT-TID123 03-09-26 16:42:11  
M 123456 COMPLD  
;
```

Beginning in Release 6.0, the previous example appears as follows.

```
CHG-ACCMD-VT1:LT-TID123:a1-1-2-4:123456:::TSTMDE=SPLTE;  
IP 123456  
<  
    LT-TID123 03-09-26 16:42:11  
M 123456 COMPLD  
;
```

Beginning in Release 7.0, this example shows a *tsn*-initiated session changing mode to **SPLTA**.

```
CHG-ACCMD-STS1:LT-TID123:::123456:::TSN=5,TSTMDE=SPLTA;  
IP 123456  
<  
    LT-TID123 07-03-21 06:45:51  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The requirements listed there may also apply to the **CHG-ACCMD** command.

If the system receives a **CHG-ACCMD-rr** command with a *modifier* that is invalid, the following error response is returned:

```
sid date time
M  ctag DENY
   ICNV
   /* Input, Command Not Valid, invalid modifier */
;
```

If the system receives a **CHG-ACCMD-rr** request without a required **tatrib1** parameter, or if the AID is invalid for the **modifier** provided, the following error response is returned to the user:

```
sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid ACcess identifier, AID is missing, wrong or
   inconsistent with modifier */
;
```

If the system receives a **CHG-ACCMD-rr** command with a **tstmde** value that is not valid, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid TSTMDE */
;
```

If the system receives a **CHG-ACCMD-rr** request, and the **tstmde** is not consistent with the current test mode, the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, invalid test access mode */
;
```

If the system receives a **CHG-ACCMD-rr** request in which the **etrib** and **ftrib** are a BLSR through connection, and the **tstmde=SPLTEF**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid test access mode for BLSR through
connection */
;
```

If the system receives a **CHG-ACCMD-rr** request in which the **etrib** is idle (not connected), and the **tstmde=SPLTA**, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cross connection must exist for splta
test access */
;
```

If the system receives a **CHG-ACCMD-rr** request in which the **etrib** is 1-way-connected to the **ftrib**, and the **etrib** is the destination of an independent 1-way connection, and **tstmde=SPLTE**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid test access mode with independent
1way connections */
;
```

If the network element receives a **CHG-ACCMD-rr** command when there is no test access session set up on the test tributary specified, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, no test access session on the test
tributary */
;
```

If the system receives a request, and the cross-connect capacity of the system is insufficient to change the mode of the test access connection, the following error response is returned:

```
sid date time
M  ctag DENY
   SROF
   /* Status, Requested Operation Failed, cross-connect capacity is
not available */
;
```

If the NE receives a request where the specified **modifier** does not match that of the specified **tsn**-initiated test session, the following error response is returned:

```
sid date time
M  ctag DENY
   ICNV
   /* Input, Command Not Valid, modifier inconsistent with specified
session */
;
```

If the NE receives a request where there is no test session associated with the specified **tsn**, the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, test session doesn't exist */
;
```

If the NE receives a request with both **tatrib1** and **tsn**, or with neither, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, either TATRIB1 or TSN required, but not
both */
;
```

Beginning in Release 8.0, if the system receives a request associated with a tsn-initiated session and the *ftrib* is not valid for the specified *tstmde*, the following error response is returned.

```
sid date time
M  ctag DENY
  ENSI
/* Equipage, Not equipped for Setting specified Information,
shelf equipage does not allow requested test access */
;
```

RELATED TL1 MESSAGES

CONN-TACC-rr

DISC-TACC-rr

RTRV-TACC-rr

CHG-TSTSIG-rr

MEAS-SIG-rr

RTRV-RSLT

NAME

CHG-TSTSIG: Change Test Access Signal Generation

The **CHG-TSTSIG** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, and Maintenance access.

INPUT FORMAT

Input format of **CHG-TSTSIG** is as shown below.

CHG-TSTSIG-modifier:*tid::ctag::spec_block*;

DESCRIPTION

The **CHG-TSTSIG** command is used to assign or remove a test signal from a test access session established to an internal test head. A test signal generator is assigned until removed by another **CHG-TSTSIG** command, or until a **DISC-TACC** command terminates a session.

The VLF main packs (see Appendix D) have 12 STS1 signal generators. For an STS3c, 3 contiguous generators on an STS3c boundary must be available for the request to be accepted.

The **RTRV-TACC** command indicates whether test signal generators are assigned to a session.

Execution of this command, whether successful or denied, will be recorded in the Security log.

A **REPT DBCHG** message is issued whenever generators are assigned or removed by this command, or by **DISC-TACC**.

INPUT PARAMETERS

Table 2-12. CHG-TSTSIG Input Parameters

Parameter Name	Description
<i>modifier</i>	Modifier. The modifier is a required field, and has one of the following values: ■ STS1 ■ STS3c
<i>tid</i>	Target Identifier. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-13. CHG-TSTSIG *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>tsn</i>	Test Session Number. The <i>tsn</i> identifies the test access session (previously established) for which test signal insertion or removal is requested. The value is in the range 1-12 . This parameter is required. This command is only valid for sessions established with a <i>tsn</i> , and is denied for sessions established using <i>tatrib1</i> (see CONN-TACC).
<i>ttsig</i>	Test signal type. Test signal type specifies the type of signal (if any) to be inserted. While a test generator may be assigned to a test session in a monitoring mode, the inserted signal cannot be seen until the session is changed to a split mode (see CONN-TACC and CHG-ACCMD). Valid values are: ■ PRS A Pseudo-Random bit sequence is inserted. For STS1 and STS3c modifiers, a $2^{23}-1$ PRBS is inserted.

Table 2-13. CHG-TSTSIG *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
	Note that the signal generated by the internal test head may not be compatible with some external test sets. The following settings are recommended: For STS1: mode=SDH payload =AU-3, Bulkfilled pattern=2²³-1 PRBS, NORMAL For STS3c: The same as for STS1, for 3 STS1s. This may require the test set to be set to background=foreground for the entire signal. ■ NULL If no value is provided, AIS is inserted, and any generators that were assigned to the test session are removed.

OUTPUT FORMAT

Upon receiving a valid request, or upon receiving a duplicate request, the NE responds with the following:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also.

EXAMPLE INPUT/OUTPUT

The following is an example of a **CHG-TSTSIG** response:

```
CHG-TSTSIG-STS1:A121-39-NE-2::1::tsn=9,ttsig=PRS;
```

```
IP 1  
<  
    A121-39-NE-2 06-02-09 16:04:43  
M 1 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **CHG-TSTSIG** command.

If the NE receives a request where the specified **modifier** does not match that of the specified test session, **tsn**, the following error response is returned:

```
sid date time  
M ctag DENY  
  ICNV  
/* Input, Command Not Valid, modifier inconsistent with specified session */  
;
```

If the NE receives a request where there is no test session associated with the specified **tsn**, the following error response is returned:

```
sid date time  
M ctag DENY  
  SNVS  
/* Status, Not in Valid State, test session doesn't exist */  
;
```

If the NE receives a request with an invalid value for **ttsig**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid TSTSIG */
;
```

If the NE receives a request, and the requested test signal generator(s) are not available (for an STS3c request, 3 contiguous generators on an STS3c boundary must be available), the following error response is returned:

```
sid date time
M ctag DENY
  SSRB
/* Status, System Resources Busy, requested signal generator(s) not available */
;
```

RELATED TL1 MESSAGES

CHG-ACCMD-rr

CONN-TACC-rr

DISC-TACC-rr

MEAS-SIG-rr

RTRV-RSLT

RTRV-TACC-rr

NAME

CONN-TACC-rr: Connect Test Access

The **CONN-TACC-rr** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 4.0

LOGIN PRIVILEGE

The **CONN-TACC-rr** command is available to users with Privileged, General and Maintenance access.

INPUT FORMAT

CONN-TACC-modifier:*tid:tatrib1:ctag:::spec_block;*

Beginning in Release 7.0, when establishing a session to an internal test head (using *tsn*):

CONN-TACC-modifier:*tid::ctag:::spec_block;*

DESCRIPTION

The **CONN-TACC-rr** command establishes a test access connection in a bridged (**MONE** or **MONEF**) mode to a channel in the network element. Test access connections are allowed when the corresponding cross-connection (**ENT-CRS-rr**) is allowed; refer to Appendix E for allowed cross-connects. Twelve simultaneous test access sessions are supported.

This command is not service-affecting.

Once established, a monitor-mode session may be converted to a split mode (**SPLTE** or **SPLTEF**) using **CHG-ACCMD-rr**, or disconnected using **DISC-TACC-rr**. Active test connections may be retrieved using **RTRV-TACC-rr**.

Existing test access sessions are deleted when upgrading to Release 6.0 or later.

Beginning in Release 7.0, a **MONE** test access session may be established to an internal test head, using *tsn* instead of *tatrib1*, in shelves equipped with VLF main packs (see Appendix D). A *tsn*-initiated session may be converted to a split mode (**SPLTE** or **SPLTA**) using **CHG-ACCMD-rr**, or disconnected using **DISC-TACC-rr**. A test signal may be inserted using **CHG-TSTSIG-rr**. A test signal may be monitored using **MEAS-SIG-rr**, with results retrieved using **RTRV-MEAS**.

Any mix of *tsn*-initiated and *tatrib1*-initiated sessions is allowed, up to the shelf limit of 12 sessions. The capacity of the internal test head is limited to 12 STS1s.

Beginning in Release 7.0, for requests involving cross-connected tributaries, maintenance on the trib(s) must not be inhibited for the request to be accepted (see **RTRV-TRIBMNTC**, *tribmntc*=INHIBIT).

Execution of this command, whether successful or denied, is recorded in the Security log.

This command generates one **REPT DBCHG** message with *ccb*=**CONN-TACC-rr**.

INPUT PARAMETERS

Table 2-14. CONN-TACC-rr Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>modifier</i>	This is the message modifier for the CONN-TACC-rr command. The modifier is a required field, and must only have one of the following values: ■ VT1 This is for VT1.5- or DS1-level test access. This value is allowed for <i>tatrib1</i>-initiated sessions, and not allowed with <i>tsn</i>-initiated sessions ■ STS1 This is for STS-1- or DS3-level test access. This value is allowed for both <i>tatrib1</i>-initiated and <i>tsn</i>-initiated sessions ■ STS3c This is for STS3c-level test access. This value is allowed for <i>tsn</i>-initiated sessions, and not allowed with <i>tatrib1</i>-initiated sessions.
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description for this parameter.
<i>tatrib1</i>	Test Access Tributary Identifier. This is the AID of an unconnected VT or STS tributary (on a low-speed OLIU, or a DS1, DS3, or EC1 port) to be used as the primary test access tributary for this test session. Beginning in Release 7.0, in shelves equipped with VLF mains, sessions may be established to an internal test head, instead of to an unconnected tributary. These sessions are established using <i>tsn</i> instead of <i>tatrib1</i>, and both may not be included in the same request. Allowable values for <i>tatrib1</i> are VT1.5 or STS-1 Channel AIDs for drop connections to electrical DS1 or DS3/EC1 ports, or for tributaries in UPSR or 1+1 lines.

Table 2-14. CONN-TACC-rr Input Parameters (cont 2 of 2)

Parameter Name	Description
	Allowable values are STS-1 Ring Channel AIDs for tributaries in BLSR lines. Beginning in Release 6.0, optical test access tributaries are only allowed on function slot optical lines, and only if the optical line parameter (RTRV-rr) <i>application</i>=1+1. The STS-1 Channel AID of a drop connection to a DS3 port is not valid if either etrib or ftrib specifies a tributary to a port of a TMUX or DS1 circuit pack. Beginning in Release 6.0, logical ring channel AIDs are used to specify all test access tributaries. Refer to Appendix A - AID Tables for the syntax of supported aids.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
spec_block	The spec_block parameters are listed and described in the following table:

Table 2-15. CONN-TACC-rr Input **spec_block** Parameters (cont 1 of 3)

Parameter Name	Description of Spec Block Parameters
etrib	E Tributary. This parameter is the AID of the E tributary to be tested. See Appendix A for the syntax of AIDs. This is a required parameter. The E tributary may be involved in a connection or it may be idle. It may not be part of a connection where chappl=UNSWITCHED. In UPSR applications, if the etrib is part of a 1WAYPR connection (see RTRV-CRS-rr, <i>cct</i>), or if the etrib and its companion ring channel are both unconnected, the test access connection requested is path-protected. If either the etrib, or its companion, or both, are 1WAY connected, the test access connection requested is locked to the requested side. For a tsn-initiated session, etrib must be a tributary on an OC-n or EC-1 interface. Allowable AIDs are:

Table 2-15. CONN-TACC-rr Input *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description of Spec Block Parameters
	■ VT1.5 Channel AID for a connected tributary in a UPSR (add/drop only), in an electrical DS1/DS3 line, or any 1+1 tributary. The VT1.5 tributary must be idle, or must be VT-cross-connected; requests for access to a VT within an STS-connected tributary are denied. ■ VT1.5 Ring Channel AID for an unconnected tributary in a UPSR, or for a locked cross connection to a DS1. ■ VT1.5 Ring Channel AID for an add/drop tributary in a BLSR line. ■ STS-1 Channel AID for a connected tributary in a UPSR, in a DS3 line, or any 1+1 tributary. ■ STS-1 Ring Channel AID for an unconnected or through-connected tributary in a UPSR, or for a locked cross connection to a DS3. ■ STS-1 Ring Channel AID for tributaries in a BLSR line. Beginning in Release 6.0, logical ring channel AIDs are used to specify the E Tributary. Refer to Appendix A - AID Tables for the syntax of supported aids. ■ STS-3c Ring Channel AID.
<i>ftrib</i>	F Tributary. This parameter is the AID of the F tributary to be tested. See Appendix A for the syntax of AIDs. This parameter is required if the <i>etrib</i> is the <i>src_aid</i> of at least one cross-connection and it is not the <i>dest_aid</i> of exactly one cross-connection. It must be omitted if the <i>etrib</i> is not cross-connected. If <i>ftrib</i> is omitted and the <i>etrib</i> is connected with another tributary as a <i>src_aid/dest_aid</i> conjugate pair, then the implied <i>ftrib</i> value is the AID of that other tributary. If <i>tstmde=MONEF</i> the <i>ftrib</i> must be involved in connections, as both <i>src_aid</i> and <i>dest_aid</i>, with the <i>etrib</i>. Refer to <i>etrib</i> for allowable AIDs.
<i>tatrib2</i>	Test Access Tributary 2. This is the AID of an unconnected VT or STS tributary to be used as the secondary test access tributary for this test session. This parameter is required if <i>tstmde=MONEF</i>, and should be omitted if <i>tstmde=MONE</i>. See Appendix A for the syntax of AIDs. Refer to <i>tatrib1</i> for allowable AIDs.
<i>tstmde</i>	Test Mode. This parameter specifies the initial test mode to be used. Valid values are:

Table 2-15. CONN-TACC-rr Input *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description of Spec Block Parameters
	■ MONE This is a non-service-affecting monitor of the E leg of a cross-connect, or of an idle tributary. In a UPSR application, the monitor point is after the path selector. This is the default. A MONE mode can be converted to a SPLTE mode using the CHG-ACCMD-rr command. Beginning in Release 7.0, for a <i>tsn</i>-initiated session, a MONE mode can also be converted to a SPLTA mode using the CHG-ACCMD-rr command. ■ MONEF This is a non-service-affecting monitor of the E and F legs of a cross-connect. This mode is not valid for idle tributaries or if the <i>etrib</i> and <i>ftrib</i> are involved in a single one-way cross connection. In a UPSR application, the monitor point is after the path selector. A MONEF mode can be converted to a SPLTEF mode using the CHG-ACCMD-rr command. This mode is not allowed for <i>tsn</i>-initiated sessions.
<i>tsn</i>	Test Session Number. Beginning in Release 7.0, <i>tsn</i> is used to initiate sessions to an internal test head, in shelves equipped with VLF mains, instead of to an unconnected tributary. <i>tsn</i> and <i>tatrib1</i> (or <i>tatrib2</i>) may not be included in the same request. Valid values are 1-12. If the requested number is already in use for a session, the request is denied. There is no default value.

OUTPUT FORMAT

Upon receiving a valid **CONN-TACC-rr** command, the NE responds with the completion message shown below:

```
sid date time
M ctag COMPLD
;
```

When a *tatrib1*-initiated **CONN-TACC-rr** command completes successfully, the NE sets one of the following standing conditions:

```
sid date time
A atag REPT EVT VT1
  "tatrib1:TSTACC,SC,date,time,,,,:\Test access IP\""
;
```

```
sid date time
A atag REPT EVT STS
  "tatrib1:TSTACC,SC,date,time,,,,:\Test access IP\""
;
```

When the test session is disconnected, the above standing condition is cleared.

When a *tsn*-initiated session is successfully established, the following standing condition is set:

```
sid date time
A atag REPT EVT STS
  ":TSTACC,SC,date,time,,,,:\Test access IP:tsn\""
;
```

When the test session is disconnected, the above standing condition is cleared.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also.

EXAMPLE INPUT/OUTPUT

The following example requests a **MONE** VT test access from an unconnected tributary in the main OLIU to a DS1 port in the FN A group.

```
CONN-TACC-VT1:LT-TID123:a-1-2-4:123456:::etrib=m-1-11-3-4;  
IP 123456  
<  
    LT-TID123 03-09-26 16:42:11  
M 123456 COMPLD  
;
```

Beginning in Release 6.0, the previous example appears as follows.

```
CONN-TACC-VT1:LT-TID123:a1-1-2-4:123456:::etrib=m1-1-11-3-4;  
IP 123456  
<  
    LT-TID123 03-09-26 16:42:11  
M 123456 COMPLD  
;
```

Beginning in Release 7.0, the following example establishes an STS1 connection to an internal test head.

```
CONN-TACC-STs1:LT-TID123::123456:::etrib=m1-1-11,tsn=3;  
IP 123456  
<  
    LT-TID123 03-09-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The requirements listed there may also apply to the **CONN-TACC-rr** command.

If the system receives a **CONN-TACC-rr** command with a *modifier* that the command does not accept, the following error response is returned:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

If the system receives a **CONN-TACC-rr MONE** request without the *tatrib1* and *etrib* parameters (and *ftrib* if the *etrib* is the *src_aid* of more than one cross-connection), or a **MONEF** request without the *tatrib1*, *tatrib2*, and *etrib* parameters, or if any AID parameters are invalid for the *modifier* provided, the following error response is returned to the user:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

Beginning in Release 7.0, the above error response does not apply if *tsn* is supplied instead of *tatrib1*.

If the system receives a **CONN-TACC-rr** command with a *tstmde* value that is invalid for the request, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TSTMDE */
;
```

If the system receives a **MONEF** request, and the *etrib* and *ftrib* tributaries are not cross-connected as a conjugate *src_aid*, *dest_aid* pair, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

If the system receives a request where at least one of the *etrib* or *ftrib* parameters is to a BLSR ring (**RTRV-rr**, *application=2F*), and at least one of the

tatrib1 or **tatrib2** parameters is to the same ring, the following error response is returned:

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, Not equipped for Setting specified Information, shelf
  equipage does not allow requested test access */
;
```

Beginning in Release 6.0, if the system receives a request where either **tatrib1** or **tatrib2** is to an optical line that is not in a function unit or growth slot, and not provisioned for *application=1+1* (see **RTRV - rr**), the following error response is returned:

```
sid date time
M ctag DENY
  IPNC
  /* Input Parameter Not Consistent, tatrib not allowed with existing
  line application */
;
```

If the system receives a request, and the **tatrib1** and **tatrib2** tributaries (as appropriate to the request) have an existing cross-connect or test access connection active, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, test access tributary is busy */
;
```

If the system receives a **CONN - TACC** command, and there is only a single one-way connection between **ftrib** and **etrib**, with **ftrib** as the *src_aid*, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID is missing, wrong or
  inconsistent with modifier */
;
```

If the system receives a **CONN - TACC** command, and any of the **tatrib1**, **tatrib2**, **etrib** or **ftrib** tributaries (as appropriate to the request) has an active loopback

(**RTRV-LPBK-rr**) on the port or line that carries it, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, tributary has existing loopback */
;
```

If the system receives a **CONN-TACC** command, and either the **etrib** or **ftrib** (as appropriate to the request) is part of a connection in which **chappl=UNSWITCHED** (see **RTRV-CRS-rr**), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, unswitched connection does not
support test access */
;
```

If the system receives a **CONN-TACC** command when the system already has the maximum number of active test sessions, the following error response is returned:

```
sid date time
M ctag DENY
SARB
/* Status, All Resources Busy, maximum number of test access
sessions exceeded */
;
```

If the system receives a **CONN-TACC** command and there is a ring, node or function group pack upgrade in progress, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, upgrade in progress */
;
```

If the system receives a **MONE** request, and the **tatrib2** parameter is supplied, or the **etrib** is not cross-connected and the **ftrib** parameter is supplied, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, extra AIDs */
;
```

If the system receives a request, and the **etrib** or **ftrib** (as appropriate to the request) is already involved in a test access connection, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, existing test access connection */
;
```

Beginning in Release 7.0, the above message also applies if a **tsn** is specified, and a test session using that **tsn** already exists.

If the system receives a request, and the cross connect capacity of the system is insufficient to set up the test access connection, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, cross-connect capacity is
not available */
;
```

If the network element receives a **CONN-TACC-rr** command in which the **modifier** doesn't match the rate of the existing cross connection, the following error response is returned:

```
sid date time
M ctag DENY
IPNC
/* Input Parameter Not Consistent, rate not consistent with
existing cross-connection */
;
```

If the network element receives an otherwise valid **CONN-TACC-rr** command but for which the system is not properly equipped, the following error response is returned:

```
sid date time
M  ctag DENY
   ENSI
   /* Equipage, Not equipped for Setting specified Information, shelf
   equipage does not allow requested test access */
;
```

If the NE receives an **CONN-TACC-rr** command, and any of the **tatrib1**, **tatrib2**, **etrib** or **ftrib** tributaries (as appropriate to the request) is on an optical port which supports pluggable optics, and a valid optical module for that port does not appear in the equipment list (**RTRV-EQPT**), the command is denied and the following error response is returned:

```
sid date time
M  ctag DENY
   ENSI
   /* Equipage, Not equipped for Setting specified Information, shelf
   equipage does not allow requested test access */
;
```

Beginning in Release 7.0, the NE returns the previous denial message in response to a **CONN-TACC-rr** request to establish a tsn-initiated session for which the specified **etrib** is not valid.

If the network element receives an otherwise valid **CONN-TACC-VT1** command and the **etrib** is part of a ring pass-through cross connection, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, test access not supported for VT through
   connection */
;
```

Beginning in Release 7.0, for requests involving cross-connected **etrib** or **ftrib** tributaries, maintenance on the trib(s) must not be inhibited for the request to be accepted (see **RTRV-TRIBMNTC**, *tribmntc*=INHIBIT). If **etrib**, or **ftrib** if appropriate, has *tribmntc*=INHIBIT, the following error response is returned:


```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, specified trib(s) are in an
inhibited state */
;
```

Beginning in Release 7.0, if a request is received with both **tatrib1** and **tsn**, or with neither **tatrib1** and **tsn**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, either TATRIB1 or TSN required, but not
both */
;
```

Beginning in Release 7.0, if a request is received with an invalid value for **tsn**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TSN */
;
```

Beginning in Release 7.0, if a **tsn**-initiated request is received, and the internal test head(s) needed for the request are not available, the following error response is returned:

```
sid date time
M ctag DENY
SSRB
/* Status, System Resources Busy, internal test head(s) not
available */
;
```

Beginning in Release 7.0, test access requests are additionally validated according to the cross-connection rules (see Appendix E). Some requests that were allowed with previous releases may be denied. Error responses from **ENT-CRS-rr** may also be returned by **CONN-TACC**.

If the NE receives a **CONN-TACC-rr** command, and any of the **tatrib1**, **tatrib2**, **etrib** or **ftrib** tributaries (as appropriate to the request) are on an optical line which has *signaltype* set to STNA (see **RTRV-rr**), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed when
signaltype=STNA */
;
```

If the NE receives a **CONN-TACC-rr** command, and any of the **tatrib1**, **tatrib2**, **etrib** or **ftrib** tributaries (as appropriate to the request) are on an optical line or port which has *portclass* not set to TRADITIONAL (see **RTRV-CPORT-rr**), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, port/line used for control plane
application */
;
```

RELATED TL1 MESSAGES

CHG-ACCMD-rr

DISC-TACC-rr

RTRV-TACC-rr

ALW-TRIBMNTC

INH-TRIBMNTC

RTRV-TRIBMNTC

CHG-TSTSIG-rr

MEAS-SIG-rr

RTRV-RSLT

ENT-CRS-rr

NAME

CPY-MEM: Copy Memory

The **CPY-MEM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

The input syntax of **CPY-MEM** is shown below:

CPY-MEM: *tid::ctag::[from],[src],[to],[dst],class[:spec_block];*

DESCRIPTION

The **CPY-MEM** command can be used to download a software generic, or to backup or restore a network element's (NE's) provisionable database.

All file transfers initiated as a result of this command are accomplished using FTP file transfers, either directly to/from a File Transfer Protocol-Gateway Network Element (FTP-GNE) or through an FTP-GNE to/from a File Transfer Protocol-Remote Network Element (FTP-RNE) using IP tunneling. If the FTP-GNE, FTP-RNEs and IP tunneling are set up correctly, this command is the same for both the FTP-GNE and FTP-RNEs, i.e., it's as if each FTP-RNE has a direct TCP/IP interface.

The related TL1 commands **ENT-SYS**, **ENT-ULS**, **ENT-IP-ROUTE** and **ED-IP-TUNNEL** support FTP file transfer and provisioning of IP tunneling. Refer to the User Operations Guide for more information.

All FTP-based file transfers need to provide data integrity assurance and data origin authentication. This requires that standard security mechanisms be applied before the file transfer is initiated.

When enabled, during the software download, a digital signature is transmitted along with the image file, and verified by the receiving side.

First, the image is hashed into a message digest, using FIPS 180-1, Secure Hash Standard, and is then input to the Digital Signature Algorithm per FIPS 186-2, Digital Signature Standard, using a private key.

When the image and digital signature is received, the signature is verified by hashing the image into a message digest, then verifying the signature using the

public key. If the verification fails, the NE issues an autonomous message and does not store the new image in flash.

This feature can be enabled or disabled through the *ftp_dschk_spec_block* parameter. By default it is disabled. When enabled, it will increase the download time significantly.

This feature applies to **DOWNLOAD** only, not to **BACKUP** and **RESTORE**.

Beginning with Release 3.0 the file transfers initiated by this command can be accomplished using the File Transfer and Access Management-File Transfer Protocol (FTAM-FTP) Gateway. Under this, file transfers from/to the FTP server to the remote NE are achieved using the FTAM protocol from the RNE to the FTAM-FTP Gateway NE and FTP protocol from the Gateway NE to the FTP server. This enables file transfers over OSI-based DCC and using IP Access DCN.

The RNE relies on the FTAM protocol for file transfers, and requires FTAM to make use of the FTAM Initiator function.

The FTAM-FTP GNE performs translation between an FTP Connection and an FTAM Association and requires the FTP Client to be enabled and using FTAM Responder functions.

The TL1 command **ENT-SYS** supports required provisioning for FTAM-FTP Gateway function.

Beginning with Release 9.0, the file transfers initiated by this command can be accomplished using the SSH File Transfer Protocol (SFTP) between an SFTP server and the target NE which acts as an SFTP client, with the IP connectivity between the server and client.

This command can also be used for initial local software installation (as an alternative to **INS-PRGM**), such as with a new system controller circuit pack that doesn't already have an active or dormant software generic installed (referred to as a "factory-fresh" state). Refer to **INS-PRGM** for a list of the minimal subset of TL1 commands which are supported in this state.

Starting in Release 6.0, **INS-PRGM** is not supported, but the list of the minimal subset of commands that are supported when a system controller is in the "factory fresh" state, as specified in **INS-PRGM**, remains valid.

This command can also be used to download a software generic for another compatible product type to DMX. The compatible product types are DMXpress, DDM-2000 OC-3, DDM-2000 OC-12 and FiberReach. The related command **CPY-PRGM** can be used to copy a software generic from DMX to any one of these compatible NEs.

In Release 2.1.3, and then starting in Release R3.0.2, DMX can also download a DMXtend generic.

Starting in Release 4.0, DMX can also download a DMXplore generic.

Beginning in Release 7.1, DMX can also download an 1850TSS-5 generic.

The related **SCHED - BACKUP** command can be used to schedule automatic backup of an NE's provisionable database.

Whether manually initiated or scheduled, when **CPY - MEM** is used for backing up the NE's provisionable database, the database is backed up based on the state of the database when the command is started, and changes which happen during the command execution are not backed up.

When **CPY - MEM** is used for restoring the NE's provisionable database, the following conditions must be true for the restore file to be accepted:

- The product type of the NE must match that in the file.
- The TID of the NE must match that in the file.
- The restore file must have been created with the same release of software which is currently running on the NE.
- The restore file is not corrupted, and has been correctly copied to the NE (verified by a checksum).
- If at least one main pack was present when the backup was done, at least one main pack must be present in the NE (the slot and pack type need not match).

Starting in Release 6.0, a restore file created in a release prior to the release of the software running on the NE is allowed, subject to the restrictions specified in the following table.

Table 2-16. Acceptable Restore File Releases

SW Release	Acceptable Restore File Release	NE Mode
Prior to Release 6.0	Same release as SW release	N/A
Release 6.0 and later releases	Same release as SW release	Normal and Maintenance modes
Release 6.0 and later releases	Release 5.x	Maintenance mode only

If the restore file is not accepted, the command is denied, and the database is not affected.

When the NE restarts in Maintenance Mode, **CPY - MEM** can be used to download a new software generic and/or a restore a database to the NE. **CPY - MEM** will allow both the new generic and the restored database to be of a release that is later than the software release currently running on the NE. However, the NE is not

able to correctly recognize a data base release later than the current running software release and the NE MAC address will not be correctly updated in the restored database by the **SET-GENERIC** command. When the NE is subsequently reset, the restored database will be considered to be invalid if the database MAC address doesn't match the NE's MAC address and the NE will again start in Maintenance mode. This occurs even if a downloaded new software generic that will be running on the NE after it restarts has a release number that is the same or later than the database that had been restored while the NE was previously in Maintenance mode.

Prior to Release 3.0.2, in order for a restore file to be accepted, in addition to the above, the shelf equipage must match that in the file.

Starting in Release 3.0.2, for any slot in which the circuit pack does not match the equipage in the restore file, after the restore, the circuit pack in the slot may be failed with an unexpected or illegal CP type alarm and transmission may be lost. If the circuit pack in the slot is at a different transmission rate from the expected circuit pack type in the restore file, recovering transmission may be a lengthy and difficult process. It is recommended that a backup be performed after any upgrade or equipage change.

Starting in Release 5.0, any TL1 command except for **ACT-USER** and **CANC-USER** that is received by the NE, while a restore is in progress will be denied.

After completing the execution of **CPY-MEM: *class*=RESTORE**, all UPSR external switch requests are cleared.

When **CPY-MEM** is used for restoring the NE's provisionable database, the date and time for the next scheduled backup, **SCHED-BACKUP: *date,time***, could be restored to a date and time that is earlier than the current date and time. Starting in Release 3.1, if this happens, the backup interval, **SCHED-BACKUP: *invl***, will be iteratively added to the restored backup date and time until a date and time in the future is reached. If a future date and time cannot be reached within 50 iterations of the backup interval, the backup is not scheduled. In the worst case, if the value of the backup interval, ***invl***, is provisioned to its minimum value of 1 day, then not achieving a future date and time for the next scheduled backup after iterating 50 times on the backup interval would occur only if the database restore used a file that was created more than 50 days in the past. For other values of the backup interval, the age of the restore file would have to be proportionately greater for a future next scheduled backup date and time not to be achieved. For example, if the value of ***invl*** is 7 days, a future next schedule backup date and time will be always achieved as long as the restore file had been created less than 350 days in the past.

When **CPY-MEM: *class*=RESTORE** is used to restore the NE's provisionable database from a backup file, if any service related parameters, such as cross-connects, have been changed since the backup file was created, those changes will be lost and service may be affected.

Prior to Release 4.0, when **CPY-MEM:class=RESTORE** is used for restoring the NE's provisionable database from a backup file, Ethernet circuit packs are always reset, resulting in a service affecting hit, even if there have been no changes to Ethernet parameters since the backup file was created. Starting in Release 4.0, Ethernet circuit packs are reset only if certain Ethernet parameters have been changed since the backup file was created. These parameters are **vlantagmd** and **eccmode** (provisioned by **ED-EQPT**), spanning tree parameters (entered or changed by **ENT-STGRP**, **ED-STGRP** and **DLT-STGRP**) and MAC parameters (entered or changed by **ENT-MAC** and **DLT-MAC**).

Starting in Release 5.1, when **CPY-MEM** is used for restoring the NE's provisionable database from a backup file, DATA circuit packs are reset only if the parameter **datatype** (provisioned by **ED-EQPT**) is changed.

Starting in Release 1.1, when **CPY-MEM** is used for restoring the NE's provisionable database from a backup file that results in resetting an Ethernet pack, the reset may take up to several minutes to complete. Until the pack reset is complete, subsequent provisioning commands directed toward the pack may not complete and may cause a transient pack failure.

Starting in Release 5.1, when **CPY-MEM** is used for restoring the NE's provisionable database from a backup file that results in resetting a DATA circuit pack, the reset may take up to several minutes to complete. Until the pack reset is complete, subsequent provisioning commands directed toward the pack may not complete and may cause a transient pack failure.

When the NE is in Maintenance Mode, **CPY-MEM:class=DOWNLOAD** or **CPY-MEM:class=RESTORE** can be used to download a new software generic or to restore a previously backed-up database, respectively. **CPY-MEM:class=BACKUP** is not allowed when the NE is in Maintenance Mode.

When **CPY-MEM:class=RESTORE** is executed in Maintenance Mode, the restored database is stored in compressed form as the *backup_db*. When not in Maintenance Mode, the restored database is uncompressed and replaces the *active_db*. The *active_db* and *backup_db* databases are identified by the **RTRV-GENERIC** command.

Unlike when the NE is in the NORMAL mode (**RTRV-SYS:nemode**), when in Maintenance Mode, successfully executing **CPY-MEM** will not cause the NE to reset. **CPY-MEM** will not cause the NE to exit Maintenance Mode. Maintenance Mode is exited by executing **INIT-SYS:ph=3** with a valid release and database selected (see **SET-GENERIC**).

Table 2-17 summarizes the **CPY-MEM** behavior in Normal Mode and Maintenance Mode.

		Normal Mode	Maintenance Mode
CPY-MEM:DOWNLOAD	Stored as:	<i>dormant_rel</i>	<i>dormant_rel</i>
	Stored file format:	compressed	compressed
CPY-MEM:BACKUP	Allowed:	allowed	not allowed
CPY-MEM:RESTORE	Stored as:	<i>active_db</i>	<i>backup_db</i>
	Stored file format:	uncompressed	compressed
	Causes NE to reset:	yes	no

Table 2-17. CPY-MEM Behavior in Normal Mode and Maintenance Mode

When the NE is not in Maintenance Mode, executing **CPY-MEM:class=RESTORE** to restore a previously backed up database replaces the active database with the restored database (**RTRV-GENERIC:active_db**).

When the NE is in Maintenance Mode, executing **CPY-MEM:class=RESTORE** to restore a previously backed up database does not replace the active database but stores the database as the backup database (**RTRV-GENERIC:backup_db**) on all NVMs. After executing **CPY-MEM:class=RESTORE**, the user needs to select the *backup_db* using **SET-GENERIC:database=BACKUP**.

When upgrading an NE to Release 6.0 from release Release 5.0 or 5.1, the required procedure is for the user to execute **CPY-MEM:class=BACKUP** to back up the NE's database just prior to upgrading the NE. After the system controller is replaced and the NE restarted with Release 6.0, the user then executes **CPY-MEM:class=RESTORE** to restore the pre-release 6.0 database. The NE will then convert the restored database to the new software release when the NE restarts. Failure to do so will result in the loss of the provisioned data and loss of service.

Starting in Release 6.0, when the NE first starts up in the normal mode, it raises a "generic validation IP" standing condition while it validates the *previous_rel* and *dormant_rel* on each of the NVMs and synchronizes the NVMs. **CPY-MEM** will be denied while the "generic validation IP" standing condition exists.

Starting in Release 6.0, the NE also raises a "generic validation IP" standing condition while it synchronizes the downloaded generic on the NVMs after the user executes **CPY-MEM:class=DOWNLOAD**. The "generic validation IP" standing condition is raised after the "CPY-MEM download IP" standing condition is raised, and is cleared before the "CPY-MEM download IP" standing condition is cleared and before the "CPY-MEM download successful" transient condition is issued.

Starting in Release 6.0, if one of the NVMs is missing or failed, writing to the remaining NVM is disabled and an "NVM write disabled" standing condition is raised. **CPY-MEM: *class* = RESTORE** or with **CPY-MEM: *class* = DOWNLOAD** will be denied while the "NVM write disabled" standing condition exists.

Prior to Release 5.0, when the database was backed up, an uncompressed backup file was created. Starting in Release 5.0, the backup file is a compressed file.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **CPY-MEM** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-18. CPY-MEM Input Parameters (cont 1 of 10)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>from</i>	From FTP Server. This parameter specifies FTP as the file transfer protocol to be used. All FTP file transfers are from an FTP server. The FTP server can be a PC-Craft Interface Terminal (PC-CIT), OMS or a generic FTP server. Prior to Release 3.0, the valid value is: FTP Default Starting in Release 3.0, there are several file transfer mechanisms available for file transfer. The allowed values for this field require start and end double-quotes. "FTP" End-to-end file transfer from/to an FTP Server. The FTP server can be a PC-CIT, OMS or a generic FTP server. This is the default.

Table 2-18. CPY-MEM Input Parameters (cont 2 of 10)

Parameter Name	Description
"FTTD,<i>psel</i>,<i>sse</i> <i>l</i>,<i>tsel</i>,<i>nsap</i>"	File transfer from an FTP server is through a File Transfer Translation Device (FTTD) acting as an FTAM-FTP Gateway. FTTD implies that part of the path uses OSI and part uses FTP (TCP/IP) i.e. the connection of the FTP server to the NE is through a TCP/IP Gateway translating FTP Connection to FTAM Association. The "<i>psel</i>,<i>sse</i>,<i>tsel</i>,<i>nsap</i>" identify the FTAM-FTP Gateway's OSI network address. The FTP server can be a PC-CIT, OMS or a generic FTP server. <i>psel</i> Presentation Selector. 0-4 bytes (0-8 hex characters) Beginning in Release 3.1, the default <i>psel</i> value is 02. <i>sse</i> Session Selector. 0-4 bytes (0-8 hex characters) Beginning in Release 3.1, the default <i>sse</i> value is 5353. <i>tsel</i> Transport Selector. 0-16 bytes (0-32 hex characters) Beginning in Release 3.1, the default <i>tsel</i> value is 5454. <i>nsap</i> Network Service Access Point. 20 bytes (40 hex characters). The last 2 characters of <i>nsap</i> must be "1D" or "1d". There is no default value. Note: FTTD is not available when the NE is in Maintenance Mode
"FTAM,<i>psel</i>,<i>sse</i> <i>l</i>,<i>tsel</i>,<i>nsap</i>"	Starting in Release 4.0, FTAM file transfer via OSI between the PC-CIT and the NE is supported. The field definitions and default values for <i>psel</i>, <i>sse</i> and <i>tsel</i> are the same as for the "FTTD, <i>psel</i>,<i>sse</i>,<i>tsel</i>,<i>nsap</i>" option.
"SFTP"	Starting in Release 9.0, SFTP file transfer from an SFTP Server is supported.
NULL	NULL defaults to "FTP" .

Table 2-18. CPY-MEM Input Parameters (cont 3 of 10)

Parameter Name	Description
src	Source. For FTP file transfers to the NE (such as DOWNLOAD and RESTORE) this field consists of multiple parameters. Start and end double-quotes are required, and unlike most TL1 parameter values, this parameter value is case-sensitive for the alphabetic characters. The maximum length for the entire src string is 128 characters. Starting in Release 5.0, the maximum length for the entire src string is 110 characters. The mandatory fields are "ftp://", srvIPAddr and /" (after the optional port field). If class=DOWNLOAD, the input format for the src field is: "ftp://[login[:passwd]@]srvIPAddr[:port]/[/][directory]" Starting in Release 9.0, if from = "SFTP" and class=DOWNLOAD, the input format for the src field is: "sftp:// login:passwd@srvIPAddr[/][directory]" If class=RESTORE, the input format for the src field is: "ftp://[login[:passwd]@]srvIPAddr[:port]/[/][directory]filename" Starting in Release 9.0, if from = "SFTP" and class=RESTORE, the input format for the src field is: "sftp:// login:passwd@srvIPAddr[/][directory]/filename" Starting in Release 4.0, if from = "FT AM,psel,ssel,tsel,nsap" and class=DOWNLOAD, the input format for the src field is: "[\][directory]" Starting in Release 4.0, if from = "FT AM,psel,ssel,tsel,nsap" and class=RESTORE, the input format for the src field is: "[\][directory]\filename" login User ID on the FTP server. This optional field may be up to 26 characters long. Starting in Release 9.0, if from = "SFTP" , this is the User ID on the SFTP server passwd User password on the FTP server. This optional field may be up to 72 characters long. Starting in Release 9.0, if from = "SFTP" , this is the User Password on the SFTP server

Table 2-18. CPY-MEM Input Parameters (cont 4 of 10)

Parameter Name	Description
	If the FTP server is secure, an authorized login and passwd for the FTP server must be specified; otherwise, the FTP server is assumed to support anonymous access (i.e., login=anonymous and no passwd). If passwd includes a colon (:) or an at sign (@), it must be enclosed within a pair of backslash-double quotes (e.g. \@"). The Alcatel-Lucent CIT requires a CIT login and passwd that has permission for FTP file transfers. OMS always sends a login:passwd pair, even for anonymous FTP.
svlPaddr	The FTP server destination IP address must be specified as a 32-bit IP address consisting of four dot-separated decimal numbers ranging from 0 to 255. Starting in Release 9.0, if from = "SFTP" , this is the IP address of the SFTP server.
port	The port value can be used to specify the FTP server's port number if it is other than the standard port number 21 (default). The Alcatel-Lucent CIT and OMS use standard port number 21.

Table 2-18. CPY-MEM Input Parameters (cont 5 of 10)

Parameter Name	Description
	[/]directory The directory and filename are sent to the FTP server exactly as input; however, the following guidelines are generally applicable to an FTP server's interpretation of the [/]directorypath entry. For UNIX FTP servers (e.g. OMS): If the optional forward slash [/] is omitted, the directory path starts from the FTP server's UNIX home directory for the login (user ID). If the optional forward slash is specified and an anonymous login is entered, the directory path starts from the UNIX FTP server's FTP directory. If the optional forward slash is specified and an authorized login is entered, the directory path is a fully-qualified path starting from the FTP server's UNIX root. For PC FTP servers (e.g. the Alcatel-Lucent CIT): The optional forward slash [/] is omitted but a backslash (\) is required instead, to provide a field delimiter between the specified PC disk drive, if any, and the rest of the fully-qualified directory path. Because backslash is the TL1 escape character, to include a backslash in a TL1 message requires <i>two</i> backslashes, e.g., \\c:\directorypath. Alcatel-Lucent CIT GUI users do not need to enter the second backslash; the Alcatel-Lucent CIT automatically generates the second backslash. Although directory is optional, it is recommended that the user specify a directory path or filename that is unique to the NE, e.g., a directory path that includes the NE's TID. Starting in Release 9.0, if from = "SFTP" , this is the directory for SFTP. filename The scheduled backup is sent to filename as specified or to filename with a number automatically appended to the name, depending on the filenum parameter.
to	To FTP Server. This parameter specifies FTP as the file transfer protocol to be used. All FTP file transfers are to an FTP server. The FTP server can be a PC-CIT, OMS or a generic FTP server. Prior to Release 3.0, the legal value is: FTP Default

Table 2-18. CPY-MEM Input Parameters (cont 6 of 10)

Parameter Name	Description
	Starting Release 1.0, there are several file transfer mechanisms available for file transfer. The allowed values for this field require start and end double-quotes. "FTP" End-to-end file transfer from/to an FTP Server. The FTP server can be a PC-CIT, OMS or a generic FTP server. This is the default "FTTD,psel,ssel,tsel,nsap" File transfer from an FTP server is through a File Transfer Translation Device acting as FTAM-FTP Gateway. FTTD implies that part of the path uses OSI and part uses FTP (TCP/IP); i.e. the connection of the FTP server to the NE is through a TCP/IP Gateway translating the FTP Connection to an FTAM Association. The "psel,ssel,tsel,nsap" identify the FTAM-FTP Gateway's OSI network address. The FTP server can be a PC-CIT, OMS or a generic FTP server. psel Presentation Selector. 0-4 bytes (0-8 hex characters) Beginning in Release 3.1, the default psel value is 02. ssel Session Selector. 0-4 bytes (0-8 hex characters) Beginning in Release 3.1, the default ssel value is 5353. tsel Transport Selector. 0-16 bytes (0-32 hex characters) Beginning in Release 3.1, the default tsel value is 5454. nsap Network Service Access Point. 20 bytes (40 hex characters). The last 2 characters of nsap must be "1D" or "1d". There is no default value. Note: FTTD is not available when the NE is in Maintenance Mode

Table 2-18. CPY-MEM Input Parameters (cont 7 of 10)

Parameter Name	Description
	"FTAM,psel,sse l,tse l,nsap" Starting in Release 4.0, FTAM file transfer via OSI with the PC-CIT is supported. The field definitions and default values for psel, ssel and tse l are the same as for the "FTTD, psel,ssel,tse l,nsap" option. "SFTP" Starting in Release 9.0, SFTP file transfer to an SFTP Server is supported. NULL NULL defaults to "FTP".
dst	Destination. For FTP file transfers <i>from</i> the NE, i.e., BACKUP, this field consists of multiple parameters. If class=BACKUP, the input format for the dst field is: "ftp://[login[:passwd]@]dstIPAddr[:port]/[][directory]filename" Start and end double-quotes are required, and unlike most TL1 parameter values, this parameter value is case-sensitive for the alphabetic characters. The maximum length for the entire dst string is 128 characters. Starting in Release 5.0, the maximum length for the entire dst string is 110 characters. The mandatory fields are "ftp://", dstIPAddr and "/" (after the optional port field). Starting in Release 9.0, if to = "SFTP" and class=BACKUP, the input format for the dst field is: "sftp://login:passwd@dstIPAddr/[][directory]filename" Starting in Release 4.0, if to = "FT AM,psel,ssel,tse l,nsap" and class=BACKUP, the input format for the dst field is: "[][directory\\]filename" login User ID on the FTP server. This optional field may be up to 26 characters long. Starting in Release 9.0, if to = "SFTP" , this is the User ID on the SFTP server passwd User password on the FTP server. This optional field may be up to 72 characters long.

Table 2-18. CPY-MEM Input Parameters (cont 8 of 10)

Parameter Name	Description
	If the FTP server is secure, an authorized login and passwd for the FTP server must be specified; otherwise, the FTP server is assumed to support anonymous access (i.e., login=anonymous and no passwd). If passwd includes a colon (:) or an at sign (@), it must be enclosed within a pair of backslash-double quotes (e.g. \"@\""). The Alcatel-Lucent CIT requires a CIT login and passwd that has permission for FTP file transfers. OMS always sends a login:passwd pair, even for anonymous FTP. Starting in Release 9.0, if to = "SFTP" , this is the User Password on the SFTP server
dstIPAddr	The FTP server destination IP address must be specified as a 32-bit IP address consisting of four dot-separated decimal numbers ranging from 0 to 255. Starting in Release 9.0, if to = "SFTP" , this is the IP address of the SFTP server
port	port can be used to specify the FTP server's port number if it is other than the standard port number 21 (default). The Alcatel-Lucent CIT and OMS use standard port number 21.

Table 2-18. CPY-MEM Input Parameters (cont 9 of 10)

Parameter Name	Description
	[/]directory The directory and filename are sent to the FTP server exactly as input; however, the following guidelines are generally applicable to an FTP server's interpretation of the [/]directorypath entry. For UNIX FTP servers (e.g. OMS): If the optional forward slash [/] is omitted, the directory path starts from the FTP server's UNIX home directory for the login (user ID). If the optional forward slash is specified and an anonymous login is entered, the directory path starts from the UNIX FTP server's FTP directory. If the optional forward slash is specified and an authorized login is entered, the directory path is a fully-qualified path starting from the FTP server's UNIX root. For PC FTP servers (e.g. the Alcatel-Lucent CIT): The optional forward slash [/] is omitted but a backslash (\) is required instead, to provide a field delimiter between the specified PC disk drive, if any, and the rest of the fully-qualified directory path. Because backslash is the TL1 escape character, to include a backslash in a TL1 message requires <i>two</i> backslashes, e.g., \\c:\\directorypath. Alcatel-Lucent CIT GUI users do not need to enter the second backslash; the Alcatel-Lucent CIT automatically generates the second backslash. Although directory is optional, it is recommended that the user specify a directory path or filename that is unique to the NE, e.g., a directory path that includes the NE's TID. Starting in Release 9.0, if to = "SFTP" , this is directory for SFTP. filename The backup is sent to the filename specified.
class	Class. FTP file transfers can be used to support: DOWNLOAD Software generic download. BACKUP Provisionable database backup. NOTE: BACKUP is not allowed when the NE is in Maintenance Mode

Table 2-18. CPY-MEM Input Parameters (cont 10 of 10)

Parameter Name	Description
	RESTORE Provisionable database restore. Note: RESTORE causes the NE's system controller to reset. When the NE is in Maintenance Mode, RESTORE does not cause the system controller to reset. ABORT Beginning in Release 3.1, a previous DOWNLOAD still in progress may be aborted. The abort can take up to a minute and a half. When <i>class</i>=ABORT, the <i>from</i>, <i>src</i>, <i>to</i>, <i>dst</i> and <i>spec_block</i> parameters must be omitted.
<i>spec_block</i>	The <i>spec_block</i> parameters are covered in the following table.

Table 2-19. CPY-MEM Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>ftp_dschk</i>	If <i>class</i> = DOWNLOAD and <i>prodtype</i> is any of the DMX product family members, <i>ftp_dschk</i> specifies whether to also download and verify the generic's digital signature. If verification fails, or the signature is missing, the software image is not accepted. Digital signatures will not be supplied for releases prior to the 3.0 time frame. Valid values are: NO Default. Do not verify the digital signature. YES Download and verify the digital signature before accepting the image. This can add significant time to a download. This parameter is not applicable to SFTP.
<i>prodtype</i>	If <i>class</i>=DOWNLOAD, this specifies the software generic product type to be downloaded: DMX Default DMXTEND DMXPRESS DMXPLORE 1850TSS-5

Table 2-19. CPY-MEM Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
	DDMOC3 DDM-2000 OC-3 DDMOC12 DDM-2000 OC-12 FBRRCH FiberReach. If the product type is the same as the local system, the software generic is downloaded and stored as a dormant software generic for the system itself. A compressed software generic for the other compatible product types can be downloaded to the system (but never activated in the system itself) and then copied to remote NEs of that product type. At most one software generic for itself and one software generic for any product type can be stored in the system at a time. A subsequent software download overwrites the current dormant software generic for itself or for any other product type, as appropriate. Starting in Release 5.0, at most one dormant software generic can be stored in the system at a time. This software generic can be for the local NE or it can be for a different product type. A subsequent software download overwrites the dormant software generic, regardless of whether the dormant software generic is for the local NE or for a different product type and regardless of whether the downloaded software generic is for the local NE or for a different product type. If the release number of the dormant software generic for the NE itself does not match the currently executing software generic, a standing status condition "dormant/ executing code mismatch" is reported. The standing status condition is cleared when the dormant software generic is activated. Starting in Release 5.0, the standing status condition is also cleared if a software generic for a different product type is downloaded to the NE.

OUTPUT FORMAT

The NE sends the following normal completion response just prior to initiating the requested file transfer:

```
IP ctag
<

    sid date time
M ctag COMPLD
;
```

The NE sends the following TL1 autonomous message, when the requested file transfer begins:

```
    sid date time
A atag REPT EVT COM
  ":EOC,SC,date,time,,,,:\CPY-MEM <class> IP\"";
```

A history log entry is created for the above condition.

Prior to Release 2.1, the NE sends the following TL1 autonomous message when the requested file transfer is completed (in the case of **class** = **RESTORE**, it is completed before the NE's system controller is reset). This message is specifically intended to clear the preceding standing status condition that reported file transfer in progress (IP), and not to indicate whether the file transfer was successful or failed:

```
    sid date time
A atag REPT EVT COM
  ":EOC,CL,date,time,,,,:\CPY-MEM <class> compl.\"";
```

A history log entry is created for the above condition.

Beginning with Release 2.1, the text for the Clear (CL) message is the same as for the Standing Condition (SC):

```
    sid date time
A atag REPT EVT COM
  ":EOC,CL,date,time,,,,:\CPY-MEM <class> IP\"";
```

A history log entry is created for the above condition.

The NE sends the following TL1 autonomous message if the requested file transfer succeeds (in the case of **class** = **RESTORE**, just before the NE's system controller is reset):

```
sid date time
A atag REPT EVT COM
  ":EOC,TC,date,time,,,:\\"CPY-MEM <class> successful\\"
;
```

A history log entry is created for the above condition.

The NE sends the following TL1 autonomous message if the requested file transfer fails, and the FTP server provided a 3-digit negative reply code (*nnn*) indicating the reason for the failure. IETF RFC 959, "FILE TRANSFER PROTOCOL (FTP)", October 1985, documents the standard reply code definitions, but some FTP servers may use other different reply codes or definitions.

```
sid date time
A atag REPT EVT COM
  ":EOC,TC,date,time,,,:\\"CPY-MEM <class> failed, FTP Reply Code nnn\\"
;
```

A history log entry is created for the above condition.

Beginning with Release 9.0, the NE sends the following TL1 autonomous message if the requested file transfer via SFTP fails, and the SFTP server provided a status response error code indicating the reason for the failure.

```
sid date time
A atag REPT EVT COM
  ":EOC,TC,date,time,,,:\\"CPY-MEM <class> failed, SFTP Reply Code code\\"
;
```

A history log entry is created for the above condition.

The NE sends the following TL1 autonomous message if the requested file transfer fails because the FTP client on the NE times out without receiving either a positive or a negative 3-digit reply code from the FTP server:

```
sid date time
A atag REPT EVT COM
  ":EOC,TC,date,time,,,:\CPY-MEM <class> failed, FTP time out\""
;
```

A history log entry is created for the above condition.

Beginning with Release 9.0, the NE sends the following TL1 autonomous message if the requested file transfer via SFTP fails because the SFTP client on

```
sid date time
A atag REPT EVT COM
  ":EOC,TC,date,time,,,:\CPY-MEM <class> failed, SFTP time out\""
;
```

the NE times out without response from the server:

A history log entry is created for the above condition.

If the requested file transfer fails because a checksum doesn't match and can't be resolved by the NE, the NE sends the following TL1 autonomous message :

```
sid date time
A atag REPT EVT COM
  ":EOC,TC,date,time,,,:\CPY-MEM <class> failed, checksum mismatch\""
;
```

A history log entry is created for the above condition.

If the requested file transfer fails due to a system I/O problem, such as the inability to write into flash or inability to open the file occurrence, the NE sends the following TL1 autonomous message:

```
sid date time
A atag REPT EVT COM
  ":EOC,TC,date,time,,,:\CPY-MEM <class> failed, System I/O Error\""
;
```

A history log entry is created for the above condition.

If **class** = **RESTORE**, but the NE's software generic release (x.x.x) is different than that used to create the specified backup file, the NE sends the following TL1 autonomous message:

```
sid date time
A atag REPT EVT COM
":EOC,TC,date,time,,,:"CPY-MEM restore failed, backup file Rx.x.x
mismatch\""
;
```

A history log entry is created for the above condition.

For an NE running Release 6.0, a backup file created in a Release 5.0 or 5.1 may be restored and the previous error response will not be returned. Any other release mismatch between the backup file and the currently running software generic will result in the denial of the **CPY-MEM: class=RESTORE** and the previous error response will be returned.

If **class** = **RESTORE**, but the NE's circuit pack equipage is different from that contained in the specified backup file, the NE sends the following TL1 autonomous message:

```
sid date time
A atag REPT EVT COM
":EOC,TC,date,time,,,:"CPY-MEM restore failed, backup file CP equipage
mismatch\""
;
```

A history log entry is created for the above condition.

Starting in Release 3.0.2, the previous error response does not apply and is obsolete.

If **class** = **RESTORE**, and the NE type in the header of the backup file (the file to be restored) is other than the shelf (i.e. backing up DMX database on a DMXpress shelf), the NE sends the following TL1 autonomous message:

```
sid date time
A atag REPT EVT COM
":EOC,TC,date,time,,,:"CPY-MEM restore failed, backup file NE type
mismatch\""
;
```

A history log entry is created for the above condition.

If **class** = **RESTORE**, and the TID in the header of the backup file (the file to be restored) is other than the shelf's TID, the NE sends the following TL1 autonomous message:

```
sid date time
A atag REPT EVT COM
":EOC,TC,date,time,,,:"CPY-MEM restore failed, backup file TID
mismatch\""
```

A history log entry is created for the above condition.

The previous error response does not apply when the NE is in Maintenance Mode.

The NE sends the following TL1 autonomous message if FTTD (FTAM-FTP Gateway) identified by **psel,ssel,tsel,nsap** failed the file transfer with FTP server (couldn't find the FTP server, couldn't get FTP connection with the FTP server):

```
sid date time
A atag REPT EVT COM
":EOC,TC,date,time,,,:"CPY-MEM <class> failed, File transfer failed
between FTTD and FTP server\""
```

A history log entry is also created for the above condition.

The NE sends the following TL1 autonomous message if the verification fails, i.e. hashing the received image into a message digest, encrypting and then comparing with the received signature fails; or the digital signature file isn't found:

```
sid date time
A atag REPT EVT COM
":EOC,TC,date,time,,,:"CPY-MEM download failed, verification error\""
```

A history log entry is also created for the above condition.

The NE sends the following TL1 autonomous message when a download is aborted:

```
sid date time
A atag REPT EVT COM
  ":EOC,TC,date,time,,,:\\"CPY-MEM download aborted\\"
;
```

A history log entry is also created for the above condition.

The date and time in the header of all the TL1 autonomous messages above indicates the date and time the message is actually output, and may be different from the date and time in the body of the same TL1 autonomous messages.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example, for pre-Release 3.0 releases, requests a DMX software generic download from a directory specified as a fully qualified path from the root location of a secure UNIX FTP server:

```
CPY-MEM:LT-TID::123456::ftp,"ftp://user1:password1@199.88.77.6//h45/mvpen/
user1/Program_Files/Lucent_Technologies/generics/dmx/
3.0.1",ftp,,download:prodtype=dmx;

IP 123456
<

LT-TID 01-10-30 22:25:30
M 123456 COMPLD
;
```

The following example requests a provisionable database backup to a subdirectory of user1's home directory on a secure UNIX FTP server:

```
CPY-MEM:LT-TID::123456::,,,"ftp://user1:password1@199.88.77.6/backups/lt-tid/file2",backup;
```

```
IP 123456  
<  
  
    LT-TID 01-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following example requests a provisionable database restore from a subdirectory of user1's home directory on a secure UNIX FTP server:

```
CPY-MEM:LT-TID::123456::,"ftp://user1:password1@199.88.77.6/backups/lt-tid/file2",,,restore;
```

```
IP 123456  
<  
  
    LT-TID 01-10-30 17:42:11  
M 123456 COMPLD  
;
```

The following example requests a DMX software generic download from an Alcatel-Lucent CIT FTP server:

```
CPY-MEM:LT-TID::123456::,"ftp://LUC01:LUC+01@199.88.77.6/\\generics\\dmx\\3.0.0",,,download:prodtype=dmx;
```

```
IP 123456  
<  
  
    LT-TID 01-10-30 22:25:30  
M 123456 COMPLD  
;
```

The following example requests a DMXpress software generic download from a Alcatel-Lucent CIT FTP server:

```
CPY-MEM:LT-TID::123456::,"ftp://LUC01:LUC+01@199.88.77.6/
\\generics\\dmxpress\\3.0.0",,,download:prodtype=dmxpress;

IP 123456
<

    LT-TID 01-10-30 22:25:30
M 123456 COMPLD
;
```

The following example requests a provisionable database backup to a Alcatel-Lucent CIT FTP server:

```
CPY-MEM:LT-TID::123456::,,,"ftp://LUC01:LUC+01@199.88.77.6/\\backups\\lt-
tid\\2.0.0\\011030222525\\file2",backup;

IP 123456
<

    LT-TID 01-10-30 22:25:30
M 123456 COMPLD
;
```

The following example requests a provisionable database restore from a Alcatel-Lucent CIT FTP server:

```
CPY-MEM:LT-TID::123456::,"ftp://LUC01:LUC+01@199.88.77.6/\\backups\\lt-
tid\\2.0.0\\010930235959\\file2",,,restore;

IP 123456
<

    LT-TID 01-10-30 22:25:30
M 123456 COMPLD
;
```

Starting Release 3.0, file transfer can be achieved using FTP or FTAM (by using FTTD).

The following example requests a DMX software generic download from a directory specified as a fully qualified path from the root location of a secure UNIX FTP server using direct FTP server:

```
CPY-MEM:LT-TID::123456::"ftp","ftp://user1:password1@199.88.77.6//h45/mvpen/
user1/Program_Files/Lucent_Technologies/generics/dmx/
3.0.1",,,download:prodtype=dmxpress;

IP 123456
<

    LT-TID 01-10-30 22:25:30
M 123456 COMPLD
;
```

The following Release 3.0 example requests a DMX software generic download from a directory specified as a fully qualified path from the root location of a secure UNIX FTP server using FTDD as the FTAM-FTP Gateway, with digital signature verification:

```
CPY-MEM:LT-
TID::123456::"fttd,02,5353,5454,39840F800000000000000000008006A1121231D","ft
p://user1:password1@199.88.77.6//h45/mvpen/user1/Program_Files/
Lucent_Technologies/generics/dmx/
3.0.1",,,download:prodtype=dmx,ftp_dschk=yes;

IP 123456
<

    LT-TID 01-10-30 22:25:30
M 123456 COMPLD
;
```

The following example requests a provisionable database backup to a subdirectory of user1's home directory on a secure UNIX FTP server using FTDD as the FTAM-FTP Gateway:

```
CPY-MEM:LT-
TID::123456::,"fttd,02,5353,5454,39840F800000000000000000008006A1121231D",
"ftp://user1:password1@199.88.77.6/backups/lt-tid/file2",backup;

IP 123456
<

    LT-TID 01-10-26 16:42:11
M 123456 COMPLD
;
```

The following example requests a provisionable database restore from a subdirectory of user1's home directory on a secure UNIX FTP server using FTTD as the FTAM-FTP Gateway:

```
CPY-MEM:LT-
TID::123456::"fttd,02,5353,5454,39840F800000000000000000008006A1121231D","ftp://
tp://user1:password1@199.88.77.6/backups/lt-tid/file2",,,restore;

IP 123456
<

    LT-TID 01-10-30 17:42:11
M 123456 COMPLD
;
```

The following example, beginning in Release 3.1, requests a provisionable database restore from a subdirectory of user1's home directory on a secure UNIX FTP server using FTTD as the FTAM-FTP Gateway, using default *psel*, *ssel* and *tset* values:

```
CPY-MEM:LT-
TID::123456::"fttd,,,,39840F800000000000000000008006A1121231D","ftp://
user1:password1@199.88.77.6/backups/lt-tid/file2",,,restore;

IP 123456
<

    LT-TID 01-10-30 17:42:11
M 123456 COMPLD
;
```

The following example, beginning in Release 4.0, requests a DMX software generic download from a directory specified as a fully qualified path using FTAM file transfer via OSI with the Alcatel-Lucent CIT as the FTAM responder and defaults values for *psel*, *ssel* and *tset*:

```
CPY-MEM:LT-TID::
123456::"ftam,,,,39840F800000000000000000008006A1121231D","C:\\Program
Files\\Lucent Technologies\\WaveStar CIT\\generics",,,download:prodtype=dmx;

IP 123456
<
    LT-TID 01-10-30 22:25:30
M 123456 COMPLD
;
```

The following example, beginning in Release 4.0, requests a provisionable database backup using FTAM file transfer via OSI to the Alcatel-Lucent CIT:

```
CPY-MEM:LT-TID::  
123456::,"ftam,02,5353,5454,39840F800000000000000000008006A1121231D",  
"C:\\Program Files\\Lucent Technologies\\WaveStar CIT\\backups\\lt-  
tid\\file2",backup;  
  
IP 123456  
<  
LT-TID 01-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following example, beginning in Release 4.0, requests a provisionable database restore from a fully qualified directory on a Alcatel-Lucent CIT using FTAM file transfer via OSI:

```
CPY-MEM:LT-TID::  
123456::,"ftam,02,5353,5454,39840F800000000000000000008006A1121231D",  
"C:\\Program Files\\Lucent Technologies\\WaveStar CIT\\backups\\lt-  
tid\\file2",,,restore;  
  
IP 123456  
<  
LT-TID 01-10-30 17:42:11  
M 123456 COMPLD  
;
```

The following example, beginning in Release 7.1, requests a provisionable database backup using FTAM file transfer via OSI to the Alcatel-Lucent CIT:

```
CPY-MEM:ALU-TID::  
123456::,"ftam,02,5353,5454,39840F800000000000000000008006A1121231D",  
"C:\\Program Files\\Alcatel-Lucent\\CIT\\backups\\ALU-TID\\file2",backup;  
  
IP 123456  
<  
ALU-TID 01-10-26 16:42:11  
M 123456 COMPLD  
;
```


The following example requests a DMX NE software generic download via SFTP from a directory specified as a fully qualified path from the root location of an UNIX SFTP server:

```
CPY-MEM:ALU-TID::123456::sftp,"sftp://user1:password1@199.88.77.6//h45/mvpen/  
user1/Program_Files/Alcatel-Lucent/generics/dmx/  
10.0.0",,,download:prodtype=dmx;
```

```
IP 123456  
<
```

```
LT-TID 09-10-30 22:25:30  
M 123456 COMPLD  
;
```

The following example requests a provisionable database backup to an UNIX SFTP server:

```
CPY-MEM:ALU-TID::123456::,,sftp,"sftp://user1:password1@199.88.77.6/backups/  
lt-tid/file2",backup;
```

```
IP 123456  
<
```

```
LT-TID 09-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the *from* value is invalid:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid FROM value */  
;
```

The NE returns the following error response if the **src** value is invalid, if it is too long or if one of the sub-fields within the **src** value is too long, or if it is inconsistent with the **class** value, i.e., any **src** value for **class** = **BACKUP**:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SOURCE value */
;
```

Starting in Release 5.0, the NE returns the following error response if the total length of the **src** value is too long:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, SOURCE too long */
;
```

The NE returns the following error response if the **to** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TO value */
;
```

The NE returns the following error response if the **dst** value is invalid, if it is too long or if one of the sub-fields within the **dst** value is too long, or if it is inconsistent with the **class** value, i.e., any **dst** value for **class** = **DOWNLOAD** or **RESTORE**:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid DESTINATION value */
;
```

Starting in Release 5.0, the NE returns the following error response replaces the previous error response for the case when the total length of the **dst** value is too long:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, DESTINATION too long */
;
```

The NE returns the following error response if the **class** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid CLASS value */
;
```

The NE returns the following error response if the **prodtype** value is invalid or inconsistent with the **class** value, i.e., any **prodtype** value for **class** = **BACKUP** or **RESTORE**:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid PRODTYPE value */
;
```

The NE returns the following error response if the **ftp_dschk** value is invalid or inconsistent with the **class** or **prodtype** value, i.e., any **ftp_dschk** value for **class** = **BACKUP** or **RESTORE**, or **prodtype** = one of the non-DMX products:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid FTP_DSCHK value */
;
```

The NE returns the following error response if **class** = **DOWNLOAD** but the specified FTP server's directory structure is inconsistent with the specified **prodtype** value, i.e., the software generic directory structure for DMX products is

different than the directory structure for DDM-2000 products so the NE can determine a product type mismatch at that level before initiating a file transfer.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, PRODTYPE mismatch */
;
```

The NE returns the following error response if the NE itself isn't provisioned with an IP address and subnet mask:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, no NE IP address and subnet mask */
;
```

The NE returns the following error response if TCP/IP communications is not enabled for the NE; for example, for IP tunneling at an FTP-RNE or on an IAO LAN port at an FTP-GNE:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, TCP/IP not enabled */
;
```

The NE returns the following error response if FTP is not enabled for the NE:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, FTP not enabled */
;
```

The NE returns the following error response if the **login/passwd** sub-fields in **src** and/or **dst** fields are invalid, such as when one of them is missing or the combination doesn't exist at the FTP server:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Invalid or missing Login/Password */
;
```

The NE returns the following error response if the IP Address and/or **port** in **src** and/or **dst** fields are invalid and the FTP client can't connect to the FTP server:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Can't connect to FTP Server:
Invalid IPaddress/Port */
;
```

Starting in Release 9.0, the NE returns the following error response if the NE can not connect to the SFTP server:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Can't connect to SFTP Server */
;
```

The NE returns the following error response if the **directory** and/or **filename** in **src** and/or **dst** fields are invalid and the FTP server can't find the requested directory/file:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, No such Directory/File at FTP
Server */
;
```

The NE returns the error response shown below if the requested file transfer fails and the FTP server provided a 3-digit negative reply code (*nnn*) indicating the reason for the failure. IETF RFC 959, "FILE TRANSFER PROTOCOL (FTP)", October 1985, documents the standard reply code definitions, but some FTP servers may also use different reply codes or definitions.

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, FTP Reply Code nnn */
;
```

Starting in Release 9.0, the NE returns the following error response if the requested SFTP fails and the SFTP server provided an error code (*nnn*) indicating the reason for the failure:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, SFTP Reply Code nnn */
;
```

The NE returns the following error response if the NE is already processing another file transfer, e.g., for a **SCHED-BACKUP** command:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, File transfer in progress */
;
```

If a **CPY-MEM** command with *class* = **DOWNLOAD** is sent to an NE with a software download or copy in progress, (i.e., *receiving* software via a remote **INS-PRGM** or a **CPY-PRGM**, or *sending* software via a **CPY-PRGM**), the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Program installation is already IP
in the Target NE */
;
```

If a **CPY-MEM** command with **class** = **DOWNLOAD** is sent to an NE that has an **APPLY** command in progress or scheduled, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Apply command is IP */
;
```

Starting in Release 4.0, if a **CPY-MEM** command with **class** = **RESTORE** is sent to an NE that has an **APPLY** command in progress or scheduled, or that has software download to a circuit pack in progress, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Apply command is IP */
;
```

Starting in Release 5.0, if any TL1 command is received by the NE, except for **ACT-USER** and **CANC-USER** while a **CPY-MEM** command with **class** = **RESTORE** is in progress, the following error response is returned in response to that command:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, restore is in progress */
;
```

If a **CPY-MEM** command with **class** = **DOWNLOAD**, but the specified software generic directory size is too large (e.g., for a currently unexpected future NE software generic), the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, software generic directory too
large */
;
```

If a **CPY-MEM** command fails for some system I/O problem like unable to write into flash or unable to open the file, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, System I/O Error */
;
```

The NE returns the following error response if the FTTD (FTAM-FTP Gateway) identified by **psel,ssel,tsel,nsap** is not reachable or doesn't exist:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, FTTD not reachable */
;
```

The NE returns the following error response if FTTD (FTAM-FTP Gateway) identified by **psel,ssel,tsel,nsap** does not have FTTD functionality enabled (by **ENT-SYS**):

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, FTTD function not enabled at the GNE */
;
```

The NE returns the following error response if FTTD (FTAM-FTP Gateway) identified by **psel,ssel,tsel,nsap** rejected the FTAM association initiated by the NE; a maximum of 4 associations are allowed:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, FTTD too busy: has used all associations */
;
```

The NE returns the following error response if the FTTD (FTAM-FTP Gateway) identified by **psel,ssel,tsel,nsap** failed the file transfer with the FTP server

(because it couldn't find the FTP server, or couldn't get an FTP connection with the FTP server):

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, File transfer failed between FTTD and
FTP server */
;
```

The NE returns the following error response if the FTAM connection to the PC-CIT identified by **psel,ssel,tsel,nsap** is not reachable or doesn't exist:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, FTAM connection to PC-CIT not
reachable */
;
```

The NE returns the following error response if the NE is connected to the PC-CIT via an FTAM over OSI connection and the **directory** and/or **filename** in **src** and/or **dst** fields are invalid:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, No such Directory/File at PC-CIT */
;
```

The NE returns the following error response if FTAM identified by **psel,ssel,tsel,nsap** rejected the FTAM association initiated by the NE:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, FTAM too busy: has used all associations */
;
```

If a **CPY-MEM** command with **class = ABORT** is entered, and a previous **CPY-MEM** with **class = DOWNLOAD** is not in progress, the NE returns the following error response:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, DOWNLOAD not in progress */
;
```

If the NE is in Maintenance Mode and a **CPY-MEM** command with **class = BACKUP** is entered, the NE returns the following error response:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, BACKUP not allowed in Maintenance Mode */
;
```

Starting in Release 6.0, **CPY-MEM** will be denied while a “generic validation IP” standing condition exists and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed while generic
validation IP */
;
```

If a **CPY-MEM** command with **class = RESTORE** or with **class = DOWNLOAD** is entered while the NE is in the NVM write disabled mode, the command will be denied and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed in current NE
operating mode */
;
```

RELATED TL1 MESSAGES

APPLY

CPY - PRGM

ED - IP - TUNNEL

ENT - IP - ROUTE

ENT - SYS

ENT - ULS

INS - PRGM

REPT EVT

RTRV - BACKUPSCHE

RTRV - SYS

SCHED - BACKUP

NAME

CPY-PRGM: Copy Program

The **CPY-PRGM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

CPY-PRGM:*tid::ctag::,,dest_tid[:spec_block];*

Starting in Release 3.1.1, the input format of **CPY-PRGM** is:

CPY-PRGM:*tid::ctag::[,,,[dest_tid]][[:spec_block];*

DESCRIPTION

The **CPY-PRGM** command can be used to copy a software generic from one (source) network element (NE) to the memory of another NE (the destination) of the same type. The source and destination must have DCC or OSI LAN connectivity.

The software to be copied is the non-executing, dormant copy of a software generic.

When software is copied to a running NE, the NE will copy it as a non-executing, dormant copy and will await an **APPLY** command to overwrite the currently executing generic. If the software will not fit in the space allocated for it in flash memory, the software copying will be denied.

The **CPY-PRGM** command can also be used to copy the dormant generic to a remote NE with a controller in the initial download phase (for example, if the controller is factory-fresh, or contains software from a different product type) which supports enhanced initial software download. In this situation, when the download completes, an automatic **APPLY** will occur. Refer to **INS-PRGM** for a description of enhanced initial software download, and a list of commands available at the remote NE in this phase.

Starting in Release 6.0, **INS-PRGM** is not supported, but the list of TL1 commands that are supported during the initial software state, as specified in **INS-PRGM** remains valid.

Any attempt to copy from a source NE that has another software copy in progress is also denied (a source NE can only support one **CPY-PRGM** at a time).

When new NE software is copied to an NE as a non-executing dormant copy, a standing condition will exist on the receiving NE until an **APPLY** command is issued, which will cause the dormant copy to be installed as the executing copy. This condition is triggered when the NE release number of the dormant copy does not match the release number of the executing copy. The condition type is EOC, and the message sent is "dormant/executing code mismatch".

Prior to Release 2.0, the **APPLY** command is also used to copy Smart Pack software generics from one NE to another (refer to Appendix D for a list of Smart Packs). When executing this command, the local NE will always copy the dormant Smart Pack generic into the memory of the target NE where it would also reside as a dormant copy. The **APPLY** command is used to overwrite the currently executing Smart Pack generic with a copy of the corresponding generic included in the dormant area.

When a **CPY-PRGM** for **NESW** is issued, a standing condition "nesw program installation IP" is reported while the command executes. It serves as a reminder that a software download is in progress, but it has not completed.

When a **CPY-PRGM** for **ETHSW** is issued, a standing condition "ethsw program installation IP" is reported while the command executes. It serves as a reminder that a software download is in progress, but it has not completed.

When a **CPY-PRGM** for **DS1SW** is issued, a standing condition "ds1sw program installation IP" is reported while the command executes. It serves as a reminder that a software download is in progress, but it has not completed.

When a **CPY-PRGM** for **DS3SW** is issued, a standing condition "ds3sw program installation IP" is reported while the command executes. It serves as a reminder that a software download is in progress but has not completed.

The **CPY-PRGM** command can also be used to copy a software generic from DMX to a compatible NE of a different type. The related command **CPY-MEM** can be used to transfer a software generic for another compatible product type to DMX. The compatible product types are: DMXpress, DDM-2000 OC-3, DDM-2000 OC-12 and FiberReach.

Beginning in DMX Release R2.1.3 and R3.0.2 and later (but not R3.0 or R3.0.2), DMX can also copy a generic to DMXtend.

Beginning in Release 4.0, DMX can also copy a generic to DMXplore.

Beginning in Release 7.1, DMX can also copy a generic to an 1850TSS-5.

Starting in Release 6.0, when the NE first starts up in the normal mode, it raises a "generic validation IP" standing condition while it validates the *previous_rel* and *dormant_rel* on each of the NVMs. The NE also raises a "generic validation IP" standing condition while it synchronizes the downloaded generic on the NVMs

after the user executes **CPY - MEM: class=DOWNLOAD**. **CPY - PRGM** will be denied while the “generic validation IP” standing condition exists on either the local node or the remote node.

Starting in Release 6.0, if one of the NVMs is missing or failed on the remote node, writing to the remaining NVM is disabled and an “NVM write disabled” standing condition is raised. **CPY - PRGM** will be denied while the “NVM write disabled” standing condition exists on the remote node.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

INPUT PARAMETERS

Table 2-20. CPY - PRGM Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>dest_tid</i>	Destination Target Identifier. This is the target identifier of the destination NE to which the program will be copied. It has no default value. A valid value must be entered. Beginning in Release 3.1, if this command is entered with class=ABORT , this parameter must be omitted.
<i>spec_block</i>	Specific Parameter Block. The following table covers the <i>spec_block</i> parameters.

Table 2-21. CPY - PRGM Input *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>class</i>	Command class. Beginning in Release 3.1, a copy in progress may be aborted. The abort may take up to a minute and a half to complete. To abort a download, the value of this parameter is: ■ ABORT Abort the current copy in progress.

Table 2-21. CPY-PRGM Input *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description of <i>spec_block</i> Parameters
	When <i>class</i> is specified, no other <i>spec_block</i> parameters are allowed.
<i>pgmtype</i>	Software program type. This parameter specifies whether the software to be loaded is an NE generic or another software generic. This parameter can have one of the following values: ■ ALL In Release 2.0 and later, this is the default and only valid value. The software for the SYSCTL and all Smart Packs is downloaded. The following values are not legal in Release 2.0 and later: ■ NESW The software to be loaded is the DMX NE generic (default prior to R2.0). ■ DS3SW The software to be loaded is the DS3/EC1 generic. ■ ETHSW The software to be loaded is the 10/100 Fast Ethernet and/or the 1GbE Ethernet generic. ■ DS1SW The software to be loaded is the DS1 generic.
<i>prodtype</i>	Product type. ■ DMX Default ■ DMXTEND ■ DMXPRESS ■ DMXPLORE ■ 1850TSS-5 ■ DDMOC3 DDM-2000 OC-3 ■ DDMOC12 DDM-2000 OC-12 ■ FBRRCH FiberReach

Table 2-21. CPY-PRGM Input *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description of <i>spec_block</i> Parameters
	If prodtype matches the local NE, the dormant software generic is copied and stored. A compressed software generic for the other compatible product types can also be copied from the local NE to a destination NE of that product type. At most one software generic for the local NE and one software generic for any other product type can be stored at a time. If the release number of the dormant software generic does not match the currently executing software generic, a standing status condition "dormant/executing code mismatch" is reported. The standing status condition is cleared when the dormant software generic is activated. Starting in Release 5.0, at most one dormant software generic can be stored in the system at a time. This software generic can be for the local NE type or it can be for a different product type. CPY-PRGM will copy this dormant software generic to the destination NE as appropriate for the destination NE type. Starting in Release 5.0, the standing status condition is also cleared if a software generic for a different product type is downloaded to the NE.

OUTPUT FORMAT

The NE sends the following normal completion response before the software copy begins:

```
IP ctag
<

    sid date time
M ctag COMPLD
;
```

Prior to R2.0, the source NE sends the following autonomous message when transmitting NE or Smart Pack software:

```
sid date time
A REPT EVT COM
  "address:E0C,SC,date,time,,,:\ "<pgmtype> copy program IP\"";
```

A history log entry is created for the above condition.

Prior to R2.0, the source NE creates the following history log event and autonomous message upon completion of the NE or Smart Pack software generic copy program command:

```
sid date time
A REPT EVT COM
  "address:E0C,CL,date,time,,,:\ "<pgmtype> copy program compl.\"";
```

The above message does not indicate whether the copy operation completed successfully or not.

In Release 2.0 and later, the source NE sends the following TL1 autonomous message just before the software copy begins:

```
sid date time
A atag REPT EVT COM
  ":E0C,SC,date,time,,,:\ "copy program IP\"";
```

A history log entry is created for the above condition.

In Release 2.0 only, the source NE sends the following TL1 autonomous message upon completion of the software copy, or if the software copy is interrupted for any reason. This message is specifically intended to *clear* the preceding standing

status condition that reported the software copy in progress (IP), it is not intended to indicate whether the software copy succeeded or failed:

```
sid date time
A atag REPT EVT COM
  ":EOC,CL,date,time,,,:\copy program compl.\"";
```

A history log entry is created for the above condition.

Beginning with Release 2.1, the "CL" message will have the same text as the "SC" message.

The source NE sends the following TL1 autonomous message once the software copy is completed, or if the software copy is interrupted for any reason.:

```
sid date time
A atag REPT EVT COM
  ":EOC,CL,date,time,,,:\copy program IP\"";
```

A history log entry is created for the above condition.

Beginning in Release 3.0.2, the destination NE sends the following TL1 autonomous message when the remote copy starts:

```
sid date time
A atag REPT EVT COM
  ":EOC,SC,date,time,,,:\remote install/copy program IP\"";
```

A history log entry is created for the above condition.

Beginning in Release 3.0.2, the destination NE sends the following TL1 autonomous message when the remote copy completes:

```
sid date time
A atag REPT EVT COM
  ":EOC,CL,date,time,,,:\remote install/copy program IP\"";
```

A history log entry is created for the above condition.

The destination NE sends the following TL1 autonomous message if the software copy succeeds:

```
sid date time
A atag REPT EVT COM
  ":EOC,TC,date,time,,,:\remote install/copy program successful\""
;
```

A history log entry is created for the above condition.

The destination NE sends the following TL1 autonomous message if the requested software copy fails:

```
sid date time
A atag REPT EVT COM
  ":EOC,TC,date,time,,,:\remote install/copy program failed\""
;
```

A history log entry is created for the above condition.

Starting in Release 6.0, DMX Release \$RLS or later generics or DMXtend Release 4.0 or later generics are too large to fit into the dormant area of an LNW1 system controller. If **CPY - PRGM** is used to send a Release 6.0 or later generic or DMXtend Release 4.0 or later generic to a remote NE that is equipped with an LNW1 system controller, the software copy will fail and the following TL1 autonomous message will be sent:

```
sid date time
A atag REPT EVT COM
  ":EOC,TC,date,time,,,:\remote install/copy program failed\""
;
```

A history log entry is created for the above condition.

The source NE sends the following TL1 autonomous message when the copy is aborted:

```
sid date time
A atag REPT EVT COM
  ":EOC,TC,date,time,,,:\CPY-PRGM aborted\""
;
```

A history log entry is created for the above condition.

The *date* and *time* in the header of all the preceding TL1 autonomous messages indicates the actual date and time the message is/was output and may differ from the *date* and *time* shown in the body of the same TL1 autonomous messages.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
CPY-PRGM:LT-TID::123456::,,Node5Ne;
```

```
IP 123456  
<
```

```
LT-TID 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following example shows a request for a copy of a DMXpress software generic:

```
CPY-PRGM:LT-TID::123456::,,LT-DMXPRESS:prodtype=dmxpress;
```

```
IP 123456  
<
```

```
LT-TID 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the destination TID (***dest_tid***) is syntactically incorrect or is the same as the TID, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid destination TID */
;
```

If the destination TID (***dest_tid***) is null, the following error response is returned:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, destination TID must be specified */
;
```

If the ***pgmtype*** is invalid, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid Program Type */
;
```

If the ***prodtype*** is invalid, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid Product Type */
;
```

If an NE has a software download or copy in progress (such as, receiving software via a remote **INS-PRGM**, **CPY-MEM** or **CPY-PRGM** command, or sending software via a **CPY-PRGM**), and another **CPY-PRGM** command is entered, it will result in the following error response:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Program installation is already IP in
the Target NE */
;
```

If a dormant DMX software generic of type **prodtype** is corrupted or missing, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, dormant file corrupted or missing */
;
```

If the software generic directory size is too large to fit in the space allocated for it in the destination NE's flash memory (for example, for a currently unexpected future NE software generic), the following error response is returned by the source NE:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, software generic directory too
large */
;
```

Prior to R2.0, if the user attempts to copy **ETHSW** software generic to an NE that does not support the feature, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Target NE does not support this
feature */
;
```

If the **prodtype** value does not match the product type of the destination TID (**dest_tid**), the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, destination TID is of different
product type */
;
```

If an NE has a software download or copy in progress (i.e., receiving software via a remote **INS-PRGM** or a **CPY-PRGM**, or sending software via a **CPY-PRGM**) and another **CPY-PRGM** command is entered, the following error response is given:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Program installation is already IP in
the Target NE */
;
```

If the user attempts to copy software to or from an NE that has an **APPLY** command in progress or scheduled, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Apply command is IP */
;
```

If communications cannot be established to the destination TID (**dest_tid**) because of a DCC failure condition, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, remote communication failure */
;
```

If an invalid destination TID (**dest_tid**) is entered (i.e., the corresponding dest_tid-NSAP translation information is not found in the local TARP Data Cache [TDC] and the **dest_tid** entered cannot be found in the subnetwork), the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, destination TID not found
by source */
;
```


If the user enters a destination TID (**dest_tid**) that has a corresponding **dest_tid**-NSAP translation in the local TARP Data Cache (TDC), but the association setup attempt to the destination NE fails (for example, the destination NE is currently unreachable), the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Association Setup Failure,
NSAP = XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX */
;
```

If the user enters an otherwise valid destination TID (**dest_tid**), but the local TDC translation results in an association setup request to a remote NE whose TID does not match the **dest_tid**, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Inconsistent dest_tid,
NSAP = XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX */
;
```

If a **CPY-PRGM** command with **class = ABORT** is entered, and a previous **CPY-PRGM** is not in progress, the NE returns the following error response:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, DOWNLOAD not in progress */
;
```

Starting in Release 6.0, **CPY-PRGM** will be denied while a “generic validation IP” standing condition exists on either the local node or the remote node and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed while generic
validation IP */
;
```

If an NE that is running a generic prior to Release 6.0 has Release \$RLS or later generic in its dormant area and **CPY-PRGM** is executed to send the dormant

release to another NE, the command will be denied and the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, dormant file corrupted or missing
*/
;
```

Starting in Release 6.0, if **CPY-PRGM** is used to send a generic to a remote node while while an “NVM write disabled” standing condition exists on the remote node, the command will be denied and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed in current
remote NE operating mode */
;
```

RELATED TL1 MESSAGES

APPLY

INS-PRGM

CPY-PRGM

RTRV-SYS

NAME

DISC-TACC-rr: Disconnect Test Access

The **DISC-TACC-rr** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 4.0

LOGIN PRIVILEGE

The **DISC-TACC-rr** command is available to users with Privileged, General and Maintenance access.

INPUT FORMAT

DISC-TACC-modifier:*tid:tatrib1:ctag*;

Beginning in Release 7.0:

DISC-TACC-modifier:*tid:[tatrib1]:ctag[:::spec_block]*;

DESCRIPTION

The **DISC-TACC-rr** command is used to remove a test access connection and end the corresponding test access session on the test access tributary of the network element.

A test access connection in any mode may be terminated.

This command is not service-affecting.

Beginning in Release 7.0, the **DISC-TACC-rr** command may also be used to disconnect a test access session established to an internal test head in a shelf equipped with VLF mains (see Appendix D). Any signal generators or detectors associated with the session are freed, and any accumulated counts are no longer retrievable (see **CHG-TSTSIG**, **MEAS-SIG**, and **RTRV-RSLT**).

Execution of this command, whether successful or denied, is recorded in the Security log.

This command generates one **REPT DBCHG** message with *ccb*=**DISC-TACC-rr**.

If this command causes freeing of test signal generators or detectors (see **CHG-TSTSIG** and **MEAS-SIG**), then a **REPT DBCHG** message is associated with each.

INPUT PARAMETERS

Table 2-22. DISC-TACC-rr Input Parameters

Parameter Name	Description
<i>modifier</i>	This is the message modifier for the DISC-TACC-rr command. It indicates the cross-connection rate on which the disconnect test access command is to act. The modifier is a required field, and must only have one of the following values: ■ VT1 This is for VT1.5- or DS1-level test access. ■ STS1 This is for STS-1 or DS3-level test access. ■ STS3c This is for STS-3c-level test access.
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description for this parameter.
<i>tatrib1</i>	Specifies the Primary Test Access Tributary Identifier. This is the AID of a VT or STS tributary (on an OLIU, or a DS1, DS3, or EC1 port) that is in use as the primary test access tributary for an active test session. Allowable values are VT1.5 or STS-1 Channel AIDs for drop connections to electrical DS1 or DS3/EC1 ports, or for tributaries in UPSR or 1+1 lines. Beginning in Release 6.0, logical ring channel AIDs are used to specify all test access tributaries. Refer to Appendix A - AID Tables for the syntax of supported aids. Allowable values are Ring Channel AIDs for tributaries in BLSR lines. Beginning in Release 7.0, if the test session was initiated using <i>tatrib1</i>, then <i>tatrib1</i> must be included; otherwise it must be omitted, and <i>tsn</i> must be included.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table:

Parameter Name	Description of Spec Block Parameters
<i>tsn</i>	Test Session number. Beginning in Release 7.0, in shelves with VLF mains (see Appendix D), <i>tsn</i> identifies a previously-established session to an internal test head. If the test session was initiated using <i>tsn</i>, then <i>tsn</i> must be included; otherwise it must be omitted, and <i>tatrib1</i> must be included. Valid values are 1-12.

OUTPUT FORMAT

Upon receiving a valid **DISC-TACC-rr** command, the NE responds with the completion message shown below if there are no failures to report:

```
sid date time
M ctag COMPLD
;
```

When a **DISC-TACC-rr** command to disconnect a *tatrib1*-initiated session completes successfully, the NE sends the following autonomous message:

```
sid date time
A atag REPT EVT rr
"tatrib1:TSTACC,CL,date,time,,,:\Test access IP\""
;
```

When a *tsn*-initiated session is disconnected, the NE sends the following autonomous message:

```
sid date time
A atag REPT EVT rr
  ":TSTACC,CL,date,time,,,,:\\"Test access IP:tsn\\"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also.

EXAMPLE INPUT/OUTPUT

The following example requests that a VT test access to a DS1 port in the FN A group be disconnected.

```
DISC-TACC-VT1:LT-TID123:a-1-2-4:123456;
IP 123456
<
  LT-TID123 03-09-26 16:42:11
M 123456 COMPLD
;
```

Beginning in Release 6.0, the previous example appears as follows:

```
DISC-TACC-VT1:LT-TID123:a1-1-2-4:123456;
IP 123456
<
  LT-TID123 03-09-26 16:42:11
M 123456 COMPLD
;
```

The following example disconnects a *tsn*-initiated session:

```
DISC-TACC-STS1:LT-TID123::123456:::tsn=7;  
IP 123456  
<  
    LT-TID123 07-03-31 12:57:32  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The requirements listed there may also apply to the **DISC-TACC-rr** command.

If the system receives a **DISC-TACC-rr** command with a *modifier* not accepted by the command, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

If the system receives a **DISC-TACC-rr** request without a required *tatrib1* parameter, or if the AID is invalid for the modifier provided, the following error response is returned to the user:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier, AID is missing, wrong or  
inconsistent with modifier */  
;
```

If the network element receives a **DISC-TACC-rr** command when there is no test access session set up on the test tributary specified, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, no test access session on the test
tributary */
;
```

Beginning in Release 7.0, if a request is received with both **tatrib1** and **tsn**, or with neither, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, either TATRIB1 or TSN required, but not
both */
;
```

If the NE receives a request where the specified **modifier** does not match that of the specified test session, **tsn**, the following error response is returned:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, modifier inconsistent with specified session */
;
```

If the NE receives a request where there is no test session associated with the specified **tsn**, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, test session doesn't exist */
;
```


RELATED TL1 MESSAGES

CHG-ACCMD-rr

CONN-TACC-rr

RTRV-TACC-rr

CHG-TSTSIG-rr

MEAS-SIG-rr

RTRV-RSLT

NAME:

DLT-ACL : Delete Access Control List

The **DLT-ACL** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged and Administration access.

INPUT FORMAT

DLT-ACL:*tid::ctag::spec_block*;

DESCRIPTION

The **DLT-ACL** command is used by an appropriate administrator to delete a single entry in the Access Control List (ACL).

If a TL1 user has an active TL1 session when the ACL entry for that user or OS is deleted, the session is not terminated.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-ACL** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-23. DLT-ACL Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table. Only one parameter listed in the <i>spec_block</i> is allowed to enter for each command instance.

Table 2-24. DLT-ACL Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>acl_tid</i>	Target Identifier of the ACL entry. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter. Required only if user deletes an entry entered by TID.
<i>acl_nsap</i>	NSAP of the ACL entry. This parameter is the 20 byte (40-digit hexadecimal) NSAP. Required only if user deletes an entry entered by NSAP.

OUTPUT FORMAT

If the network element (NE) fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

If the NE receives an **DLT-ACL** command with an invalid **acl_tid** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid ACL_TID*/
;
```

If the NE receives an **DLT-ACL** command with an invalid **acl_nsap** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid ACL_NSAP */
;
```

If the NE receives an **DLT-ACL** command with an entry which is not on the ACL, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, no such entry to be deleted */
;
```

If the NE receives an **DLT-ACL** command without a value for **acl_tid** or **acl_nsap**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, missing required input parameter(s) */
;
```

If the NE receives an **DLT-ACL** command with both the values of **acl_tid** and **acl_nsap**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter value(s) */
;
```

If the NE receives a **DLT-ACL** command to delete the last entry in the ACL and *aclstat* = ENABLED, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, aclstat=ENABLED */
;
```

RELATED TL1 MESSAGES

ENT-ACL

RTRV-ACL

ED-NE-SECU

RTRV-NE-SECU

NAME

DLT-ASAP-PROF: Delete Alarm Severity Assignment Profiles

The **DLT-ASAP-PROF** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

DLT-ASAP-PROF: *tid::ctag::pftype, pfname;*

DESCRIPTION

The **DLT-ASAP-PROF** command is used to delete an Alarm Severity Assignment Profile (ASAP).

Profile names are less than or equal to 24 alphanumeric characters. The first character must be a letter. The following characters are permitted in the ASAP name:

- Digits (0...9)
- Hyphens (-)
- Upper case letters (A....Z)

Lower case letters (a...z) may also be entered. However, no distinction will be made between lower case and upper case letters.

The Default ASAP and any ASAPs currently assigned to an entity cannot be deleted.

Since the number of profiles that can exist is limited, the **DLT-ASAP-PROF** command is available for deleting a profile.

Execution of this command, whether successful or denied, is recorded in the Security log.

The **DLT-ASAP-PROF** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 1. DLT - ASAP - PROF Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>pftype</i>	Profile Type. This parameter indicates the type of ASAP profile and may have one of the following values: ■ 1+1_BIDIR Bidirectional 1+1 ■ 1+1_OPTM Optimized 1+1 ■ BLSR Bidirectional Line Switched Ring ■ DATA DATA ■ DS1 DS1 ■ DS3 DS3 ■ E1 E1 ■ EC1 EC1 ■ EQPT Equipment ■ FELAN FE LAN ■ GELAN GE LAN ■ LAG Link Aggregation ■ NVM NVM ■ OCN OC-n Lines ■ OCH OCH Channels ■ ODUk ODUk Tributary ■ OTS OTS Port ■ OTUk OTUk Port ■ SOCKET Sockets ■ STSN STSn paths

Table 1. DLT - ASAP - PROF Input Parameters (cont 2 of 2)

Parameter Name	Description
	■ SUBSHELF Subshelf ■ SYSTEM System ■ SYNCN External Reference Timing ■ VC VC-12 paths ■ VCG VCG ■ VCGSTS VCG-STS Trib ■ VCGVT VCG-VT Trib ■ VT1 VT1.5
<i>pfname</i>	Profile Name. This parameter indicates the name of the ASAP profile. This is an alphanumeric character string (including the hyphen) with a maximum of 24 characters. The first character must be a letter. The characters are case insensitive.

OUTPUT FORMAT

If the network element fully complies with the **DLT - ASAP - PROF** command, then the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR** command **OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to the **DLT - ASAP - PROF** command.

EXAMPLE INPUT/OUTPUT

The following example deletes an **EQPT** ASAP profile that is named BOSTON:

```
DLT-ASAP-PROF:LT-123::123456:EQPT,BOSTON;  
LT-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there also pertain to the **DLT-ASAP-PROF** command.

The following condition will cause an IDNV error response:

- The ***pfname*** parameter specified is not valid.
- A ***pfname*** does not exist for a correctly specified ***pftype***.

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid pfname */  
;
```

The following condition will cause an IDNV error response:

- The ***pftype*** parameter specified is not valid.

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid pftype */  
;
```

The following condition will cause an IDNV error response:

- The ***pfname*** entered is for the default ASAP.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, cannot delete Default */
;
```

The following condition will cause an SNVS error response:

- The ***pfname*** entered is currently assigned to an entity.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot delete active ASAP */
;
```

RELATED TL1 MESSAGES

ED-ASAP-PROF

ENT-ASAP-PROF

ENT-ASAP-ASGNMT

INIT-ASAP-PROF

RTRV-ASAP-ASGNMT

RTRV-ASAP-PROF

NAME

DLT-CONN: Delete Control Plane Connection

The **DLT-CONN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

DLT-CONN:*tid::ctag::callid[, connid][:spec_block];*

DESCRIPTION

The **DLT-CONN** command deletes the end-to-end soft permanent connection (SPC). **DLT-CONN** permits the user to delete all control plane connections associated with a specific *callid*, or a specific control plane connection identified by the *callid* and *connid* parameters.

End-to-end connections are deleted by executing the **DLT-CONN** command at the source node, i.e., the node where **ENT-CONN** was executed.

Forced deletions can be initiated at the ingress node of any domain by setting *cmdmde=FRCD*.

Execution of this command, whether successful or denied, will be recorded in the Security log.

When the end-to-end connection processing is complete, the NE issues a **REPT CONNEVT** message to report the status of the connection request. See **REPT CONNEVT** for details.

Following the successful deletion of the end-to-end connection, the ingress NE of each domain through which the connection is routed issues a **REPT CONNCHG** message, with *ccb=DLT-CONN*, containing the connection- level parameters available at that domain. See **REPT CONNCHG** for details.

Following the successful deletion of the cross-connection(s), each NE through which the connection is routed issues a **REPT DBCHG** message, with *ccb=DLT-CONN*, for each local cross-connection that is deleted as a result of deleting the specified connection(s). See **REPT DBCHG** for details.

INPUT PARAMETERS

Table 2-25. DLT-CONN Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>callid</i>	Call Identifier. Operator-specific call identifiers are supported. An operator-specific <i>callid</i> is a fixed-length 12-byte (24-character) hexadecimal string. One suggested format is where the first 4 bytes (8 characters) represent the source network element address (the hexadecimal encoding of the <i>nodeid</i> (see RTRV-NODE-ENNI)) and the remaining 8 bytes (16 characters) represent the local identifier.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax, and a description of this parameter.

Table 2-25. DLT-CONN Input Parameters (cont 2 of 2)

Parameter Name	Description
connid	Connection Identifier. connid is a unique identifier for a connection segment within the local domain. There may be more than one connid associated with a single callid. connid is a character string containing up to 41 characters that is composed of the source node ID, a tributary aid and an index number. The format is as follows. nodeid&tributary_aid&index where nodeid The node ID of the ingress node within the local domain for this connection. It is an IPv4 formatted identifier consisting of four dot-separated integers ranging from 0 to 255. tributary_aid A dash-separated string of 5 integers, representing Bay/Frame #, Shelf #, Slot #, Port #, Tributary #, that identifies the ingress port's tributary within the local domain for this connection, with — Bay/Frame # = 1 — Shelf # = 1 — Slot # = 1-12 (see Table 2-28 for a mapping of NE slots to integer values) — Port # = 1-48 — Tributary # = 1-192 For slots equipped with Ethernet packs, the Port # corresponds to a VCG number. For example, Port # = 1 represents VCG v1. index An integer in the range 0-4294967295 Example 200.10.10.10&1-1-2-1-1&100
spec_block	The spec_block parameters are listed and described in the following table.

Table 2-26. DLT-CONN Input *spec_block* Parameters

Parameter Name	Description
cmdmde	Command Mode. cmdmde specifies whether the command initiates a normal deletion or a forced deletion. The forced mode is used to remove a connection fragment or a connection with <i>ennisigid</i>=0.0.0.0-0-0 (see RTRV-CONN). Values: Description ■ NORM Normal (default) ■ FRCD Forced cmdmde=NORM is only supported at the source node. cmdmde=FRCD may be executed at the ingress node of any domain. If cmdmde is not specified, the command operates in NORM mode.

OUTPUT FORMAT

If the **DLT-CONN** is accepted, the following normal completion response is returned.

```

sid date time
M ctag COMPLD
< zero or more occurrences of the following lines for each
connection that was deleted >
"callid=CALLID,connid=CONNID"
;
```

If only the **callid** is specified but it does not exist, the command completes without returning the **callid** and **connid** parameters.

If both the **callid** and the **connid** are specified, but a connection with the specified **callid** and **connid** does not exist, the command is denied in accordance with the error response.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to this command.

Table 2-27. DLT - CONN Output Parameters

Parameter Name	Description
<i>callid</i>	Call Identifier. Operator-specific call identifiers are supported. An operator-specific <i>callid</i> is a fixed-length 12-byte (24-character) hexadecimal string. One suggested format is where the first 4 bytes (8 characters) represent the source network element address (the hexadecimal encoding of the <i>nodeid</i> (see RTRV - NODE - ENNI)) and the remaining 8 bytes (16 characters) represent the local identifier.
<i>connid</i>	Connection Identifier. <i>connid</i> is a unique identifier for a connection segment within the local domain. There may be more than one <i>connid</i> associated with a single <i>callid</i>. <i>connid</i> is a character string containing up to 41 characters that is composed of the source node ID, a tributary aid and an index number. The format is as follows. <i>nodeid&tributary_aid&index</i> where <i>nodeid</i> The node ID of the ingress node within the local domain for this connection. It is an IPv4 formatted identifier consisting of four dot-separated integers ranging from 0 to 255. <i>tributary_aid</i> A dash-separated string of 5 integers, representing Bay/Frame #, Shelf #, Slot #, Port #, Tributary #, that identifies the ingress port's tributary within the local domain for this connection, with — Bay/Frame # = 1 — Shelf # = 1 — Slot # = 1-12 (see Table 2-28 for a mapping of NE slots to integer values) — Port # = 1-48 — Tributary # = 1-192 For slots equipped with Ethernet packs, the Port # corresponds to a VCG number. For example, Port # = 1 represents VCG v1. <i>index</i> An integer in the range 0-4294967295 Example 200.10.10.10&1-1-2-1-1&100

The format of the *tributary_aid* field of the *connid* parameter is *Bay/frame # Shelf #-Slot #-Port #-Tributary #* where *Slot #* is a 2-digit field defined in the following table.

Table 2-28. *connid slot* Mapping

Slot AID	Slot #
main-1	1
main-2	2
fn-a-1	3
fn-a-2	4
fn-b-1	5
fn-b-2	6
fn-c-1 ¹	7
fn-c-2 ¹	8
fn-d-1	9
fn-d-2	10
growth-1	11
growth-2	12

1. DMX only

EXAMPLE INPUT/OUTPUT

The following example deletes the specified connection originating at this node.

```
DLT-CONN:LT-TID123::123456::DC640A0A0102030405060708,
200.10.10.10&1-1-1-1-1&1;

IP 123456
<
  LT-TID123 07-11-26 16:42:11
M 123456 COMPLD
  "callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-1-1&1"
;
```

The following example deletes all connections associated with the specified *callid*.

```
DLT-CONN:LT-TID123::123456:DC640A0A0102030405060708;  
  
IP 123456  
<  
  LT-TID123 07-11-26 16:42:11  
M 123456 COMPLD  
  "callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-1&1"  
  "callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-2&1"  
  "callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-3&1"  
  "callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-4&1"  
  "callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-5&1"  
  "callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-6&1"  
  "callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-7&1"  
;
```

The following is an example of a forced deletion.

```
DLT-CONN:LT-TID123::123456:DC640A0A0102030405060708,  
200.10.10.10&1-1-1-1&1:cmdmde=FRCD;  
  
IP 123456  
<  
  LT-TID123 07-11-26 16:42:11  
M 123456 COMPLD  
  "callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-1&1"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an NE equipped with non-VLF mains receives a **DLT-CONN** command, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   ENSI
   /* Equipage, Not equipped for Setting specified Information,
   control plane not supported */
;
```

If the NE receives a **DLT-CONN** command with a specified **aid**, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid ACcess identifier */
;
```

If the NE receives a **DLT-CONN** command with an invalid **callid**, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid CALLID value */
;
```

If the NE receives a **DLT-CONN** command with an invalid **connid**, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid CONNID value */
;
```

If the NE receives a **DLT-CONN** command in which both *callid* and *connid* are specified, but a connection with the specified *callid* and *connid* does not exist, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   IENE
   /* Input, Entity Not Exists, connection does not exist */
;
```

If the NE receives a **DLT-CONN** command in which *cmdmde* is not specified or is **NORM**, and specified connection(s) was not initiated at the local node, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SDNC
   /* Status, Data Not Consistent, cmdmde not consistent with
   specified connection */
;
```

RELATED TL1 MESSAGES

ENT-CONN

REPT CONNCHG

REPT DBCHG

RTRV-CONN

RTRV-PATH

NAME

DLT-CRS-OCH: Delete cross-connect provisioning for Optical Channels.

The **DLT-CRS-OCH** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

DLT-CRS-OCH: *tid:src_aid,dest_aid:ctag;*

DESCRIPTION

This command is used to delete the provisioning information associated with Optical Channel cross-connections.

Execution of this command, whether successful or denied, is recorded in the Security log.

This command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-29. DLT-CRS-OCH Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>src_aid</i>	Source Access Identifier. The <i>src_aid</i> determines the source of the cross-connection. See Appendix A - AID Table for valid AIDs. There is no initial value. Valid AIDs include: REMAID REMote AID. The source is alien, i.e. not on the shelf.

Table 2-29. DLT - CRS - OCH Input Parameters (cont 2 of 2)

Parameter Name	Description
	OCH AID The source is an Optical Channel on an OMD pack. OTU2 port AID The source is an OTU2 port OC192 line AID The source is an OC192 line.
<i>dest_aid</i>	Destination Access Identifier. The <i>dest_aid</i> determines the destination of the cross-connection. See Appendix A - AID Table for valid AIDs. There is no initial value. Valid AIDs include: REMAID The destination is alien, i.e. not on the shelf. OCH AID The destination is an Optical Channel on an OMD pack. OTU2 port AID The destination is an OTU2 port OC192 line AID The destination is an OC192 line
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

Refer to the **RTRV - HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **DLT - CRS - OCH** command.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

EXAMPLE INPUT/OUTPUT

The following example deletes a cross-connection from an alien line to an optical channel.

```
DLT-CRS-OCH:LT-TID123:remaid,d1-9560:123456;
```

```
IP 123456  
<
```

```
LT-TID123 07-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives a **DLT-CRS-OCH** command with an invalid *src_aid* or *dest_aid*, the following error response is returned:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier, AID is missing, wrong or  
inconsistent with modifier */  
;
```

If the NE receives an otherwise valid **DLT-CRS-OCH** command containing one or more cross-connected AIDs, but the specified cross-connection between the AIDs does not exist, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, cross-connection does not exist */  
;
```

RELATED TL1 MESSAGES

ENT-CRS-OCH

RTRV-CRS-OCH

NAME

DLT-CRS-rr: Delete Cross Connection

The **DLT-CRS-rr** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

DLT-CRS-modifier:tid:src_aid,dest_aid:ctag;

Beginning in release 3.1, the following input format is applicable:

DLT-CRS-modifier:tid:src_aid,dest_aid:ctag[:cct];

Beginning in release 6.0, the following input format is applicable:

DLT-CRS-
modifier:tid:src_aid,dest_aid:ctag[:cct[,src2_aid]];

DESCRIPTION

The **DLT-CRS-rr** command can be initiated by a TL1 user to request the NE to take down cross-connections. Cross-connections are always two-way in the sense that a single command takes care of both the transmit and receive directions.

Beginning in release 3.1 the NE supports 1-way cross connections in addition to 2-way cross connections. A single **DLT-CRS-rr** command can be used to delete both directions of a 2-way cross connection, 1 direction of a 2-way cross connection, or a 1-way cross connection.

Beginning in Release 6.0, support for **2WAYPR** cross-connections is discontinued. 2-way connectivity is achieved by provisioning multiple 1-way cross-connections using logical ring channel aids. Logical ring channel aids are defined in Appendix A - AID Tables.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

In response to the **DLT-CRS-rr** command, the NE issues a **REPT DBCHG** message, with *ccb*=**DLT-CRS-rr**, for the deletion of the cross connection.

In response to the **DLT-CRS-rr** command to delete a **2WAYPR** cross connection, the NE issues a **REPT DBCHG** message, with *ccb*=**DLT-PROTN-GRP**, for each STS-n or VT1.5 path protection group that is deleted when the cross connection is removed.

Deletion of a **2WAYPR** cross connection may result in the deletion of no path protection groups, a single path protection group for one direction of transmission or two path protection groups, one for each direction of transmission.

Beginning in Release 6.0, support for **2WAYPR** cross-connections is discontinued. Consequently the NE does not issue any **REPT DBCHG** messages associated with the deletion of such cross-connections.

In response to the **DLT-CRS-rr** command to delete a **1WAYPR** cross connection, the NE issues a **REPT DBCHG** message, with *ccb*=**DLT-PROTN-GRP**, for the STS-n or VT1.5 path protection group that is deleted when the cross connection is removed.

In response to the **DLT-CRS-rr** command to delete a **1WAY** or **1WAYPR** cross connection, the NE issues one or more report **REPT DBCHG** messages as follows in the order indicated:

1. The NE issues a **REPT DBCHG** message, with *ccb*=**DLT-CRS-rr**, for the deletion of the cross connection which existed prior to the execution of the **DLT-CRS-rr** command whether it be a 1-way cross connection or a 2-way cross connection.
2. If the execution of the **DLT-CRS-rr** command results in the removal of one leg (direction) of a 2-way cross connection, the NE issues a **REPT DBCHG** message, with *ccb*=**ENT-CRS-rr** for the creation of the 1-way cross connection which is the remaining leg of the original 2-way cross connection.

Beginning in Release 6.0, support for 2-way cross-connections is discontinued. Consequently, in response to the **DLT-CRS-rr** command to delete a **1WAY** or **1WAYPR** cross connection, the NE only issues a single **REPT DBCHG** message for the deleted cross-connection.

In response to the **DLT-CRS-rr** command to delete a **MLTPT** cross connection, the NE issues two **REPT DBCHG** messages, one for the disconnected channel on each affected VCG.

Beginning in Release, 6.0, in response to the **DLT-CRS-rr** command to delete a multipoint cross-connection, the NE issues a single **REPT DBCHG** message, for the deletion of the cross-connection to the specified VCG.

INPUT PARAMETERS

Table 2-30. DLT-CRS-rr Input Parameters (cont 1 of 3)

Parameter Name	Description
<i>modifier</i>	This is the message modifier for the DLT-CRS-rr message and may only have one of the following values: STS1 This specifies that an STS-1 cross connection be taken down. STS3c This specifies that an STS-3c cross connection be taken down. STS12c This specifies that an STS-12c cross connection be taken down. STS48c This specifies that an STS-48c cross connection be taken down. VT1 This specifies that a VT1.5 cross connection be taken down.
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>src_aid</i>	Source Access Identifier. See "Appendix A - AID Tables". The <i>src_aid</i> is a required parameter, and must address a valid channel of the NE in order to be accepted. Beginning in Release 6.0, <i>src_aid</i> identifies the input of a 1WAY cross-connection or the first input of a 1WAYPR cross-connection. ALL is not allowed in the <i>src_aid</i> for this command at the STS-1 level or higher, but it is allowed at the VTG or VT1.5 level. ALL is not allowed in the <i>src_aid</i> for this command at the VTG or VT1.5 level when provisioning cross-connections on the LNW74 pack Supported AID formats: ■ STS-n channel ■ VT1.5 channel

Table 2-30. DLT-CRS-rr Input Parameters (cont 2 of 3)

Parameter Name	Description
	■ STS-n ring channel ■ VT1.5 ring channel ■ STS-n logical ring channels ■ VT1.5 logical ring channels Beginning in Release 6.0, logical ring channel aids are used to specify the source and destination of a cross-connection. Refer to Appendix A - AID Table for a definition of logical ring channel aids.
dest_aid	Destination Access Identifier. The dest_aid is a required parameter and must address a valid channel of the NE in order to be accepted. See "Appendix A - AID Tables". ALL is not allowed in the dest_aid for this command on the STS-1 level or higher, but it is allowed on the VTG/VT1.5 level. Supported AID Formats: Same formats as in src_aid.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
cct	Cross-Connection Type. This parameter specifies the type of cross-connection requested and will be null or have one of the following values: ■ 2WAYPR This requests two-way add/drop or pass-through cross-connection between the source and destination in a path-switched ring be deleted (this is the default value). As for data applications, the 2WAYPR cct value can be applicable to the 10/100 Fast Ethernet and the 1GbE circuit packs at the STS-1 rate. If the cct value is null, the default value of 2WAYPR will be used. For BLSR applications 2WAYPR will be used to delete 2-way point-to-point cross connections. Beginning in Release 6.0, 2WAYPR is no longer a supported value. If the cct value is null or omitted, the default value of 1WAY will be used.

Table 2-30. DLT-CRS-rr Input Parameters (cont 3 of 3)

Parameter Name	Description
	■ MLTPT This requests a multipoint (unprotected) cross connection between the source and destination in a non-path switched ring configuration be deleted. The MLTPT cross connect type for an STS-1 can only be selected if either the 10/100 Mb Fast Ethernet or the 1 GbE interface is being addressed. When using either the 10/100 Mb or the 1GbE interface and an STS-1 Trib is MLTPT cross connected. The signal locking mechanism is provided within the same interface. Beginning in Release 6.0, MLTPT is no longer a supported value. Multipoint cross-connections are provisioned by setting chappl=UNSWITCHED. ■ 1WAY A 1-way point-to-point cross connection between from the src_aid to the dest_aid. ■ 1WAYPR A 1-way path protected cross connection from the src_aid to the dest_aid, where src_aid is an STSn channel aid or a VT1.5 channel aid. Beginning in Release 6.0, 1WAYPR specifies a 1-way path protected cross-connection with two inputs, src_aid and src2_aid, and one output, dest_aid. All of the aids are logical ring channel aids.
src2_aid	Second Source Access Identifier. See "Appendix A - AID Tables". src2_aid identifies the second input of a 1WAYPR cross-connection. It is required and supported only for 1WAYPR cross-connections. See src_aid for the list of supported aid values and formats.

OUTPUT FORMAT

If the **DLT-CRS-rr** request completes successfully, the following normal completion response is returned.

```
sid date time
M ctag COMPLD
;
```

The NE returns the following normal (successful) completion response to a **DLT-CRS-rr** command if none of the *aids* specified in the command are cross-connected.

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, support for **2WAYPR** cross-connections is discontinued. 2-way connectivity is achieved by provisioning multiple 1-way cross-connections. In addition all cross-connections must be provisioned using logical ring channel aids. Consequently, unless otherwise specified, the following examples should be considered invalid in Release 6.0.

The following example takes down a two-way (add/drop) cross-connection between an STS-1 channel in the high-speed OC-n line (m-1-2) and a low-speed DS3 port # 1 (b-1):

```
DLT-CRS-sts1:TID123:m-1-2,b-1:123456;
```

```
IP 123456
<
TID123 00-11-26 16:42:11
M 123456 COMPLD
;
```

The following example takes down a two-way (add/drop) cross-connection between a VT1.5 channel in the high-speed OC-48 line (m-1-1-3-3) and a low-speed DS1 port (a-1-4):

```
DLT-CRS-vt1:TID123:m-1-1-3-3,a-1-4:123456;
```

```
IP 123456
<
  TID123 00-11-26 16:42:11
M 123456 COMPLD
;
```

The following example takes down a **2WAYPR** (UPSR) cross-connection between the STS-1 channels in the OC-48 main interface m-1-7 and the low-speed 10/100 Fast Ethernet interface a-v3-1:

```
DLT-CRS-sts1:TID123:m-1-7,a-v3-1:654321::2waypr;
```

```
IP 654321
<
  TID123 00-11-26 16:54:33
M 654321 COMPLD
;
```

The following example takes down a two-way (add/drop) cross-connection between a VT1.5 channel in the high-speed OC-192 line (m-1-191-3-3) and a low-speed port on an OLIU (b-1-1-4):

```
DLT-CRS-vt1:LT-DMX-2.5G10:m-1-191-3-3,b-1-1-4:123456;
```

```
IP 123456
<
  LT-DMX 00-11-26 16:42:11
M 123456 COMPLD
;
```

The following example takes down a two-way pass-through cross-connection for the VT1.5 channel in the high-speed (OC-48) lines (m-1-1-5-4) in an OC-48 Path Switched Ring:

```
DLT-CRS-vt1:TID123:m-1-1-5-4,m-1-1-5-4:Z89abc;
```

```
IP Z89abc  
<  
  TID123 00-11-26 16:53:22  
M Z89abc COMPLD  
;
```

The following example takes down a two-way pass-through cross-connection for the STS-3c channel in the low-speed Fn-a (OC-3) lines (a-1-1) in a DMX OC-48 Path Switched Ring:

```
DLT-CRS-sts3c:LT-DMX:a-1-1,a-1-1:Z89abc;
```

```
IP Z89abc  
<  
  LT-DMX 00-11-26 16:53:22  
M Z89abc COMPLD  
;
```

The following example takes down a two-way add-drop cross-connection for the STS-3c channel in the low-speed Fn-a (OC-48) and OC-192 in Main of a DMX OC-192 Path Switched Ring:

```
DLT-CRS-sts3c:LT-DMX:m-1-10,a-1-4:Z89abc;
```

```
IP Z89abc  
<  
  LT-DMX 00-11-26 16:53:22  
M Z89abc COMPLD  
;
```

The following example takes down a two-way (add/drop) cross-connection between a low-speed 4OC-3 port (c-2-2) and an STS-1 channel in the high-speed OC-48 line (m-1-6) in a DMX OC-48 ring system.

```
DLT-CRS-sts1:LT-DMX:c-2-2,m-1-6:654321;
```

```
IP 654321
<
  LT-DMX 00-11-26 16:54:33
M 654321 COMPLD
;
```

The following example takes down an **STS3c** pass-through two-way cross-connection between the two STS-3c aids (m-1-7 and m-1-7) on its high-speed (OC-48) line interface in an OC-48 ring system:

```
DLT-CRS-sts3c:TID123:m-1-7,m-1-7:654321;
```

```
IP 654321
<
  TID123 00-11-26 16:54:33
M 654321 COMPLD
;
```

The following example takes down a two-way (add/drop) cross-connection between an STS-3c channel in a HS BLSR OC-N interface (m1-1-7) and a LS OC-N port a-1-1:

```
DLT-CRS-sts3c:LT-DMX:m1-1-7,a-1-1:654321;
```

```
IP 654321
<
  LT-DMX 00-11-26 16:54:33
M 654321 COMPLD
;
```

The following example takes down a **1WAY** (add) **STS12c** cross-connection from LS OC-N interface a-1-1 to HS BLSR OC-N interface (m1-1-13):

```
DLT-CRS-sts12c:LT-DMX:a-1-1,m1-1-13:654321::1WAY;
```

```
IP 654321
<
  LT-DMX 00-11-26 16:54:33
M 654321 COMPLD
;
```

The following example takes down a **1WAYPR** (drop) **STS1** cross-connection from HS UPSR OC-N interface (m-1-12) to LS UPSR OC-N interface d-2-1:

```
DLT-CRS-sts1:LT-DMX:m-1-12,d-2-1:654321::1WAYPR;
```

```
IP 654321
<
  LT-DMX 00-11-26 16:54:33
M 654321 COMPLD
;
```

The following example takes down the path protected cross connection of a 2-way **STS3c** cross-connection between LS UPSR OC-N interface (g-1-10) to LS 1+1 OC-N interface d-2-1:

```
DLT-CRS-sts3c:LT-DMX:a-1-10,b-2-1:654321::1WAYPR;
```

```
IP 654321
<
  LT-DMX 00-11-26 16:54:33
M 654321 COMPLD
;
```

The following examples are valid beginning in Release 6.0.

The following examples delete two **1WAY VT** cross-connections that provided 2-way connectivity between a DS1 interface and a HS BLSR interface.

```
DLT-CRS-VT:LT-123:a1-1-1-1,m1-1-13-1-2:654321::1WAY;
```

```
IP 654321  
<  
    LT-123 05-12-30 16:54:33  
M 654321 COMPLD  
;
```

```
DLT-CRS-VT:LT-123:m1-1-13-1-2,a1-1-1-1:654322::1WAY;
```

```
IP 654322  
<  
    LT-123 05-12-30 16:55:33  
M 654322 COMPLD  
;
```

The following examples deletes two **1WAY STS1** cross-connections that provided 2-way UPSR pass-through connectivity.

```
DLT-CRS-STS1:LT-123:m1-1-1,m2-1-1:654321::1WAY;
```

```
IP 654321  
<  
    LT-123 05-12-30 16:54:33  
M 654321 COMPLD  
;
```

```
DLT-CRS-STS1:LT-123:m2-1-1,m1-1-1:654322::1WAY;
```

```
IP 654322  
<  
    LT-123 05-12-30 16:55:33  
M 654322 COMPLD  
;
```

The following examples delete four **1WAYPR STS1** hairpin cross-connections that provided 2-way connectivity between two LS UPSR interfaces.

DLT-CRS-sts1:LT-123:d1-1-1,g1-2-1:654321::1WAYPR,d2-1-1;

```
IP 654321
<
  LT-123 05-12-30 16:54:33
M 654321 COMPLD
;
```

DLT-CRS-sts1:LT-123:d1-1-1,g2-2-1:654322::1WAYPR,d2-1-1;

```
IP 654322
<
  LT-123 05-12-30 16:55:33
M 654322 COMPLD
;
```

DLT-CRS-sts1:LT-123:g1-2-1,d1-1-1:654323::1WAYPR,g2-2-1;

```
IP 654323
<
  LT-123 05-12-30 16:56:33
M 654323 COMPLD
;
```

DLT-CRS-sts1:LT-123:g1-2-1,d2-1-1:654324::1WAYPR,g2-2-1;

```
IP 654324
<
  LT-123 05-12-30 16:57:33
M 654324 COMPLD
;
```


The following examples delete three **STS1** hairpin cross-connections that provided 2-way connectivity between a LS UPSR interface and a LS 1+1 interface.

DLT-CRS-sts1:LT-123:d1-1-1,g1-2-1:654321::1WAYPR,d2-1-1;

```
IP 654321
<
  LT-123 05-12-30 16:54:33
M 654321 COMPLD
;
```

DLT-CRS-sts1:LT-123:g1-2-1,d1-1-1:654322::1WAY;

```
IP 654322
<
  LT-123 05-12-30 16:55:33
M 654322 COMPLD
;
```

DLT-CRS-sts1:LT-123:g1-2-1,d2-1-1:654323::1WAY;

```
IP 654323
<
  LT-123 05-12-30 16:56:33
M 654323 COMPLD
;
```

The following examples delete four **1WAY STS3c UNSWITCHED** cross-connections that provided 2-way multipoint connectivity between a HS UPSR interface and a LS UPSR interface.

DLT-CRS-sts3c:LT-123:m1-1-1,d1-1-1:654321::1WAY;

```
IP 654321
<
  LT-123 05-12-30 16:54:33
M 654321 COMPLD
;
```

DLT-CRS-sts3c:LT-123:d1-1-1,m1-1-1:654322::1WAY;

```
IP 654322
<
  LT-123 05-12-30 16:55:33
M 654322 COMPLD
;
```

DLT-CRS-sts3c:LT-123:m2-1-1,d2-1-1:654323::1WAY;

```
IP 654323
<
  LT-123 00-11-26 16:56:33
M 654323 COMPLD
;
```

DLT-CRS-sts3c:LT-123:d2-1-1,m2-1-1:654324::1WAY;

```
IP 654324
<
  LT-123 00-11-26 16:57:33
M 654324 COMPLD
;
```

The following examples delete four **1WAY STS1 UNSWITCHED** cross-connections that provided 2-way multipoint connectivity between a HS UPSR interface and an Ethernet interface.

```
DLT-CRS-sts1:LT-123:m1-1-1,d1-v1-1:654321::1WAY;
```

```
IP 654321
<
  LT-123 05-12-30 16:54:33
M 654321 COMPLD
;
```

```
DLT-CRS-sts1:LT-123:d1-v1-1,m1-1-1:654322::1WAY;
```

```
IP 654322
<
  LT-123 05-12-30 16:55:33
M 654322 COMPLD
;
```

```
DLT-CRS-sts1:LT-123:m2-1-1,d1-v2-1:654323::1WAY;
```

```
IP 654323
<
  LT-123 00-11-26 16:56:33
M 654323 COMPLD
;
```

```
DLT-CRS-sts1:LT-123:d1-v2-1,m2-1-1:654324::1WAY;
```

```
IP 654324
<
  LT-123 00-11-26 16:57:33
M 654324 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The requirements listed there may also apply to this command.

The following error responses are some of the errors that the NE checks for each condition.

When using the 10/100 Fast Ethernet card with a cross connect type (**cct**) of **MLTPT** or **2WAYPR**, only one VCG address of "v1" is allowed to be provisioned by the user; otherwise, the following error response is returned to the user:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID is missing, wrong or
  inconsistent with modifier */
;
```

Beginning in Release 6.0, the previous error check is discontinued.

If the NE receives an otherwise valid **ENT-CRS-rr** command, but the NE is synchronizing its database between the SYSCTL and secondary storage on the mains, the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, tx download in progress, retry later.
  */
;
```

Beginning in Release 6.0, the previous error check is discontinued. Main packs are no longer used for secondary storage.

When using the 1GbE Ethernet card in **MLTPT** or **2WAYPR cct** mode, only two VCG addresses of either "v1" or "v3" are allowed to be provisioned by the user; otherwise, the following error response is returned to the user:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID is missing, wrong or
  inconsistent with modifier */
;
```

Beginning in Release 6.0, the previous error check is discontinued.

If the NE receives a **DLT-CRS-rr** command with a command code **modifier** other than the ones supported by a specific release, the following error response is returned to the user:

```
sid date time
M ctag DENY
  ICNV
  /* Input, Command Not Valid, invalid modifier */
;
```

If the NE receives a **DLT-CRS-rr** command with an invalid **cct** value, the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid cct */
;
```

If the NE receives an **ED-CRS-rr** command for which the *modifier* is not consistent with the rate of the specified cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IPNC
  /* Input, Parameter Not Consistent, rate mismatch */
;
```

If the NE receives a **DLT-CRS-rr** command without a *src_aid* or *dest_aid* value or with a *src_aid* or *dest_aid* value that is inconsistent with the *modifier* specified in the input command, the following error response is returned to the user:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

Beginning in Release 5.1, the previous error response is not returned in response to a request to delete a MLTPT or UNSWITCHED cross-connection on a BLSR tributary, if the NUT provisioning is does not support a MLTPT or UNSWITCHED cross-connection. Instead the request is accepted and the cross-connection is deleted.

If the NE receives a **DLT-CRS-rr** command in which *src2_aid* is missing or unexpected, based on the specified *cct*, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, missing or unexpected src2_aid */
;
```

If the NE receives an otherwise valid **DLT-CRS-rr** command containing one or more cross-connected AIDs but the specified cross-connection between the AIDs

at the specified rate does not exist, the following error response is returned to the user:

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, cross-connection does not exist */
;
```

Note: The NE returns a normal (successful) completion response to a **DLT-CRS-rr** command if none of the aids specified in the command are used in an existing cross-connection.

If the NE receives an otherwise valid **DLT-CRS-rr** command in which a specified aid is not consistent with the provisioned value of the application parameter of the port identified in the aid, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, aid not consistent with
  provisioned port application */
;
```

If the NE receives an otherwise valid **DLT-CRS-rr** command in which a specified **cct** is not consistent with the cross connect topology of the specified (existing) cross connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cct not consistent with existing
  cross-connection */
;
```

If the NE receives an otherwise valid **DLT-CRS-rr** command to delete a cross connection which is used in a test access connection, the command is denied and the following error response is returned. This includes denying a request to delete

one direction of a 2-way cross-connection if any part of the 2-way cross-connection is used in a test access connection.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, existing test access connection */
;
```

If the NE receives an otherwise valid **DLT-CRS-rr** command and the system is provisioned to be in ring upgrade mode (see **RTRV-SYS**, *nemode*=RING-UPGRADE), the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, command Not allowed in Ring Upgrade
mode */
;
```

Beginning in Release 6.0, the previous error response is replaced with the following one.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, command not allowed in Ring Upgrade
mode */
;
```

If the NE receives a **DLT-CRS-rr** command addressed to a control plane cross-connection (initiated by **ENT-CONN**) and the *connid* of that connection is not 0.0.0.0&0-0-0-0&0 (see **RTRV-CONN**), the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, tributary has existing control plane
connection */
;
```


RELATED TL1 MESSAGES

ENT-CRS-rr

REPT DBCHG

RTRV-CRS-rr

NAME

DLT-ERATE: Delete Ethernet Rate Service

The **DLT-ERATE** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 5.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

DLT-ERATE:*tid:aid:ctag::[tagid],[cos];*

DESCRIPTION

The **DLT-ERATE** command deletes an Ethernet QoS service that was previously created using **ENT-ERATE**.

The **DLT-ERATE** command applies only to the following circuit packs:

- LNW70
- LNW78

The **DLT-ERATE** command cannot be used if **porttype** for the port pointed to by **aid** is set to INTERIOR.

The **DLT-ERATE** command cannot be used if **trafmgmtmd** for the port pointed to by **aid** is set to NOTC.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-ERATE** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV-EQPT** *prot_state* = PROT, the **DLT-ERATE** command generates a **REPT DBCHG** message for an addressed VCG and its companion.

INPUT PARAMETERS

Table 2-31. DLT-ERATE Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
<i>aid</i>	Access Identifier. See section "Notes on accessing services using trafmgmtmd, aid, tagid and cos" in the ENT-ERATE command. The aid can address an Ethernet port on an LNW70 circuit pack. Starting in release 7.0, the aid can address a VCG, an Ethernet port, or a Link Aggregation Group (LAG) on an LNW70 circuit pack. The aid cannot address a port that is a member of a LAG. References to a port also apply to a LAG. Starting release 6.0, the aid can address an Ethernet port for the LNW78 circuit pack. Starting in release 7.0, the aid can address either an Ethernet port or an EoS VCG port on an LNW78 circuit pack. Refer to the AID Table for valid AIDs.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
<i>tagid</i>	Tag ID. Represents the VLAN ID in 802.1TAG mode and represents the Port Tag ID in TRANS mode. See section "Notes on accessing services using trafmgmtmd, aid, tagid and cos" in the ENT-ERATE command. If trafmgmtmd (ED-EPORT) is set to PORT or COSPORT, then tagid must be blank. Value: An integer in the range of 1 to 4093, or ALL If trafmgmtmd is set to TAGPORT or COSTAGPORT, then a valid numerical value for tagid must be entered (and it must be a value that has been previously provisioned at the port) or it must be ALL. tagid must be blank for the LNW78.

Table 2-31. DLT-ERATE Input Parameters (cont 2 of 2)

Parameter Name	Description
cos	Class of Service. This parameter specifies the class of service that the parameters in this command apply to. See section "Notes on accessing services using <i>trafmgmtmd</i>, <i>aid</i>, <i>tagid</i> and <i>cos</i>" in the ENT-ERATE command. If <i>trafmgmtmd</i> for the port is set to PORT or TAGPORT, then cos must be blank. Value: An integer in the range of 0 to 3, or ALL. ■ The value of 0 specifies CoS level 0. ■ The value of 1 specifies CoS level 1. ■ The value of 2 specifies CoS level 2. ■ The value of 3 specifies CoS level 3. For an RPR pack the allowed value is an integer between 1 and 3, or ALL. ■ The value of 1 specifies CoS level 1 (Class C). ■ The value of 2 specifies CoS level 2 (Class B). ■ The value of 3 specifies CoS level 3 (Class A). If <i>trafmgmtmd</i> is set to COSPORT or COSTAGPORT, then a valid numerical value for cos must be entered (and it must be a value that has been previously provisioned at the port) or it must be ALL. Starting in release 6.0, the following apply for the LNW70: If <i>trafmgmtmd</i> is set to PORT and <i>hlayercos</i> is set to DSCP, then a valid numerical value for cos must be entered (and it must be a value that has been previously provisioned at the port) or it must be ALL.

OUTPUT FORMAT

If the network element (NE) fully complies with the **DLT-ERATE** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example is applicable when the aid refers to a port with **porttype** BOUNDARY and **trafmgmtmd** not equal to NOTC:

```
DLT-ERATE:TID123:<aid>:123456::<tagid>,<cos>;

TID123 00-01-01 08:00:00
M 123456 COMPLD
;
```

The following example is applicable to the LNW78:

```
DLT-ERATE:TID123:<aid>:123456::,<cos>;

TID123 00-01-01 08:00:00
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the QoS service does not exist (e.g. because **porttype** = INTERIOR or **trafmgmtmd** = NOTC or service has not been created) then the following error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, QoS service does not exist */
;
```

If the **aid** does not point to a supported pack then the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, QoS services are not supported
  on this pack */
;
```

If a port is a member of a Link Aggregation Group, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, one or more ports are members of a
  LAG */
;
```

If the user enters a value for **tagid** that is not an integer in the range of 1-4093 or ALL, then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, the value of TAGID is not valid */
;
```

If **trafmgmtmd** is set to PORT or COSPORT and the user inputs a value for **tagid**, then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, TAGID must not be specified with this
  TRAFMGMTMD at this port */
;
```

If **trafmgmtmd** is set to TAGPORT or COSTAGPORT and the user does not specify a value for **tagid**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, no TAGID specified */
;
```

If the **aid** points to an LNW78 circuit pack and a numerical value of **tagid** is included in the input command, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, TAGID does not apply to this pack */
;
```

If the user enters a value for **cos** that is not an integer in the range of 0-3 or ALL, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of COS is not valid */
;
```

If the user enters a value for **cos** on an RPR pack that is not an integer in the range of 1-3 or ALL, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of COS is not valid */
;
```


If **trafmgmtmd** is set to PORT or TAGPORT and the user inputs a value for **cos**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, COS must not be specified with this
   TRAFMGMTMD at this port */
;
```

Starting in release 6.0, the previous error message is changed as follows:

If **trafmgmtmd** is set to TAGPORT and the user inputs a value for **cos**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, COS must not be specified with this
   TRAFMGMTMD at this port */
;
```

For the LN70, If **trafmgmtmd** is set to PORT and **ED_EPORT:hlayerscos = NONE** and the user inputs a value for **cos**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, COS must not be specified with this
   TRAFMGMTMD when HLAYERCOS is not set at this port */
;
```

If **trafmgmtmd** is set to COSPORT or COSTAGPORT and the user does not specify a value for **cos**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, no COS specified */
;
```

DLT-ERATE
TL1 Message Details

DLT-ERATE
Alcatel-Lucent 1665 DMX, R9.0

RELATED TL1 MESSAGES

ED-ERATE, ENT-ERATE, RTRV-ERATE

NAME

DLT-ERP: Delete an ERP Instance

The **DLT-ERP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

DLT-ERP:*tid:aid:ctag::erpid;*

DESCRIPTION

The **DLT-ERP** command deletes an ERP (Ethernet Ring Protection) instance.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-ERP** command generates a **REPT DBCHG** message the addressed slot. In case of protected LNW170s (*prot_state* (**ED-EQPT**)) a **REPT DBCHG** message is generated for the companion slot as well.

This command applies to the following packs : LNW70, LNW170.

INPUT PARAMETERS

Table 2-32. DLT-ERP Input Parameters

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access identifier. This is the address of a slot equipped with an Ethernet circuit pack. Refer to the AID Table for valid AIDs.
<i>ctag</i>	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>erpid</i>	ERP ID: an alphanumeric string of up to 32 characters. It may not contain a hyphen("-"). The ERP ID must be unique per slot. The ERP ID has no network-wide significance. i.e there is no requirement that the same ERP ID must be provisioned on the port(s) at the remote network element(s) to which the port(s) at this network element are connected.

OUTPUT FORMAT

If the network element (NE) fully complies with the **DLT-ERP** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
DLT-ERP:TID123:<aid>:123456::my_Erp;  
  
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the slot in the specified AID contains a circuit pack to which this command does not apply, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, circuit pack does not support ERP */  
;
```

If the **vlantagmd (ED-EQPT)** for the board is set to NOTAG, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, ERP not supported in NOTAG mode */  
;
```

If the specified erpid is not an alphanumeric string up to 32 characters, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, erpid not valid */  
;
```

If the entered **erpid** does not exist in the same Function or Growth Unit pair, the following error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, ERPID does not exist */
;
```

If the entered **erpid** is in use (referenced by another ERP instance), the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, ERPID in use */
;
```

RELATED TL1 MESSAGES

ED - ERP

ENT - ERP

RTRV - ERP

NAME

DLT-IP-ROUTE: Delete IP Route

The **DLT-IP-ROUTE** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

DLT-IP-ROUTE: *tid*: [*aid*]: *ctag*::: *spec_block*;

DESCRIPTION

This command can be used to delete a manual entry in an NE's IP routing table. Only entries added with **ENT-IP-ROUTE** can be deleted with this command.

Refer to the related **ENT-IP-ROUTE** command for creating manual entries.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command generates a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-33. **DLT-IP-ROUTE** Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier (AID) If <i>nxthopadr</i> is an IP address, this parameter is required to specify the IAO LAN port address; for example, front port LAN-1 or rear port LAN-2, otherwise this parameter is not allowed. Starting in Release 5.1, if <i>nxthopadr</i> is not specified, this parameter is a DCC port AID, not including DCC AIDs ending in "-ALL". Refer to Appendix A - AID Tables.

Table 2-33. DLT - IP - ROUTE Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-34. DLT - IP - ROUTE Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>dest_ip</i>	Destination IP address. This is a 32-bit IP address consisting of four dot-separated decimal numbers ranging from 0 to 255 .
<i>dest_mask</i>	Destination IP subnet mask. This is the 32-bit IP subnet mask consisting of four dot-separated decimal numbers ranging from 0 to 255 . This is a required parameter, there is no default value.
<i>nxthopadr</i>	Next-Hop Address. This parameter specifies the IP address or the Network Service Access Point (NSAP) address of the next hop toward the specified <i>dest_ip</i> destination address. If the AID parameter specifies an IAO LAN port address, this parameter must be a 32-bit IP address, consisting of four dot-separated decimal numbers ranging from 0 to 255 . Otherwise, this parameter must be an NSAP address, consisting of 40 hexadecimal characters. Because the last two characters of an NE's NSAP address, the NSAP Select (SEL) field, vary depending on the OSI application, these two characters can be entered as "00" hex or "04" hex ("04" hex is the actual internal code for IP tunneling); either value is considered a match of the other. Refer to the ENT-ULSDCC-L3 command for other NSAP specifics. Starting in Release 5.1, this parameter should not be specified for the manual entry which uses a DCC port specified by the <i>aid</i> of this command as the outgoing interface.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<

    sid date time
M  ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example deletes a FTP server in IP subnet 199.88.77.0 manual entry from an FTP-GNE's (gateway network element's) IP routing table. The default IP router's LAN port connected to the FTP-GNE's front IAO LAN port has an IP address of 198.78.46.20:

```
DLT-IP-ROUTE:LT-TID123:lan-
1:123456:::DEST_IP=199.88.77.6,DEST_MASK=255.255.255.0,NXTHOPADR=198.78.46.2
0;

IP 123456
<

    LT-DMX 01-10-30 22:25:30
M  123456 COMPLD
;
```

The following example deletes a FTP server IP subnet 199.88.77.0 manual entry from an FTP-RNE's (remote network element's) IP routing table, specifying the FTP-GNE's NSAP address as the next-hop OSI address:

```
DLT-IP-ROUTE:LT-  
TID123::123456::DEST_IP=199.88.77.6,DEST_MASK=255.255.255.0,NXTHOPADR=39840  
F800000000000000108006A11234500;  
  
IP 123456  
<  
  
LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
;
```

The following example a FTP-RNE manual entry is deleted from the FTP-GNE's IP routing table, thus specifying the FTP-RNE's IP subnet address and the FTP-RNE's NSAP address as the next-hop OSI address:

```
DLT-IP-ROUTE:LT-  
TID123::123456::DEST_IP=199.88.77.65,DEST_MASK=255.255.255.128,NXTHOPADR=398  
40F800000000000000208006A15678900;  
  
IP 123456  
<  
  
LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
;
```

The following example deletes a manual entry which uses DCC port **dcc-m-1** as an outgoing interface for the destination IP address 199.88.77.6 with subnet mask 255.255.255.0 from the IP routing table:

```
DLT-IP-ROUTE:LT-TID123:dcc-m-  
1:123456:::DEST_IP=199.88.77.6,DEST_MASK=255.255.255.0;  
  
IP 123456  
<  
  
LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the **aid** value is invalid or conflicts with the **nxthopadr** value, (**nxthopadr=198.198.198.198**, or any other valid IP address), and no IAO LAN port AID is specified:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess Identifier */  
;
```

The NE returns the following error response if the **dest_ip** value is invalid or missing:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid DEST_IP value */  
;
```

The NE returns the following error response if the **dest_mask** value is invalid or missing:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid DEST_MASK value */
;
```

The NE returns the following error response if the **nxthopadr** value is invalid or missing:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid NXTHOPADR value */
;
```

The NE returns the following error response if valid **aid** or **spec_block** parameters are specified, but do not match *any* entry (either explicitly or by default) in the IP routing table:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, IP routing table entry not found */
;
```

The NE returns the following error response if the specified **aid** or **spec_block** parameters do not match any of the *manual* entries (either explicitly or by default),

but do match a local or TAP (Tunnel Auto Provisioning) entry in the IP routing table:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, IP routing table entry is not manual */
;
```

RELATED TL1 MESSAGES

ENT-IP-ROUTE

RTRV-IP-ROUTE

NAME

DLT-IPMAP: Delete IP Address to Application Context ID Map

The **DLT-IPMAP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.1

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

DLT-IPMAP:*tid::ctag:::spec_block*;

DESCRIPTION

The **DLT-IPMAP** command can be used to delete one entry from the IP address - application context ID (***acid***) map created by the **ENT-IPMAP** command. The **DLT-IPMAP** command deletes an authorized IP calling address, and the mapping to the corresponding ***acid*** and host name, if any.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command generates a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-35. DLT-IPMAP Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Reference the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-36. DLT - IPMAP Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tcpipaddr</i>	IP Address. This is the calling IP address of the entry to be deleted. The IP address is a 32-bit address made up of four dot-separated decimal numbers ranging from 0 to 255. If no <i>tcpipaddr</i> value (NULL) is entered, nothing is deleted and a normal completion response is returned.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<
    sid date time
M  ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows the successful deletion of an IP calling address:


```
DLT-IPMAP:LT-TID123::123456:::tcpipaddr=198.27.36.4;  
  
IP 123456  
<  
  
    LT-TID123 00-11-22 16:12:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the *tcpipaddr* value in the *spec_block* is invalid or missing:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, IP Address invalid or missing */  
;
```

The NE returns the following error response if the *tcpipaddr* value in the *spec_block* is not found:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, IP Address entry not found */  
;
```

RELATED TL1 MESSAGES

ENT-IPMAP

ENT-SYS

DLT-IPMAP
TL1 Message Details

DLT-IPMAP
Alcatel-Lucent 1665 DMX, R9.0

ENT - TL1MSGMAP

ENT - ULS

RTRV - IPMAP

RTRV - SYS

RTRV - TL1MSGMAP

RTRV - ULS

NAME

DLT - LAGRP: Delete Link Aggregation Group

The **DLT - LAGRP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

DLT - LAGRP: *tid:aid:ctag;*

DESCRIPTION

The **DLT - LAGRP** command deletes a Link Aggregation Group (LAG). Layer 2 service attributes are transferred to the last member port when a LAG is deleted (see **RTRV - EPORT**, **RTRV - ERATE**, **RTRV - EPORT**, **RTRV - VRTSW**, **RTRV - VLAN**, and **REPT - DBCHG**). A terminal or facility loopback is released.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT - LAGRP** command generates a **REPT DBCHG** message.

This command applies to the following packs:

- LNW70
- LNW170, except when *prot_state* = PROT (see **RTRV - EQPT**)

INPUT PARAMETERS

Table 2-37. **DLT - LAGRP** Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of a Link Aggregation Group (LAG). Refer to the AID Table for valid AIDs.

Table 2-37. DLT-LAGRP Input Parameters (cont 2 of 2)

Parameter Name	Description
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
DLT-LAGRP:TID123:d-lag1:123456;

TID123 98-01-01 08:00:00
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the specified LAG doesn't exist, the following error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, LAG doesn't exist */
;
```

If there is more than one port in the LAG, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, more than one port in LAG */
;
```

If the slot of the specified **aid** is provisioned with *prot_state* = PROT (see **RTRV-EQPT**), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, PROT_STATE is set to PROT */
;
```

RELATED TL1 MESSAGES

ED-LAGRP, ENT-LAGRP, RTRV-LAGRP

NAME

DLT-MAC: Delete MAC Address

The **DLT-MAC** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 4.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

DLT-MAC: *tid:aid:ctag::mac, tag, type:spec_block;*

DESCRIPTION

The **DLT-MAC** command deletes the provisioned MAC address for a particular vlan/tag.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-MAC** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV-EQPT** *prot_state* = PROT, the **DLT-MAC** command generates a **REPT DBCHG** message for the addressed slot and its companion.

INPUT PARAMETERS

Table 2-38. DLT-MAC Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of the slot (slot AID). Refer to the AID Table in Appendix A for a list of valid AIDs. Value ALL is not allowed.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-38. DLT-MAC Input Parameters (cont 2 of 2)

Parameter Name	Description
mac	MAC address. Value: A string of 12 hexadecimal characters. Unicast MAC addresses only are supported.
tag	VLAN or port tag. Value: An integer in the range 1 - 4093. When vlantagmd (ED-EQPT) is 802.1TAG , VLAN is used. When vlantagmd (ED-EQPT) is TRANS , port tag is used. When vlantagmd (ED-EQPT) is NOTAG , the command is not supported.
type	Address type. Valid values are: ■ PERSISTENT - address will not age out, the same address is allowed on only one port in a circuit pack. ■ FILTERED - frame with filtered source MAC will be dropped, the same address is allowed on many ports. When portaid is an RPR port, only PERSISTENT applies.
spec_block	Specific Block. The spec_block parameters are defined in the following table.

Parameter Name	Description
portaid	Ethernet LAN/VCG Port AID. This is the port aid where the address is provisioned. Refer to the AID Table in Appendix A for a list of valid AIDs. Value ALL is not allowed. This parameter is required. For RPR packs the only valid RPR VCG AID is RPR Span. Starting in Release 7.0, EoS VCGs on the LNW78 are valid.

Table 2-39. DLT-MAC Input *spec_block* Parameters

OUTPUT FORMAT

If the network element (NE) fully complies with the **DLT-MAC** request, the following normal completion response is returned:


```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number may be included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

```
DLT-MAC:TID123:growth-1:123456::443454A30045,53,filtered:portaid=g-1;

TID123 98-01-01 08:00:00
M 123456 COMPLD
;
```

Starting in Release 6.0 the following is an example for the LNW78:

```
DLT-MAC:TID123:growth-1:123456::443454A30045,53,persistent:portaid=g1-
v1;

TID123 98-01-01 08:00:00
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR** command **ERROR RESPONSES** section. The error responses listed there also may apply to this command.

If the specified slot AID contains a non Ethernet board, or if the Ethernet board is not set to 802.1 or transparent tag mode, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, board type or mode does not support MAC+vlan/
tag */
```

If the specified MAC+VLAN/tag and type does not already exist, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, vlan/tag and type does not exist */
;
```

If an entered parameter has an incorrect value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, one or more input parameters are invalid */
;
```

RELATED TL1 MESSAGES

ENT - MAC

RTRV - MAC

NAME

DLT-NTP-SERVER: Delete NTP Server from the list

The **DLT-NTP-SERVER** command is available beginning in

- Alcatel-Lucent 1665 DMX, Release 3.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

DLT-NTP-SERVER: *tid:[aid]:ctag:::spec_block;*

DESCRIPTION

This command is used to delete an NTP server from the network element's (NE's) NTP server list. This change will not take effect until NTP is re-enabled by using **ENT-SYS** command.

Refer to the related **ENT-NTP-SERVER** command for more information about provisioning of NTP Servers.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command generates a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-40. DLT-NTP-SERVER Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. Because this command applies to the NTP protocol on all DCC and OSI LANs, this parameter can only have the value all or null (default = all).

Table 2-40. DLT-NTP-SERVER Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>ctag</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described below.
<i>ipaddr</i>	IP Address. This <i>spec_block</i> parameter is the 32-bit IP address for the NTP server to be deleted from the NTP server list. It consists of four dot-separated decimal numbers ranging from 0 to 255. If no <i>ipaddr</i> value (NULL) is entered, nothing is deleted and a normal completion response is returned.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<

sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example deletes the NTP Server from the NTP Server list:

```
DLT-NTP-SERVER:TID123::12345:::ipaddr=192.168.1.1;  
  
IP 123456  
<  
  
LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following IIAC error response if the *aid* value is invalid:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid Access Identifier */  
;
```

The NE returns the following IDNV error response if the *ipaddr* value is invalid:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid IPADDR value */  
;
```

The NE returns the following SROF error response if the *ipaddr* value is value is not found in the server list:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, IPADDR not found in NTP server list
*/
;
```

The NE returns the following SROF error response if the server list is empty:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, NTP server list empty */
;
```

RELATED TL1 MESSAGES

ENT-SYS

ED-NTP

RTRV-NTP

RTRV-NTP-STATE

ENT-NTP-SERVER

RTRV-NTP-SERVER

ED-DAT

NAME

DLT - OSACMAP: Delete OS Application Context Identifier Map

The **DLT - OSACMAP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

Starting in Release 6.0, X.25 is not supported and **DLT - OSACMAP** is OBSOLETE.

LOGIN PRIVILEGE

This command is available to users with PRIVILEGED access.

INPUT FORMAT

DLT - OSACMAP:*tid:aid:ctag::[vc]:spec_block;*

DESCRIPTION

The **DLT - OSACMAP** command deletes data terminal equipment (DTE) calling addresses of operations systems (OSs) that are assigned to the switched virtual circuit (SVC), and/or the permanent virtual circuit (PVC) in the X.25 subnetwork application context map. This map lists both the PVCs and the DTE calling addresses for the SVC available in the X.25 channel, and maps them to OS's application contexts. The DTE entries of both the SVC and the PVC can be deleted. The PVC entries can be deleted and replaced by SVC entries, or can be changed using the **ENT - OSACMAP** command.

Note: While this command may be used with all network elements (NEs) in the subnetwork, only the table at the active GNE node is valid. The maps at inactive Gateway NE (GNE) nodes can be modified, but it will have no effect.

This command causes the NE's affected virtual circuit to be reset. This will cause all currently active logins on that virtual circuit to be dropped.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

INPUT PARAMETERS

Table 2-41. DLT - OSACMAP Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> can only have the value X25 .
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter
<i>vc</i>	Virtual Circuit. This parameter is the virtual circuit type X.25 attachment for the OS. It takes one of the following values: ■ PVC Permanent virtual circuit. ■ SVC Switched virtual circuit (default value).
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-42. DLT - OSACMAP Input *spec_block* Parameters

Parameter Name	Description
<i>snpa</i>	This is the X.25 subnetwork point of attachment (SNPA) address for the OS. It is either the PVC logical channel number (LCN) 1, 2, 3, 4, 5, 6, 7, 8 or 9, or it is the SVC Data Terminal Equipment (DTE) calling address, which consists of 1 to 15 digits. If SNPA is null, the mapping is not changed and a normal completion response (COMPLD) is returned.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there may apply to this command also.

EXAMPLE INPUT/OUTPUT

```
DLT-OSACMAP:LT-DMX:x25:123456::SVC:snpa=12345678901234;

IP 123456
<

LT-DMX 00-03-22 16:12:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

The NE returns the following error response if the **aid** value is missing or is invalid.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access Identifier */
;
```

The NE returns the following error response if the **vc** value is invalid:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid VC */
;
```

The NE returns the following error response if the **snpa** value in the **spec_block** is invalid, or was not found in the map.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, SNPA invalid or not found */
;
```

RELATED TL1 MESSAGES

ENT - OSACMAP

ENT - TL1MSGMAP

RTRV - OSACMAP

RTRV - TL1MSGMAP

NAME

DLT - RADIUS - SERVER: Delete RADIUS Server

The **DLT - RADIUS - SERVER** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged or Administration access.

INPUT FORMAT

DLT - RADIUS - SERVER:*tid::ctag:::spec_block;*

DESCRIPTION

The **DLT - RADIUS - SERVER** command deletes a RADIUS server that has been provisioned on the NE by the **ENT - RADIUS - SERVER** command.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT - RADIUS - SERVER** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-43. DLT - RADIUS - SERVER Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-44. DLT-RADIUS-SERVER Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>ipaddr</i>	IP Address. It identifies the IP address of the RADIUS server. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The value 0.0.0.0 is invalid. More than one server can be deleted by excuting the command multiple times. This is a required parameter.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example deletes a RADIUS server:

```
DLT-RADIUS-SERVER:ALT-TID123::123456::ipaddr=210.10.10.1;
IP 123456
<

LT-TID123 07-10-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an error is detected in any of the command parameters, the entire command is denied; the command cannot be partially completed.

If there are errors in more than one command parameter, an error is detected and reported in only one of the parameters. The parameter for which the error is detected may not be the first parameter in the command that is in error.

The NE returns the following error response if an **aid** value is entered:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier */
;
```

The NE returns the following error response if the same parameter is repeated in the **spec_block**:

```
sid date time
M ctag DENY
  IISP
  /* Input, Invalid Syntax or Punctuation, parameter(s)
  multiply defined */
;
```

The NE returns the following error response if the **ipaddr** value in the **spec_block** is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid IPADDR value */
;
```

The NE returns the following error response if there is no such RADIUS server entered:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, the RADIUS server entry not found */
;
```

The NE returns the following error response if the command would have deleted the only RADIUS server entry provisioned for the NE while RADIUS is enabled for the NE (see *radius* in **RTRV-SYS**):

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, cannot delete the only RADIUS server
*/
;
```

RELATED TL1 MESSAGES

RTRV-RADIUS-SERVER

ENT-RADIUS-SERVER

ENT-SYS

RTRV-SYS

NAME

DLT-RC-NEIGHBOR: Delete Routing Controller Neighbor

The **DLT-RC-NEIGHBOR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

DLT-RC-NEIGHBOR:*tid::ctag:::spec_block;*

DESCRIPTION

The **DLT-RC-NEIGHBOR** command deletes an E-NNI Level 1 Routing Controller (RC) from the list of neighboring routing controllers of the local node, as set by the **ENT-RC-NEIGHBOR** command.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-RC-NEIGHBOR** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-45. DLT-RC-NEIGHBOR Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-46. DLT-RC-NEIGHBOR Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
remrcid	Remote Routing Controller Identifier: The RC ID of a neighboring routing controller. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The value 0.0.0.0 is invalid. More than one neighbor can be deleted by excuting the command multiple times. This is a required parameter.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example deletes a neighbor on a local RC:

```
DLT-RC-NEIGHBOR:LT-TID123::12345:::remrcid=10.10.10.1;
IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```


ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an error is detected in any of the command parameters, the entire command is denied; the command cannot be partially completed.

If there are errors in more than one command parameter, an error is detected and reported in only one of the parameters. The parameter for which the error is detected may not be the first parameter in the command that is in error.

The NE returns the following error response if an **aid** value is entered:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier */
;
```

The NE returns the following error response if the same parameter is repeated in the **spec_block**:

```
sid date time
M ctag DENY
  IISP
  /* Input, Invalid Syntax or Punctuation, parameter(s)
  multiply defined */
;
```

The NE returns the following error response if the **remrcid** value in the **spec_block** is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid REMRCID value */
;
```

The NE returns the following error response if there is no such neighbor entered:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, the RC neighbor entry not found */
;
```

RELATED TL1 MESSAGES

RTRV - RC - NEIGHBOR

ENT - RC - NEIGHBOR

NAME

DLT-ROUTE-SCN: Delete manual IP route for Signaling Communications Network (SCN)

The **DLT-ROUTE-SCN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

DLT-ROUTE-SCN:*tid*:[*aid*]:*ctag*:::*spec_block*;

DESCRIPTION

The **DLT-ROUTE-SCN** command can be initiated by users to delete a manual IP route for the Signaling Communications Network (SCN), as set by the **ENT-ROUTE-SCN** command. SCN is a data communications network for carrying optical control plane signaling and routing messages.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-ROUTE-SCN** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-47. **DLT-ROUTE-SCN** Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-48. DLT - ROUTE - SCN Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>dest_ip</i>	Destination IP address. This is a destination IP address. It consists of four dot-separated decimal numbers ranging from 0 to 255. The combination of this parameter, <i>dest_mask</i> and <i>outgoing_intf</i> identifies an unique manual route entry. It is a required parameter. More than one manual route entries can be deleted by executing the command multiple times.
<i>dest_mask</i>	Destination IP Subnet Mask. This is the 32-bit IP subnet mask, consisting of four dot-separated decimal numbers ranging from 0 to 255. It is a required parameter.
<i>outgoing_intf</i>	Outgoing Interface. This is the outgoing interface used to send the IP packets to the destination IP address. It specifies a LAN or DCC AID address, excluding AIDs ending with "-all". Refer to the AID Table for valid values. It is a required parameter.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example deletes a manual IP route entry using LAN-3 as the outgoing interface:

```
DLT-ROUTE-SCN:LT-TID123::123456::DEST_IP=198.200.10.1,  
DEST_MASK=255.255.255.0,OUTGOING_INTF=LAN-3;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following example deletes a manual IP route entry using one DCC as the outgoing interface:

```
DLT-ROUTE-SCN:LT-TID123::123456::DEST_IP=198.200.10.1,  
DEST_MASK=255.255.255.0,OUTGOING_INTF=dcc-m-1;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an error is detected in any of the command parameters, the entire command is denied; the command cannot be partially completed.

If there are errors in more than one command parameter, an error is detected and reported in only one of the parameters. The parameter for which the error is detected may not be the first parameter in the command that is in error.

The NE returns the following error response if the **aid** value is invalid:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier */
;
```

The NE returns the following error response if the same parameter is repeated in the **spec_block**:

```
sid date time
M ctag DENY
  IISP
  /* Input, Invalid Syntax or Punctuation, parameter(s)
  multiply defined */
;
```

The NE returns the following error response if the **dest_ip** value in the **spec_block** is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid DEST_IP value */
;
```

The NE returns the following error response if the **dest_mask** value in the **spec_block** is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid DEST_MASK value */
;
```

The NE returns the following error response if the *outgoing_intf* value in the *spec_block* is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid OUTGOING_INTF value */
;
```

The NE returns the following error response if there is no such manual IP route entry to be deleted:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, IP routing table entry not found */
;
```

RELATED TL1 MESSAGES

ENT-ROUTE-SCN

RTRV-ROUTE-SCN

NAME

DLT-SNMP-ADDR: Delete SNMP Target Address Table Entry

The **DLT-SNMP-ADDR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

DLT-SNMP-ADDR:*tid:targ_name:ctag;*

DESCRIPTION

The **DLT-SNMP-ADDR** command is used by an appropriate administrator to delete an entry in the SNMPv3 snmpTargetAddrTable.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-SNMP-ADDR** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-49. DLT - SNMP - ADDR Input Parameter

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>targ_name</i>	Target Address Name. This parameter identifies an entry in the SNMPv3 snmpTargetAddrTable. Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>targ_name</i> .
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the network element (NE) fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

```
DLT-SNMP-ADDR:LT-TID123:Admin-1:123456;

IP 123456
<
  LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the NE receives an **DLT-SNMP-ADDR** command with an invalid **targ_name** value or a value of **targ_name** that doesn't exist in the SNMPv3 snmpTargetAddrTable, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TARG_NAME */
;
```

If the NE receives an **DLT-SNMP-ADDR** command with a **targ_name** value that identifies the snmpTargetAddrTable entry for SNMPv1/v2 legacy users that was created when **ENT-SNMP-USER:snmp_ver=V1-2** created a legacy user, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, entry for legacy users cannot be
deleted with this command */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERSGP

ED-SNMP-USERSGP

DLT - SNMP - USERGP

RTRV - SNMP - USERGP

ENT - SNMP - GROUP

ED - SNMP - GROUP

DLT - SNMP - GROUP

RTRV - SNMP - GROUP

ENT - SNMP - MIBGP

ED - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

DLT - SNMP - GROUP : Delete SNMP Group

The **DLT - SNMP - GROUP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

DLT - SNMP - GROUP:*tid:groupid:ctag:::spec_block;*

DESCRIPTION

The **DLT - SNMP - GROUP** command is used by an appropriate administrator to delete an entry in the SNMPv3 vacmAccessTable.

There are four indices in the vacmAccessTable, specified by **groupid**, **sec_model**, **sec_level** and **prefix**. The values of these four parameters taken together must uniquely identify an entry in this table. Note that a NULL value is allowed for **prefix**. Thus, if prefix is NULL, the values of **groupid**, **sec_model**, **sec_level** along with the NULL value for **prefix** must uniquely identify a table entry.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT - SNMP - GROUP** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-50. DLT - SNMP - GROUP Input Parameter (cont 1 of 2)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
groupid	The vacmGroupName group identifier for an entry in the SNMPv3 vacmAccessTable. groupid is a case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in groupid .

Table 2-50. DLT-SNMP-GROUP Input Parameter (cont 2 of 2)

Parameter Name	Description
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
spec_block	The spec_block parameters are listed and described in the following table.

Table 2-51. DLT-SNMP-GROUP Input *spec_block* Parameters

Parameter Name	Description
sec_model	Security model value for the vacmAccessSecurityModel object. Values: SNMPV1 SNMPv1 security model. SNMPV2C SNMPv2c security model. USM SNMPv3 USM security model. sec_model is a required parameter and a value must be specified
sec_level	Security level value for the vacmAccessSecurityLevel object. Values: NOAUTHNOPRIV No authorization security and no privacy security. AUTHNOPRIV Authorization security but no privacy security. AUTHPRIV Authorization security and privacy security. sec_level is a required parameter and a value must be specified
prefix	Context prefix value for the vacmAccessContextPrefix object. A NULL value is the only allowed value.

OUTPUT FORMAT

If the network element (NE) fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

```
DLT-SNMP-GROUP:LT-TID123:Admin-1:123456:::sec_model=usm,
sec_level=authpriv,prefix=;

IP 123456
<
LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

error responses section. The error responses listed there apply to this command also.

If the NE receives an **DLT-SNMP-GROUP** command with an invalid **groupid** value or without a value of **groupid**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid GROUPID */
;
```

If the NE receives an **DLT-SNMP-GROUP** command with a **sec_model** value other than **SNMPV1**, **SNMPV2C** or **USM** or without a value of **sec_model**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **DLT-SNMP-GROUP** command with a **sec_level** value other than **NOAUTHNOPRIV**, **AUTHNOPRIV** or **AUTHPRIV** or without a value of **sec_level**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **DLT-SNMP-GROUP** command with an invalid **prefix** value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **DLT-SNMP-GROUP** command with a **groupid** value that identifies a vacmAccessTable entry for an SNMPv1/v2 legacy user that was created when **ENT-SNMP-USER:snmp_ver=V1-2** created a legacy user, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, reserved entry, cannot be modified or
  deleted */
;
```


If the NE receives a **DLT-SNMP-GROUP** command with values of **groupid** , **sec_model**, **sec_level** and **prefix** which together do not identify an existing entry in the SNMPv3 vacmAccessTable, the following error response is returned:

```
sid date time
M  ctag DENY
PIUI
/* Privilege, Illegal User Identity, invalid MIB table entry */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERGP

ED-SNMP-USERGP

DLT-SNMP-USERGP

RTRV-SNMP-USERGP

ENT-SNMP-GROUP

ED-SNMP-GROUP

RTRV-SNMP-GROUP

ENT-SNMP-MIBGP

ED-SNMP-MIBGP

DLT - SNMP - MIBGP
RTRV - SNMP - MIBGP
ENT - SNMP - PARAM
ED - SNMP - PARAM
DLT - SNMP - PARAM
RTRV - SNMP - PARAM
ENT - SNMP - NOTIF
ED - SNMP - NOTIF
DLT - SNMP - NOTIF
RTRV - SNMP - NOTIF

NAME

DLT-SNMP-MIBGP: Delete VACM View Tree Family Table Entry

The **DLT-SNMP-MIBGP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

DLT-SNMP-MIBGP:*tid:mibgrpid:ctag::subtree;*

DESCRIPTION

The **DLT-SNMP-MIBGP** command is used by an appropriate administrator to delete an entry in the SNMPv3 View Tree Family table (vacmViewTreeFamilyTable).

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-SNMP-MIBGP** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-52. DLT-SNMP-MIBGP Input Parameter (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>mibgrpid</i>	MIB Group ID. Identifies an entry in the SNMPv3 View Tree Family table (vacmViewTreeFamilyTable). Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>mibgrpid</i> .
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-52. DLT-SNMP-MIBGP Input Parameter (cont 2 of 2)

Parameter Name	Description
subtree	MIB subtree object identification (OID) of the vacmViewTreeFamilySubtree. subtree is a character string of 1 to 255 characters that may be specified as either a subtree name, e.g., SysPmInfo , or as a OID string, e.g., 1.3.6.1.4.1.1751.2.88.10.2 . subtree is a required parameter.

OUTPUT FORMAT

If the network element (NE) fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

```
DLT-SNMP-MIBGP:LT-TID123:SysPmInfo:123456::SysPmInfo;

IP 123456
<
  LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the NE receives an **DLT-SNMP-MIBGP** command with a missing or invalid **mibgrpid** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid MIBGRPID */
;
```

If the NE receives an **DLT-SNMP-MIBGP** command with a missing or invalid **subtree** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SUBTREE */
;
```

If the NE receives an **DLT-SNMP-MIBGP** command with **mibgrpid** and **subtree** values that together are not the same as the **mibgrpid** and **subtree** values of an existing vacmViewTreeFamilyTable entry, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, view tree entry doesn't exist */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT - SNMP - USERGP

ED - SNMP - USERGP

DLT - SNMP - USERGP

RTRV - SNMP - USERGP

ENT - SNMP - GROUP

ED - SNMP - GROUP

RTRV - SNMP - GROUP

ENT - SNMP - MIBGP

ED - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

DLT-SNMP-NOTIF: Delete SNMP Notify Table Entry

The **DLT-SNMP-NOTIF** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

DLT-SNMP-NOTIF:*tid:notif_id:ctag*;

DESCRIPTION

The **DLT-SNMP-NOTIF** command is used by an appropriate administrator to delete an entry in the SNMPv3 snmpNotifyTable.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-SNMP-NOTIF** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-53. DLT-SNMP-NOTIF Input Parameter

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>notif_id</i>	Notification Name. Identifies an entry in the SNMPv3 snmpNotifyTable. Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>notif_id</i> .
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the network element (NE) fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

```
DLT-SNMP-NOTIF:LT-TID123:admin-3:123456;

IP 123456
<
  LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the NE receives an **DLT-SNMP-NOTIF** command with an invalid *notif_id* value or a value of *notif_id* that doesn't exist in the SNMPv3 snmpNotifyTable, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid NOTIF_ID */
;
```


If the NE receives an **ED-SNMP-NOTIF** command with a *notif_id* value that identifies a snmpNotifyTable entry for an SNMPv1/v2 legacy user that was created when **ENT-SNMP-USER:snmp_ver=V1-2** created a legacy user, the following error response is returned:

```
sid date time
M  ctag DENY
SDNC
/* Status, Data Not Consistent, reserved entry, cannot be modified or
deleted */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERGP

ED-SNMP-USERGP

DLT-SNMP-USERGP

RTRV-SNMP-USERGP

ENT-SNMP-GROUP

ED-SNMP-GROUP

RTRV-SNMP-GROUP

ENT-SNMP-MIBGP

ED-SNMP-MIBGP

DLT - SNMP - MIBGP
RTRV - SNMP - MIBGP
ENT - SNMP - PARAM
ED - SNMP - PARAM
DLT - SNMP - PARAM
RTRV - SNMP - PARAM
ENT - SNMP - NOTIF
ED - SNMP - NOTIF
DLT - SNMP - NOTIF
RTRV - SNMP - NOTIF

NAME

DLT-SNMP-PARAM: Delete SNMP Target Parameter Table Entry

The **DLT-SNMP-PARAM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

DLT-SNMP-PARAM:*tid:parm_id:ctag;*

DESCRIPTION

The **DLT-SNMP-PARAM** command is used by an appropriate administrator to delete an entry in the SNMPv3 Target Parameter Table (snmpTargetParamsTable).

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-SNMP-PARAM** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-54. DLT-SNMP-PARAM Input Parameter

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>parm_id</i>	Target parameter entry name. Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>parm_id</i> .
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the network element (NE) fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

```
DLT-SNMP-PARAM:LT-TID123:v3admin1:123456;

IP 123456
<
  LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the NE receives an **DLT-SNMP-PARAM** command with an invalid *parm_id* value or a value of *parm_id* that doesn't exist, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid PARM_ID */
;
```

If the NE receives an **DLT-SNMP-PARAM** command with a *parm_id* value that identifies a vacmAccessTable entry for an SNMPv1/v2 legacy user that was

created when **DLT-SNMP-USER:snmp_ver=V1-2** created a legacy user, the following error response is returned:

```
sid date time
M  ctag DENY
SDNC
/* Status, Data Not Consistent, entries for legacy users cannot be
deleted with this command */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERGP

ED-SNMP-USERGP

DLT-SNMP-USERGP

RTRV-SNMP-USERGP

ENT-SNMP-GROUP

ED-SNMP-GROUP

RTRV-SNMP-GROUP

ENT-SNMP-MIBGP

ED-SNMP-MIBGP

DLT-SNMP-MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

DLT-SNMP-USER: Delete SNMP User

The **DLT-SNMP-USER** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 3.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

DLT-SNMP-USER:*tid:ucomid:ctag::uipadr;*

Starting in Release 9.0, when **snmp_ver=V1-2**, the input format is:

DLT-SNMP-USER:*tid:uid:ctag::uipadr;*

Starting in Release 9.0, when **snmp_ver=V3**, the input format is:

DLT-SNMP-USER:*tid:uid:ctag;*

DESCRIPTION

The **DLT-SNMP-USER** command is used by an appropriate administrator to delete an SNMP user and the associated parameters. Following execution of the command, the user must restart the NE for the changes to take affect.

Starting in Release 9.0, the parameter **snmp_ver** identifies whether the target user to be deleted is a legacy SNMPv1/v2 user who is uniquely identified by a specified combination of **uid** and **uipadr**, or an SNMPv3 user who is uniquely identified by **uid**. If **snmp_ver=V1-2**, or if **snmp_ver** is not specified, then both **uid** and **uipadr** must be specified. If **snmp_ver=V3**, then only **uid** is specified and the command will be denied if **uipadr** is also specified.

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-SNMP-USER** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-55. DLT - SNMP - USER Input Parameter

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ucomid</i>	User Community Identifier. This is the identifier for the SNMP user. The valid values are a case-sensitive alphanumeric string of from 6 to 20 characters.
<i>uid</i>	Starting in Release 9.0, the name of the parameter <i>ucomid</i> is changed to <i>uid</i> to better represent its meaning and use. For SNMPv2, <i>uid</i> is the SNMPv2 Community identifier for the SNMP user. For SNMPv3, <i>uid</i> is the SNMPv3 user identifier for the SNMP user. Starting in Release 9.0, <i>uid</i> is a case-sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>uid</i>.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>uipadr</i>	User IP address. This is a 32-bit IP address consisting of four dot separated decimal numbers 0 to 255. This is a required parameter, and there is no default value. Starting in Release 9.0, <i>uipadr</i> is required if <i>uid</i> specifies an SNMPv2 user. <i>uipadr</i> is not applicable if <i>uid</i> specifies an SNMPv3 users and <i>uipadr</i> will be ignored if a value is entered.

OUTPUT FORMAT

If the network element (NE) fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```


OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

```
DLT-SNMP-USER:LT-TID123:snmpu1:123456::135.107.32.5;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the NE receives a **DLT-SNMP-USER** command with a non-existing or invalid **ucomid** (User Community Identifier) value, the following PIUI error response is returned:

```
sid date time  
M ctag DENY  
PIUI  
/* Privilege, Illegal User Identity, invalid UCOMID */  
;
```

Starting in Release 9.0, the previous error response is replaced with the following error response:

If the NE receives an **DLT-SNMP-USER** command with a non-existing or invalid **uid** value, the following error response is returned:

```
sid date time  
M ctag DENY  
PIUI  
/* Privilege, Illegal User Identity, invalid UID */  
;
```

If the NE receives a **DLT-SNMP-USER** command with a non-existing or invalid **uipadr** value, the following error response is returned:

```
sid date time
M  ctag DENY
   PIUI
   /* Privilege, Illegal User Identity, invalid UIPADR */
;
```

Starting in Release 9.0, the previous error response applies only if **snmp_ver=V1-2** or if a value for **snmp_ver** is not specified.

If the NE receives a **DLT-SNMP-USER** command with values of **ucomid** and **uipadr**, which together do not identify an existing SNMP user, the following error response is returned:

```
sid date time
M  ctag DENY
   PIUI
   /* Privilege, Illegal User Identity, invalid SNMP User */
;
```

Starting in Release 9.0, the parameter name **ucomid** is changed to **uid** in the previous error response.

Starting in Release 9.0, the previous error response applies only if **snmp_ver=V1-2** or if a value for **snmp_ver** is not specified. If **snmp_ver=V3**, the following error response applies:

If the NE receives a **DLT-SNMP-USER** command with a value of **uid** which does not identify an existing SNMPv3 user, the following error response is returned:

```
sid date time
M  ctag DENY
   PIUI
   /* Privilege, Illegal User Identity, invalid SNMP User */
;
```

Starting in Release 9.0, If the NE receives an **DLT-SNMP-USER** command with a specified value of **uipadr** and with **snmp_ver=V3**, the following error response is returned:.

```
sid date time
M ctag DENY
  IPNC
/* Input, Parameter Not Consistent, UIPADR and SNMP_VER inconsistent
*/
;
```

RELATED TL1 MESSAGES

ED-SNMP-USER

ENT-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERGP

ED-SNMP-USERGP

DLT-SNMP-USERGP

RTRV-SNMP-USERGP

ENT-SNMP-GROUP

ED-SNMP-GROUP

DLT-SNMP-GROUP

RTRV-SNMP-GROUP

ENT-SNMP-MIBGP

ED-SNMP-MIBGP

DLT-SNMP-MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

EDV - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

DLT-SNMP-USERGP: Delete VACM Security to Group Table Entry

The **DLT-SNMP-USERGP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

DLT-SNMP-USERGP:*tid:sec_uid:ctag::sec_model*;

DESCRIPTION

The **DLT-SNMP-USERGP** command is used by an appropriate administrator to delete an entry in the SNMPv3 Security to Group table (vacmSecurityToGroupTable).

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-SNMP-USERGP** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-56. DLT-SNMP-USERGP Input Parameter (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>sec_uid</i>	User security name. Identifies an entry in the SNMPv3 Security to Group table (vacmSecurityToGroupTable). Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>sec_uid</i> .
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-56. DLT-SNMP-USERGP Input Parameter (cont 2 of 2)

Parameter Name	Description
<i>sec_model</i>	Security model. Values: SNMPV1 SNMPv1 security model SNMPV2C SNMPv2 security model USM SNMPv3 User Security Model

OUTPUT FORMAT

If the network element (NE) fully complies with the command request, the following normal completion response is returned:

```
sid date time  
M ctag COMPLD  
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

```
DLT-SNMP-USERGP:LT-TID123:Admin3:123456::usm;  
  
IP 123456  
<  
LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the NE receives an **DLT-SNMP-USERGP** command without a **sec_uid** value or with an invalid **sec_uid** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SEC_UID */
;
```

If the NE receives an **DLT-SNMP-USERGP** command without a **sec_model** value or with an invalid **sec_model** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SEC_MODEL */
;
```

If the NE receives an **DLT-SNMP-USERGP** command with values of **sec_uid** and **sec_model** that together do not identify an existing vacmSecurityToGroupTable entry, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SEC_ID and SEC_MODEL */
;
```

If the NE receives an **DLT-SNMP-USERGP** command with values of **sec_uid** and **sec_model** that together identifies the vacmSecurityToGroupTable entry for an SNMPv1/v2 legacy user that was created when **ENT-SNMP-USER:snmp_ver=V1-2** created a legacy user, , the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, reserved entry, cannot be modified or
deleted */
;
```

RELATED TL1 MESSAGES

ENT - SNMP - USER

DLT - SNMP - USER

ED - SNMP - USER

RTRV - SNMP - USER

ENT - SNMP - ADDR

ED - SNMP - ADDR

DLT - SNMP - ADDR

RTRV - SNMP - ADDR

ENT - SNMP - USERGP

ED - SNMP - USERGP

RTRV - SNMP - USERGP

ENT - SNMP - GROUP

ED - SNMP - GROUP

DLT - SNMP - GROUP

RTRV - SNMP - GROUP

ENT - SNMP - MIBGP

ED - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

NAME

DLT-STGRP: Delete Spanning Tree Group

The **DLT-STGRP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

DLT-STGRP: *tid:aid:ctag::stgrp*id;

DESCRIPTION

The **DLT-STGRP** command removes an Spanning Tree Group.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-STGRP** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV-EQPT** *prot_state* = PROT, the **DLT-STGRP** command generates a **REPT DBCHG** message for the addressed slot and its companion.

INPUT PARAMETERS

Table 2-57. DLT-STGRP Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access identifier. This is the address of a slot equipped with an Ethernet circuit pack. Refer to the AID Table for valid AIDs.
<i>ctag</i>	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-57. DLT - STGRP Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>stgrpid</i>	Spanning Tree Group ID. Values: An integer in the range 1 to 4095

OUTPUT FORMAT

If the Network Element (NE) fully complies with the **DLT - STGRP** request, the following normal completion response is returned:

```
sid date time  
M ctag COMPLD  
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
DLT-STGRP:LT-PF-3000:fn-a:123456:;  
  
LT-PF-3000 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the Spanning Tree Group ID does not exist, the following error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, STGRPID not found */
;
```

RELATED TL1 MESSAGES

ENT-STGRP

RTRV-STGRP

NAME

DLT-SUBSHELF : Delete Subshelf

The **DLT-SUBSHELF** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

DLT-SUBSHELF : *tid::ctag::[subshelfnum]*;

DESCRIPTION

DLT-SUBSHELF is used to delete a subshelf from a multi-shelf configuration.

On a main shelf, the command must be executed once for each subshelf to be deleted. If communication with the specified subshelf is operational, the subshelf will be directed restart as a stand-alone shelf.

Executing the command on a subshelf causes the shelf to restart as stand-alone shelf.

A stand-alone shelf is a shelf that has no provisioned subshelves and is not provisioned to operate as a subshelf.

A main shelf is a shelf in a multi-shelf configuration that has provisioned subshelves.

A subshelf is a shelf in a multi-shelf configuration that is provisioned to operate as a subshelf.

Execution of this command, whether successful or denied, is recorded in the Security log.

Following the successful completion of the command, the NE issues a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-58. DLT - SUBSHELF Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter. Note, when executing the command on an existing subshelf, <i>tid</i> must match the currently provisioned <i>main_tid</i> of the subshelf.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax, and a description of this parameter.
<i>subshelfnum</i>	Subshelf Number.
	For a main shelf, <i>subshelfnum</i> is a required parameter.
	For a subshelf, <i>subshelfnum</i> is an optional parameter. Values ■ [2-14] (integer values only)

OUTPUT FORMAT

If the **DLT - SUBSHELF** is accepted, the following normal completion response is returned.

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example deletes the attributes of a subshelf 2 on a main shelf or a subshelf.

```
DLT-SUBSHELF:TID1::123456::2;  
  
IP 123456  
<  
    TID1 10-11-26 16:42:11  
M 123456 COMPLD  
;
```

The following example deletes a subshelf, thus converting it to a stand-alone shelf.

```
DLT-SUBSHELF:TID2::123456;  
  
IP 123456  
<  
    TID2 10-11-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives a **DLT-SUBSHELF** command with an invalid or unexpected parameter value, then the command is denied and the following error response is returned, where <parameter_name> identifies the invalid or unexpected parameter value.

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid <parameter_name> value */  
;
```

If the NE receives a **DLT-SUBSHELF** command and any of the following conditions exists,

- the shelf is a main shelf or a subshelf and specified **subshelfnum** does not exist
- the shelf is a stand-alone shelf

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, subshelf does not exist */
;
```

If a main shelf receives a **DLT-SUBSHELF** command and there is existing cross-connection or test access connection on the subshelf, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cross-connect exists */
;
```

RELATED TL1 MESSAGES

ED-SUBSHELF

ENT-SUBSHELF

RTRV-SUBSHELF

NAME

DLT-ULSDCC-L4 : Delete Upper Layer Section DCC Layer 4

The **DLT-ULSDCC-L4** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

DLT-ULSDCC-L4:*tid*:*[aid]*:*ctag*:::*[spec_block]*;

DESCRIPTION

DLT-ULSDCC-L4 is used to delete data that affects Layer 4 of the Open Systems Interconnection (OSI) protocol stack. A Target Identifier (TID) Address Resolution Protocol (TARP) Manual Adjacency or a TARP Data Cache (TDC) entry may be deleted.

DLT-ULSDCC-Lx (x = 3 - 7) commands are used to delete data that affects Layers 3 through 7 of the 7-layer OSI protocol stack. This stack refers to the OSI Reference Model (RM), which is a logical structure for network operations. This reference model defines a standard communication protocol between SONET network elements (NEs), as specified by the International Standards Organization (ISO).

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command generates a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-59. DLT-ULSDCC-L4 Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.

Table 2-59. DLT - ULSDCC - L4 Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. The <i>aid</i> value may be ALL or null. Specifying the <i>aid</i> is optional.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
<i>spec_block</i>	Specific parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

A *spec_block* parameter may appear only once in the command line. If the same parameter is used in the command line more than once, the command is denied and an error message is returned.

If the *spec_block* is null, the current attributes at the NE remain in effect.

Table 2-60. DLT - ULSDCC - L4 Input *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description of <i>spec_block</i> Parameters
The <i>spec_block</i> may contain one or more of the following parameters:	

Table 2-60. DLT-ULSDCC-L4 Input *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>l4ajsys</i>	This parameter specifies the System ID field of the Network Service Access Point (NSAP) address of a NE to be deleted from the TARP Manual Adjacency list of the target NE (that is, the NE indicated by the <i>tid</i> parameter). Since the System ID is unique for each NE, the System ID is sufficient to identify a specific Manual Adjacency. Since the Manual Adjacency table has the entire 20 byte NSAP that identifies the NE NSAP to be deleted from the table using the System ID. What this means is the search is only done against the six (6) bytes of the NSAP that represent the System ID. The System ID field of the NSAP is sufficient to uniquely identify an entry in the Manual Adjacency table as long as only a single NSAP address is allowed for each NE. The format for this parameter is "<i>l4ajsys=L4AJSYS</i>" where <i>L4AJSYS</i> is the 6-byte (12-digit hexadecimal) System ID of the TARP Manual Adjacency. This parameter deletes a single TARP Manual Adjacency. Multiple TARP Manual Adjacencies are deleted using multiple occurrences of DLT-ULSDCC-L4. If the specified <i>L4AJSYS</i> does not match an existing TARP Manual Adjacency, then no action is taken and an error response is returned. <i>L4AJSYS</i> is the 6 byte (12-digit hexadecimal) System ID field of the NSAP of the Adjacent NE in the list.
<i>l4tdctid</i>	This parameter is used to specify an entry to delete in the TARP Data Cache (TDC). The TDC stores three parameters for each entry, the TID, NSAP and the address type (referred to as "tar-pro" in Bellcore GR-253). The address type is not user provisionable and is set to its default value ("FE" hex) in the TDC. Specifying the TID is sufficient to identify the complete TDC entry. The entire entry, including the address type, is deleted. The format for this parameter is "<i>l4tdctid=L4TDCTID</i>" where <i>L4TDCTID</i> is the TID of a TDC entry. This parameter deletes a single row of data in the TDC. Multiple rows of data are deleted using multiple occurrences of DLT-ULSDCC-L4.

Table 2-60. DLT-ULSDCC-L4 Input *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description of <i>spec_block</i> Parameters
	If the specified <i>L4TDCTID</i> does not match any TID in the TDC, then no action is taken and an error response is returned, where <i>L4TDCTID</i> is the Target Identifier name of an NE, in the TARP Data Cache.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the requested command does not alter the existing condition, the NE shall respond with a COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example deletes a TARP Manual Adjacency:

```
DLT-ULSDCC-L4:LT-TID123::123456:::l4ajsys=08006A112345;
IP 123456
<

LT-TID123 00-04-23 13:12:16
M 123456 COMPLD
;
```

The following example deletes an entry in the TARP Data Cache:

```
DLT-ULSDCC-L4:LT-TID123:987654:::l4tdctid=LT-TID1232001;  
  
IP 123456  
<  
  
LT-TID123 00-04-23 13:12:16  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the error responses in **RTRV - HDR**. The error responses listed there may also apply to this command.

If an error is detected in any of the command parameters, the entire command is denied; the command cannot be partially completed.

If there are errors in more than one command parameter, an error is detected and reported in only one of the parameters. The parameter for which the error is detected may not be the first parameter in the command that is in error.

The NE returns the following error response if the ***l4ajsys*** syntax is invalid:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid L4AJSYS */  
;
```

The NE returns the following error response if the ***l4ajsys*** does not correspond to the NSAP System ID field of a current TARP Manual Adjacency:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, L4AJSYS is not one of the TARP  
Manual Adjacencies */  
;
```

The NE returns the following error response if the ***l4tdctid*** syntax is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid L4TDCTID */
;
```

If there is no entry in the TDC that matched ***l4tdctid***, the NE returns the following error response:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, The TDC does not contain the entry
  specified by L4TDCTID */
;
```

RELATED TL1 MESSAGES

ENT-ULSDCC-L4

RTRV-ULSDCC-L4

NAME:

DLT-USER-SECU: Delete User Security

The **DLT-USER-SECU** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

Starting in Release 4.0, this command is available to users with Privileged and Administration access.

INPUT FORMAT

DLT-USER-SECU:*tid:uid:ctag;*

DESCRIPTION

The **DLT-USER-SECU** command is used by an appropriate administrator to delete the security parameters associated with a user ID. This is applicable where a user account is being closed.

The three default logins cannot be deleted.

When a user ID is deleted, current login sessions for that user ID will remain open until cancelled by the user, explicitly terminated by a system administrator, or timed out due to inactivity.

Starting in Release 4.0, when a user ID is deleted, any current login sessions for that user ID will be immediately terminated.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-USER-SECU** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-61. DLT - USER - SECU Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>uid</i>	User Identifier. This parameter identifies the user. Its valid values are a case-sensitive alphanumeric string of 5 to 10 characters. Only a single <i>uid</i> is supported in the command.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and a description of this parameter.

OUTPUT FORMAT

If the network element (NE) fully complies with the command request, the following normal completion response is returned:

```
sid date time  
M ctag COMPLD  
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

```
DLT-USER-SECU:LT-TID123:kj lee:123456;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives a **DLT-USER-SECU** command with a non-existing or invalid **uid** (user identifier) value, the following PIUI error response is returned:

```
sid date time  
M ctag DENY  
PIUI  
/* Privilege, Illegal User Identity, invalid UID */  
;
```

If the NE receives a **DLT-USER-SECU** command with a **uid** (user identifier) value of one of the three original default users, the following PIUI error response is returned:

```
sid date time  
M ctag DENY  
PIUI  
/* Privilege, Illegal User Identity, invalid UID */  
;
```

Starting in Release 4.0, the previous error response is obsolete and is replaced by the following error response.

Starting in Release 4.0, if the NE receives a **DLT-USER-SECU** command with a **uid** (user identifier) value of one of the three original default users, the following PIUI error response is returned:

```
sid date time
M  ctag DENY
PIUI
/* Privilege, Illegal User Identity, default login UID cannot be
deleted */
;
```

RELATED TL1 MESSAGES

ED-USER-SECU

ENT-USER-SECU

RTRV-USER-SECU

ED-NE-SECU

RTRV-NE-SECU

DEVELOPER'S NOTES AND REQUIREMENTS

All provisioning changes resulting from the execution of this command on the main shelf in a multi-shelf DCS system utilizing a single TID shall be applied to each subshelf.

Note, execution of this command on a subshelf is not supported.

NAME

DLT-VLAN: Delete Virtual LAN

The **DLT-VLAN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

DLT-VLAN: *tid:aid:ctag::vlanid*;

Starting in release 5.0, the format is as follows:

DLT-VLAN: *tid:aid:ctag::vlanid[,vrtswid]*;

DESCRIPTION

The **DLT-VLAN** command deletes a virtual LAN (VLAN).

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-VLAN** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV-EQPT** *prot_state* = PROT, the **DLT-VLAN** command generates a **REPT DBCHG** message for the addressed slot and its companion.

INPUT PARAMETERS

Table 2-62. DLT-VLAN Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-62. DLT - VLAN Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access identifier. This is the address of the slot (Slot AID). Refer to the AID Table for valid AIDs.
<i>ctag</i>	Correlation tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>vlanid</i>	Virtual LAN ID. This is a required parameter. Its value is an integer in the range 1 to 4093. To delete a VLAN assigned to a port, MAC+ <i>vlanid</i> address provisioning must be removed first from the port.
<i>vrtswid</i>	Virtual Switch ID. Value: An integer in the range 1 - 4095. For the LNW70: an integer in the range 1 - 16. This parameter is required for the LNW70, optional for other packs. For the LNW78: an integer in the range 1 - 8. This parameter is required for the LNW78.

OUTPUT FORMAT

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
DLT-VLAN:TID123:<aid>:123456::<vlanid>;

TID123 98-01-01 08:00:00
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the RTRV-HDR command **ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the specified slot AID does not contain an Ethernet board, or if the Ethernet board is not set to 802.1 tag mode, the following error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, board type or mode does not support VLANs */
;
```

If the specified VLAN does not exist, the following error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, vlanid doesn't exist */
;
```

Starting in release 4.0, if the VLAN to be deleted is assigned to a port that has a MAC+VLAN address provisioned, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, a MAC+VLAN address exist on the port */
;
```

All VLAN-based QoS services must be deleted (using **DLT-ERATE**) before the VLAN can be deleted. If a VLAN-based QoS service exists at one of the ports that requires the specified VLAN, then the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, vlan cannot be deleted until QoS service is
  deleted */
;
```

If a **vrtswid** is not specified and the **aid** refers to an LNW70 circuit pack, then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, vrtswid must be specified */
;
```

If a **vrtswid** is not specified and the **aid** refers to an LNW78 circuit pack, then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, vrtswid must be specified */
;
```

If the specified virtual switch id (**vrtswid**) is not within the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, vrtswid out of range */
;
```

RELATED TL1 MESSAGES

ED-VLAN

ENT-VLAN

DLT-VLAN
TL1 Message Details

DLT-VLAN
Alcatel-Lucent 1665 DMX, R9.0

RTRV - VLAN

NAME

DLT -VRTSW: Delete Virtual Switch

The **DLT -VRTSW** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

DLT -VRTSW: *tid:aid:ctag::vrtswid;*

DESCRIPTION

The **DLT -VRTSW** command deletes (removes) a virtual switch.

When a virtual switch is deleted using this command, all VLAN parameters for all ports associated with the virtual switch are deleted (deletes all VLANs), and all spanning tree groups (STGRPs) within the virtual switch are deleted.

Starting in Release 2.1, when a Virtual Switch is deleted using this command, all VLAN or Port Tags assigned to ports that were members of the Virtual Switch are deleted for these ports and the default VLAN or Port Tag for these ports are set to a value of 0 (zero). Except for the VLAN or Port Tag parameters, all other provisionable port parameters for these ports (including Spanning Tree port parameters), as provisioned by the **ED -EPORT** or **ED -VCG** commands, are not changed and retain their last provisioned values.

When a Virtual Switch is deleted using this command, all STGRPs that were members of the Virtual Switch are deleted.

Starting in Release 3.0, when a virtual switch is deleted and it contained the last port to have a particular port tag or vlan tag, the value of the Peak Information Rate parameter, **pir**, for that particular port tag or vlan tag, respectively, is deleted. Then when a new virtual switch is created and assigned previously used port tags or vlan tags, **pir** will be set to its default values. This applies only to the LNW66, LNW67, and LNW68.

For the LNW70, the above is replaced with the following: when a Virtual Switch is deleted using this command, also all QoS services assigned to ports that were members of the Virtual Switch are deleted for these ports and the **ED -EPORT** **trafmgmtmd** parameter for these ports are set to its default value. Other port parameters such as **ethertype** and **tagfilter** are set to their default values (**FFFF** and **ENABLE**, respectively). All other provisionable port parameters for these

ports (including Spanning Tree port parameters), as provisioned by the **ED-EPOR**T or **ED-VCG** commands, are not changed and retain their last provisioned values.

Starting in Release 6.0, the above also applies for the LNW78.

Starting in Release 7.0, when a Virtual Switch is deleted, parameters of the ports, as provisioned by the **ED-EPOR**T, **ED-VCG**, **ED-VCG-RPR**, and **ED-LAGRP** commands, are reset to their default values. MAC table entries made using the **ENT-MAC** command are deleted. All tags and all QoS services are deleted. A port is also removed from a spanning tree group of which it may be a member. Removing ports from the Spanning Tree Group causes the affected Spanning Tree to be reconfigured across the network. If deleting a Virtual Switch removes all members of the Spanning Tree Group, the Spanning Tree Group is also deleted.

Starting in Release 9.0, the above also applies to ERP instances on the LNW(1)70: deleting a Virtual Switch also deletes all ERP instances of the Virtual Switch.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **DLT-VRTSW** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV-EQPT** *prot_state* = PROT, the **DLT-VRTSW** command generates a **REPT DBCHG** message for the addressed slot and its companion.

INPUT PARAMETERS

Table 2-63. DLT-VRTSW Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of the slot. Refer to the AID Table for valid AIDs.
<i>ctag</i>	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>vrtswid</i>	Virtual switch ID. Value: An integer in the range 1 to 4095.

Table 2-63. DLT - VRTSW Input Parameters (cont 2 of 2)

Parameter Name	Description
	For the LNW70 the virtual switch ID is an integer in the range 1 - 16. For the LNW78 the virtual switch ID is an integer in the range 1 - 8.

OUTPUT FORMAT

```
sid date time  
M ctag COMPLD  
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
DLT-VRTSW:TID123:<aid>:123456::<vrtswid>;  
  
TID123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR** command **ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the specified slot AID does not contain an Ethernet board, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, board type does not support
virtual switches */
;
```

Starting in Release 3.0 with the introduction of the LNW71 (FE-PL) circuit pack, the above error response is valid when the AID does not contain an Ethernet board that supports virtual switches. Note that the LNW71 is an Ethernet circuit pack but does not support virtual switches.

Starting in Release 5.1, if the specified virtual switch id (**vrtswid**) is not within the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, vrtswid out of range */
;
```

If the specified virtual switch doesn't exist, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, vrtswid doesn't exist */
;
```

RELATED TL1 MESSAGES

ED-VRTSW

ENT-VRTSW

RTRV-VRTSW

NAME

ED-ASAP-PROF: Edit Alarm Severity Assignment Profiles

The **ED-ASAP-PROF** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-ASAP-PROF: *tid::ctag::pftype, pfname: spec_block;*

DESCRIPTION

The **ED-ASAP-PROF** command is used to change the name or alarm severity levels of an Alarm Severity Assignment Profile (ASAP). The name of the Default ASAP may not be changed. Either the Profile name or alarm severity levels may be changed: they are never changed together.

Profile names are less than or equal to 24 alphanumeric characters. The first character must be a letter. The following characters are permitted in the ASAP name:

- Digits (0...9)
- Hyphens (-)
- Upper case letters (A....Z)

Lower case letters (a...z) may also be entered. However, no distinction will be made between lower case and upper case letters.

For changing alarm severity levels, the ASAP may be the Default ASAP or an ASAP previously created via **ENT-ASAP-PROF**. New alarm severity levels will apply to subsequent trouble notifications of any entities the ASAP is assigned to. They will not cause the re-evaluation of any existing alarms.

If an ASAP parameter is not specified as part of the *spec_block*, then its value will remain unchanged.

Execution of this command, whether successful or denied, is recorded in the Security log.

The **ED-ASAP-PROF** command generates a **REPT DBCHG** message containing the changes made to that profile.

INPUT PARAMETERS

The input parameters are described in the table that follows.

Table 2. ED-ASAP-PROF Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>pftype</i>	Profile Type. This parameter indicates the type of ASAP profile and may have one of the following values: ■ 1+1_BIDIR Bidirectional 1+1 ■ 1+1_OPTM Optimized 1+1 ■ BLSR Bidirectional Line Switched Ring ■ DATA DATA ■ DS1 DS1 ■ DS3 DS3 ■ E1 E1 ■ EC1 EC1 ■ EQPT Equipment ■ FELAN FE LAN ■ GELAN GE LAN ■ LAG Link Aggregation ■ NVM NVM ■ OCN OC-n Lines ■ OCH OCH Channels ■ ODUk ODUk Tributary ■ OTS OTS Port ■ OTUk OTUk Port ■ SOCKET Sockets

Table 2. ED - ASAP - PROF Input Parameters (cont 2 of 2)

Parameter Name	Description
	■ STSN STSn paths ■ SUBSHELF Subshelf ■ SYSTEM System ■ SYNCN External Timing Reference ■ VC VC-12 paths ■ VCG VCG ■ VCGSTS VCG-STS Trib ■ VCGVT VCG- VT1.5 Trib ■ VT1 VT1.5
<i>pfname</i>	Profile Name. This parameter indicates the name of the ASAP profile. This is an alphanumeric character string (including the hyphen) with a maximum of 24 characters. The first character must be a letter. The characters are case insensitive.
<i>spec_block</i>	Specific Block. The <i>spec_block</i> parameters are described in the following table.

Table 2-64. ED-ASAP-PROF Input *spec_block* Parameters (cont 1 of 14)

<i>pftype</i>	Parameter Name	Descriptions of Spec Block Parameters	Initial ^a										
Any <i>pftype</i>	<i>newname</i>	The <i>newname</i> parameter is used to change the name of a profile. The profile that will have its name changed is identified by the input parameters <i>pftype</i>, <i>pfname</i>. Specifying a value for the <i>newname</i> parameter causes <i>pfname</i> = <i>newname</i>. The name of the default profile cannot be changed. <i>newname</i> cannot be DEFAULT. The <i>newname</i> parameter is only allowed when no alarm severity levels are changed. To change alarm severity levels, do not populate the <i>newname</i> parameter.											
	For each of the parameters listed below, the valid values are: <table><tr><td>ⓄCR</td><td>Critical</td></tr><tr><td>ⓄMJ</td><td>Major</td></tr><tr><td>ⓄMN</td><td>Minor</td></tr></table> The following values are also valid for parameters which are not part of the NVM <i>pftype</i>: <table><tr><td>ⓄNA</td><td>Not Alarmed</td></tr><tr><td>ⓄNR</td><td>Not Reported</td></tr></table> The NSA alarm severity level must be lower than or equal to the SA alarm severity level.		ⓄCR	Critical	ⓄMJ	Major	ⓄMN	Minor	ⓄNA	Not Alarmed	ⓄNR	Not Reported	
ⓄCR	Critical												
ⓄMJ	Major												
ⓄMN	Minor												
ⓄNA	Not Alarmed												
ⓄNR	Not Reported												
1+1_BIDIR	<i>bidir_apsb</i>	Protection switching byte failure	MJ										
	<i>bidir_apscm</i>	Protection switching channel match failure	MJ										
	<i>bidir_apsmm</i>	Automatic protection switch mode mis-match	MJ										
	<i>bidir_apsfepl</i>	Far-end protection line failure	MJ										

Table 2-64. ED-ASAP-PROF Input *spec_block* Parameters (cont 2 of 14)

<i>pftype</i>	Parameter Name	Descriptions of Spec Block Parameters	Initial ^a
1+1_OPTM	<i>optm_apsb</i>	Protection Switching Byte Failure	MJ
	<i>optm_apscm</i>	Protection switching channel match failure	MJ
	<i>optm_apsmm</i>	Automatic protection switch mode mismatch	MJ
	<i>optm_apspsm</i>	Automatic protection switch primary section mismatch	MJ
	<i>optm_apsuc</i>	Automatic protection switch unused codes	MJ
	<i>optm_apsut</i>	Automatic protection switch unresolved transient codes	MJ
BLSR	<i>blsr_cperr</i>	Circuit Provisioning Error	MN
	<i>blsr_dkbytes</i>	Default K-bytes	MJ
	<i>blsr_dprn</i>	Duplicate Ring Node	MJ
	<i>blsr_imaps</i>	Improper APS Codes	MJ
	<i>blsr_inaps</i>	Inconsistent APS Codes	MJ
	<i>blsr_inrpm</i>	Inconsistent Ring Prot Mode	MJ
	<i>blsr_nidm</i>	Node ID Mismatch	MJ
	<i>blsr_nut_inxgrn</i>	NUT Inconsistent XC Granularity	MN
	<i>blsr_pif</i>	Path Integrity Failure	MJ
	<i>blsr_rcvs</i>	Ring Ckt Validation Suspended	MN
	<i>blsr_rcf</i>	Ring Comm Failure	MN
	<i>blsr_rinc</i>	Ring Incomplete	MJ
	<i>blsr_rpss</i>	Ring Prot Switching Suspended	MJ
	<i>blsr_sdu</i>	Squelch Data Unavailable	MN
	<i>blsr_smi</i>	Squelch Map Inconsistent	MN
DATA	<i>sa_dataalos</i>	inc. LOS	CR
	<i>sa_datalsync</i>	inc. Loss of Synch	CR
	<i>nsa_dataalos</i>	inc. LOS	MN
	<i>nsa_datalsync</i>	inc. Loss of Synch	MN
	<i>sa_als</i>	AUTO link shutdown	NA

Table 2-64. ED-ASAP-PROF Input *spec_block* Parameters (cont 3 of 14)

<i>pftype</i>	Parameter Name	Descriptions of Spec Block Parameters	Initial ^a
DS1	<i>sa_ds1los</i>	inc. (from DSX) DS1 LOS	NA
	<i>nsa_ds1los</i>	inc. (from DSX) DS1 LOS	NA
	<i>sa_ds1lof</i>	inc. (from DSX) DS1 LOF	NA
	<i>nsa_ds1lof</i>	inc. (from DSX) DS1 LOF	NA
	<i>sa_ds1ais</i>	inc. (from DSX) DS1 AIS	NA
	<i>nsa_ds1ais</i>	inc. (from DSX) DS1 AIS	NA
	<i>sa_ds1ber</i>	inc. (from DSX) DS1 sig. failed	NA
	<i>nsa_ds1ber</i>	inc. (from DSX) DS1 sig. failed	NA
	<i>ds1rai</i>	inc. (from DSX) DS1 RAI	NA
	<i>nsa_ds1protn</i>	PROTN DS1 Port Failure	NA
	The above alarm is only part of this ASAP in Release 7.0.		
	<i>egress_ds1lof</i>	inc. (from fiber) DS1 LOF	NA
	<i>egress_ds1ais</i>	inc. (from fiber) DS1 AIS	NA
	<i>egress_ds1rai</i>	inc. (from fiber) DS1 RAI	NA

Table 2-64. ED-ASAP-PROF Input *spec_block* Parameters (cont 4 of 14)

<i>pftype</i>	Parameter Name	Descriptions of Spec Block Parameters	Initial ^a
DS3	<i>sa_ds3los</i>	inc. (from DSX) DS3 LOS	CR
	<i>nsa_ds3los</i>	inc. (from DSX) DS3 LOS	CR
	<i>sa_ds3lof</i>	inc. (from DSX) DS3 LOF	CR
	<i>nsa_ds3lof</i>	inc. (from DSX) DS3 LOF	CR
	<i>sa_ds3ais</i>	inc. (from DSX) DS3 AIS	CR
	<i>nsa_ds3ais</i>	inc. (from DSX) DS3 AIS	CR
	<i>sa_ds3ber</i>	inc. (from DSX) DS3 sig. failed	CR
	<i>nsa_ds3ber</i>	inc. (from DSX) DS3 sig. failed	CR
	<i>sa_ds3idle</i>	inc. (from DSX) DS3 IDLE	CR
	<i>nsa_ds3idle</i>	inc. (from DSX) DS3 IDLE	CR
	<i>sa_ds3cmm</i>	inc. DS3 Cbit Mismatch	CR
	<i>nsa_ds3cmm</i>	inc. DS3 Cbit Mismatch	CR
	<i>ds3rai</i>	inc. (from DSX) DS3 RAI	NA
	<i>egress_ds3lof</i>	inc. (from fiber) DS3 LOF	NA
	<i>egress_ds3ais</i>	inc. (from fiber) DS3 AIS	NA
	<i>egress_ds3rai</i>	inc. (from fiber) DS3 RAI	NA
	<i>nsa_ds3protn</i>	PROTN DS3 Port Failure	NA

Table 2-64. ED-ASAP-PROF Input *spec_block* Parameters (cont 5 of 14)

<i>pftype</i>	Parameter Name	Descriptions of Spec Block Parameters	Initial ^a
E1	sa_e1los	inc. (from DSX) E1 LOS	NA
	nsa_e1los	inc. (from DSX) E1 LOS	NA
	sa_e1lof	inc. (from DSX) E1 LOF	NA
	nsa_e1lof	inc. (from DSX) E1 LOF	NA
	sa_e1ais	inc. (from DSX) E1 AIS	NA
	nsa_e1ais	inc. (from DSX) E1 AIS	NA
	sa_e1ber	inc. (from DSX) E1 sig. failed	NA
	nsa_e1ber	inc. (from DSX) E1 sig. failed	NA
	e1crcmm	incoming CRC-4 MFA mismatch	NA
	nsa_e1protn	PROTN E1 Port Failure	NA
	The above alarm is only part of this ASAP in Release 7.0.		
EC1	sa_ec1los	inc. EC1 LOS	CR
	nsa_ec1los	inc. EC1 LOS	CR
	sa_ec1lof	inc. EC1 LOF	CR
	nsa_ec1lof	inc. EC1 LOF	CR
	sa_ec1aisl	inc. EC1 line AIS	CR
	nsa_ec1aisl	inc. EC1 line AIS	CR
	nsa_ec1rfil	inc. EC-1 RFI-L	NA
	The above default alarm severity level changes as indicated below, beginning in Release 7.1.		
	nsa_ec1rfil	inc. EC-1 RFI-L	NR
	sa_ec1sdl	inc. EC1 sig. degrade (BER)	CR
	nsa_ec1sdl	inc. EC1 sig. degrade (BER)	CR
	sa_ec1sfl	inc. EC1 sig. failed (BER)	CR
	nsa_ec1sfl	inc. EC1 sig. failed (BER)	CR
	sa_tims	inc. EC1 section trace identifier mismatch	MJ
	nsa_tims	inc. EC1 section trace identifier mismatch	MN

Table 2-64. ED-ASAP-PROF Input *spec_block* Parameters (cont 6 of 14)

<i>pftype</i>	Parameter Name	Descriptions of Spec Block Parameters	Initial ^a
	<i>nsa_timsd</i>	inc. EC1 section trace identifier mismatch, diagnostic	MN
	<i>nsa_ec1protn</i>	PROTN EC1 Port Failure	NA
EQPT	<i>sa_cprm</i>	CP removed or CP failure	CR
	<i>nsa_cprm</i>	CP removed or CP failure	MN
	<i>sa_cpna-eq</i>	CP not allowed - eqpt	CR
	Beginning in Release 7.0, the above alarm will not be part of this ASAP.		
	<i>nsa_cpna-eq</i>	CP not allowed - eqpt	MN
	<i>sa_cpna-crs</i>	CP not allowed - crs	CR
	Beginning in Release 7.0, the above alarm will not be part of this ASAP.		
	<i>nsa_cpna-crs</i>	CP not allowed - crs	MN
	<i>sa_cpfail</i>	Entity ^b Failed	CR
	<i>nsa_cpfail</i>	Entity ^b Failed	MN
	<i>sa_illegcp</i>	Illegal CP type	CR
	Beginning in Release 7.0, the above alarm will not be part of this ASAP.		
	<i>nsa_illegcp</i>	Illegal CP type	MN
	<i>incompatcp</i>	Incompatible CP version	MN
	<i>sa_unexpcp</i>	unexpected CP type	CR
	<i>nsa_unexpcp</i>	unexpected CP type	MN
	<i>versionmm</i>	version mismatch	MN
	<i>nsa_protnflt</i>	Protection CP Input fault	MN
	<i>sa_npadt</i>	NP audit failed	CR
	<i>nsa_npadt</i>	NP audit failed	MN
	<i>sa_segadtin</i>	Segment audit failed LAN in	CR
	<i>sa_segadtout</i>	Segment audit failed LAN out	MN
	<i>fdicontrib</i>	CP contributing to a pack failure	NA
FELAN	<i>sa_felos</i>	inc. FE-LAN LOS	CR
	<i>sa_feanm</i>	inc. FE-LAN ANM	CR

Table 2-64. ED-ASAP-PROF Input *spec_block* Parameters (cont 7 of 14)

<i>pftype</i>	Parameter Name	Descriptions of Spec Block Parameters	Initial ^a
	<i>sa_femncd</i>	Member not Collecting/Distributing	NA
	<i>sa_fefefi</i>	inc. FE-LAN FEFI	NR
	<i>sa_fesegadtin</i>	Segment audit failed LAN in	CR
	<i>sa_fesegadtout</i>	Segment audit failed LAN out	CR
	<i>sa_stpautolock</i>	STP autolock port disable	MJ
	<i>sa_als</i>	AUTO link shutdown	NA
	<i>nsa_emsd</i>	Exceeded MTU size drop	MN
	<i>sa_erp_wd</i>	ERP - PDU WatchDog Timeout	MJ
	<i>sa_erp_mo</i>	ERP - Multiple RPL Owners	MJ
GELAN	<i>sa_gelos</i>	inc. GE-LAN LOS	CR
	<i>sa_geecv</i>	ECV - excessive code violation	MN
	<i>sa_geanm</i>	inc. GE-LAN ANM	CR
	<i>sa_gemncd</i>	Member not Collecting/Distributing	NA
	<i>nsa_gelos</i>	inc. GE-LAN LOS	MN
	<i>sa_gelsync</i>	inc. Loss of Synch	CR
	<i>nsa_gelsync</i>	inc. Loss of Synch	MN
	<i>nsa_geanm</i>	inc. GE-LAN ANM	MN
	<i>sa_gesegadtin</i>	Segment audit failed LAN in	CR
	<i>sa_gesegadtout</i>	Segment audit failed LAN out	CR
	<i>sa_stpautolock</i>	STP autolock port disable	MJ
	<i>sa_als</i>	AUTO link shutdown	NA
	<i>nsa_emsd</i>	Exceeded MTU size drop	MN
	<i>sa_erp_wd</i>	ERP - PDU WatchDog Timeout	MJ
	<i>sa_erp_mo</i>	ERP - Multiple RPL Owners	MJ
LAG	<i>sa_lagpll</i>	inc. LAG Partial Link Loss	MN
	<i>sa_lagtl</i>	inc. LAG Total Link Loss	CR
	<i>sa_lagplcf</i>	inc. LAG PLCF	NR

Table 2-64. ED-ASAP-PROF Input *spec_block* Parameters (cont 8 of 14)

<i>pftype</i>	Parameter Name	Descriptions of Spec Block Parameters	Initial ^a
	The above default alarm severity level changes as indicated below, beginning in Release 7.1.1.		
	<i>sa_lagplcf</i>	inc. LAG PLCF	NA
	<i>sa_stpautolock</i>	STP autolock port disable	MJ
NVM	<i>nvmfail</i>	NVM failed	CR
	<i>nvmrmv</i>	NVM removed or NVM failed	CR
OCN	<i>sa_los</i>	inc. OCN LOS	CR
	<i>nsa_los</i>	inc. OCN LOS	MN
	<i>sa_lof</i>	inc. OCN LOF	CR
	<i>nsa_lof</i>	inc. OCN LOF	MN
	<i>sa_aisl</i>	inc. OCN line AIS	CR
	<i>nsa_aisl</i>	inc. OCN line AIS	NA
	<i>nsa_rfil</i>	inc. OCN RFI-L	NA
	The above default alarm severity level changes as indicated below, beginning in Release 7.1.		
	<i>nsa_rfil</i>	inc. OCN RFI-L	NR
	<i>sa_sdl</i>	inc. OCN sig. degrade (BER)	CR
	<i>nsa_sdl</i>	inc. OCN sig. degrade (BER)	MN
	<i>sa_sfl</i>	inc. OCN sig. failed (BER)	CR
	<i>nsa_sfl</i>	inc. OCN sig. failed (BER)	MN
	<i>incdcc</i>	inconsistent DCC values	MJ
	<i>nbsyscpun</i>	neighbor SYSCTL CP unavailable	MJ
	<i>dccsectfail</i>	section DCC channel failed	MN
	<i>sa_tims</i>	inc. OCN section trace identifier mismatch	MJ
	<i>nsa_tims</i>	inc. OCN section trace identifier mismatch	MN
	<i>nsa_timsd</i>	inc. OCN section trace identifier mismatch, diagnostic	MN
	<i>nsa_dccfl</i>	line DCC channel failed	MN

Table 2-64. ED-ASAP-PROF Input *spec_block* Parameters (cont 9 of 14)

<i>pftype</i>	Parameter Name	Descriptions of Spec Block Parameters	Initial ^a
	<i>sigpeer</i>	ENNI signaling communications failure with peer	MN
	<i>line_ool_prot^c</i>	inc. line sync. ref. OOL	MN
	<i>line_ool_unprot^c</i>	inc. line sync. ref. OOL	MN
OCH	<i>sa_losp_mux</i>	inc. MUX OCH LOS-P	CR
ODUk	<i>sa_deg</i>	inc. ODUk DEG	CR
	<i>nsa_deg</i>	inc. ODUk DEG	MN
	<i>sa_lck</i>	inc. ODUk LCK	CR
	<i>nsa_lck</i>	inc. ODUk LCK	MN
	<i>sa_oci</i>	inc. ODUk OCI	CR
	<i>nsa_oci</i>	inc. ODUk OCI	MN
	<i>sa_ssf</i>	inc. ODUk SSF	CR
	<i>nsa_ssf</i>	inc. ODUk SSF	MN
	<i>nsa_bdi</i>	inc. ODUk BDI	NA
OTS	<i>sa_losp</i>	inc. OTS LOS-P	CR
	<i>nsa_losp</i>	inc. OTS LOS-P	MN
OTUK	<i>sa_losp</i>	inc. OTUK LOS-P	CR
	<i>nsa_losp</i>	inc. OTUK LOS-P	MN
	<i>sa_deg</i>	inc. OTUK DEG	CR
	<i>nsa_deg</i>	inc. OTUK DEG	MN
	<i>sa_lof</i>	inc. OTUK LOF	CR
	<i>nsa_lof</i>	inc. OTUK LOF	MN
	<i>sa_lom</i>	inc. OTUK LOM	CR
	<i>nsa_lom</i>	inc. OTUK LOM	MN
	<i>sa_ssf</i>	inc. OTUK SSF	CR
	<i>nsa_ssf</i>	inc. OTUK SSF	MN
	<i>nsa_bdi</i>	inc. OTUK BDI	NA

Table 2-64. ED-ASAP-PROF Input *spec_block* Parameters (cont 10 of 14)

<i>pftype</i>	Parameter Name	Descriptions of Spec Block Parameters	Initial ^a
SOCKET	<i>sa_sktfail</i>	unexpected or failed Pluggable Transmission Module	CR
	<i>nsa_sktfail</i>	unexpected or failed Pluggable Transmission Module	MN
	<i>sa_sktrmv</i>	Pluggable Transmission Module Removed	CR
	<i>nsa_sktrmv</i>	Pluggable Transmission Module Removed	MN
	<i>sa_sktmaxrate</i>	Pluggable Transmission Module insufficient maximum rate	CR
	<i>nsa_sktmaxrate</i>	Pluggable Transmission Module insufficient maximum rate	MN
STSN	<i>sa_lopp</i>	inc. STSN LOP	CR
	<i>nsa_lopp</i>	inc. STSN LOP	MN
	<i>sa_aisp</i>	inc. STSN AIS	CR
	<i>nsa_aisp</i>	inc. STSN AIS	MN
	<i>sa_uneqp</i>	inc. STSN unequipped	CR
	<i>nsa_uneqp</i>	inc. STSN unequipped	MN
	<i>sa_sdp</i>	inc. STSN sig. degrade (BER)	CR
	<i>nsa_sdp</i>	inc. STSN sig. degrade (BER)	MN
	<i>sa_sfp</i>	inc. STSN sig. failed (BER)	CR
	<i>nsa_sfp</i>	inc. STSN sig. failed (BER)	MN
	<i>nsa_rfip</i>	inc. STSN RFI-P	NA
	The above default alarm severity level changes as indicated below, beginning in Release 7.1.		
	<i>nsa_rfip</i>	inc. STSN RFI-P	NR
SUBSHELF	<i>nsa_comfail</i>	Subshelf Communication Failure	MJ
	<i>nsa_init_ip</i>	Subshelf initialization IP	NA

Table 2-64. ED-ASAP-PROF Input *spec_block* Parameters (cont 11 of 14)

<i>pftype</i>	Parameter Name	Descriptions of Spec Block Parameters	Initial ^a
SYSTEM	<i>agne</i>	AGNE communication failure	MJ
	<i>nsapcovr</i>	NSAP count in L1 overflowed	MJ
	<i>nsapcthrshl</i>	NSAP count in L1 threshold crossed	MN
	<i>pwrfail</i>	Power/Fuse Failure	MN
	<i>sysgencrpt</i>	SYS generic corrupted	MJ
	Beginning in Release 7.0, the above alarm will not be part of this ASAP.		
	<i>invdb</i>	Invalid Database	MN
	Beginning in Release 7.0, the above alarm will not be part of this ASAP.		
	<i>mtpdb</i>	Multiple Databases	MN
	Beginning in Release 7.0, the above alarm will not be part of this ASAP.		
	<i>mtpgen</i>	Multiple Generics	MN
	Beginning in Release 7.0, the above alarm will not be part of this ASAP.		
	<i>syncexhldvr</i>	excessive holdover	MN

Table 2-64. ED-ASAP-PROF Input *spec_block* Parameters (cont 12 of 14)

<i>pftype</i>	Parameter Name	Descriptions of Spec Block Parameters	Initial ^a
SYNCN	<i>sync_los_prot</i>	inc. SRC ^d sync. ref. LOS	MN
	<i>sync_lof_prot</i>	inc. SRC ^d sync. ref. LOF	MN
	<i>sync_oof_prot</i>	inc. SRC ^d sync. ref. OOL	MN
	<i>sync_ais_prot</i>	inc. SRC ^d sync. ref. AIS	MN
	<i>sync_ber_prot</i>	inc. SRC ^d sync. ref. BER	MN
	<i>sync_eoof_prot</i>	inc. SRC ^d sync. ref. EOOF	MN
	<i>sync_los_unprot</i>	inc. SRC ^d sync. ref. LOS	MJ
	<i>sync_lof_unprot</i>	inc. SRC ^d sync. ref. LOF	MJ
	<i>sync_oof_unprot</i>	inc. SRC ^d sync. ref. OOL	MJ
	<i>sync_ais_unprot</i>	inc. SRC ^d sync. ref. AIS	MJ
	<i>sync_ber_unprot</i>	inc. SRC ^d sync. ref. BER	MJ
	<i>sync_eoof_unprot</i>	inc. SRC ^d sync. ref. EOOF	MJ
	<i>sync_inhsw</i>	inhibit switch	MN
	<i>sync_crcmm_prot</i>	inc. SRC ^d sync. ref. CRC-4 MFA mis-match	MN
	<i>sync_crcmm_unprot</i>	inc. SRC ^d sync. ref. CRC-4 MFA mis-match	MJ
VC	<i>sa_tulop</i>	inc. VC TU-LOP	MJ
	<i>sa_tuais</i>	inc. VC TU-AIS	MJ
	<i>nsa_lprfi</i>	inc. VC LP-RFI	NA
	The above default alarm severity level changes as indicated below, beginning in Release 7.1.		
	<i>nsa_lprfi</i>	inc. VC LP-RFI	NR
	<i>sa_vcuneq</i>	inc. VC unequipped	MJ

Table 2-64. ED-ASAP-PROF Input *spec_block* Parameters (cont 13 of 14)

<i>pftype</i>	Parameter Name	Descriptions of Spec Block Parameters	Initial ^a
VCG	<i>sa_vcgsf</i>	inc. VCG failed	CR
	<i>sa_lopc</i>	VCG Loss of Partial Capacity	MN
	<i>sa_fopr</i>	VCG Failure of LCAS Protocol (Sink)	MN
	<i>sa_fopt</i>	VCG Failure of LCAS Protocol (Source)	MN
	<i>sa_rcf</i>	Remote client signal failed	NA
	<i>sa_segadtin</i>	Segment audit failed VCG in	CR
	<i>sa_segadtout</i>	Segment audit failed VCG out	CR
	<i>nsa_vcgsf</i>	inc. VCG failed	MN
	<i>nsa_lopc</i>	VCG Loss of Partial Capacity	MN
	<i>nsa_fopr</i>	VCG Failure of LCAS Protocol (Sink)	MN
	<i>nsa_fopt</i>	VCG Failure of LCAS Protocol (Source)	MN
	<i>nsa_segadtin</i>	Segment audit failed VCG in	MN
	<i>nsa_segadtout</i>	Segment audit failed VCG out	MN
	<i>sa_stpautolock</i>	STP autolock port disable	MJ
	<i>nsa_stpautolock</i>	STP autolock port disable	MN
	<i>nsa_emsd</i>	Exceeded MTU size drop	MN
	<i>sa_erp_wd</i>	ERP - PDU WatchDog Timeout	MJ
	<i>sa_erp_mo</i>	ERP - Multiple RPL Owners	MJ
VCGSTS	<i>stsmsul</i>	Member Signal Unacceptable - LCAS	MN
	Beginning in Release 7.1, the above probable cause is renamed to sa_stsmsul as shown below:		
	<i>sa_stsmsul</i>	Member Signal Unacceptable - LCAS	MN
	<i>nsa_stsmsul</i>	Member Signal Unacceptable - LCAS	MN
VCGVT	<i>vtmsul</i>	Member Signal Unacceptable - LCAS	MN

Table 2-64. ED-ASAP-PROF Input *spec_block* Parameters (cont 14 of 14)

<i>pftype</i>	Parameter Name	Descriptions of Spec Block Parameters	Initial ^a
VT1	<i>sa_lopv</i>	inc. VT LOP	MJ
	<i>nsa_lopv</i>	inc. VT LOP	MN
	<i>sa_aiv</i>	inc. VT AIS	MJ
	<i>nsa_aiv</i>	inc. VT AIS	MN
	<i>sa_uneqv</i>	inc. VT unequipped	MJ
	<i>nsa_uneqv</i>	inc. VT unequipped	MN
	<i>sa_sdv</i>	inc. VT sig. degrade (BER)	MJ
	<i>nsa_sdv</i>	inc. VT sig. degrade (BER)	MN
	<i>nsa_rfiv</i>	inc. VT RFI-V	NA
	The above default alarm severity level changes as indicated below, beginning in Release 7.1.		
	<i>nsa_rfiv</i>	inc. VT RFI-V	NR

- a. These are the System default values.
b. See "Table 3: Entity Failed" for a list of entities.
c. In Release 9.0, line_ool_prot applies to the standby line timing reference and line_ool_unprot applies to the active line timing reference.
d. See "Table 4: External Timing Reference" for supported References

Entity Failed
DATA CP
DS1 CP
DS1E1 CP
DS3EC1 CP
FE-LAN CP
GE-LAN CP
MUXPONDER CP
OLIU CP

Table 3. Entity Failed

Entity Failed
OMD CP
SWITCH CP
SYSCTL CP
TMUX CP

Table 3. Entity Failed

External Timing Reference SRC
DS1
E1

Table 4. External Timing Reference SRC

OUTPUT FORMAT

If the network element fully complies with the **ED-ASAP-PROF** command, then the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to the **ED-ASAP-PROF** command.

EXAMPLE INPUT/OUTPUT

The following example changes the name of an **EQPT** profile named NEW-YORK to BOSTON:

```
ED-ASAP-PROF:LT-123::123456::EQPT,NEW-YORK:NEWNAME=BOSTON;  
LT-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example modifies an **OCN** profile that is named SAM:

```
ED-ASAP-PROF:LT-123::123456::OCN,SAM:sa_los=MJ,sa_lof=MJ,sa_sdl=MJ;  
LT-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example changes the value of the **OCH** default profile probable cause: sa_losp_mux alarm security level from CR to MJ:

```
ED-ASAP-PROF:LT-123::123456::OCH,DEFAULT:sa_losp_mux=MJ;  
LT-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there also pertain to the **ED-ASAP-PROF** command. The following additional error response(s) are applicable:

The following conditions will cause an IDNV error response:

- The *pfname* parameter specified is not valid.

- A ***pfname*** does not exist for a correctly specified ***pftype***

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid pfname */
;
```

The following condition will cause an IDNV error response:

- The ***pftype*** parameter specified is not valid.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid pftype */
;
```

The following condition will cause an IDNV error response:

- The ***newname*** parameter is specified with a ***pfname*** of Default.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, cannot change Default */
;
```

The following list identifies conditions that will cause an IDNV error response:

- An ASAP parameter value has severity level inconsistency (for example, the nonservice-affecting value of a parameter is CR and the service-affecting value is MJ).

```
sid date time
M ctag DENY
  IDNV
/* Input, Data, Not Valid, SA alarms must be equal or higher severity
level than NSA alarms */
;
```

The following list identifies conditions that will cause an IDNV error response:

- A SYNCN ASAP parameter value has severity level inconsistency (for example, the protected value of a parameter is CR and the unprotected value is MJ).

```
sid date time
M ctag DENY
  IDNV
/* Input, Data, Not Valid, unprotected alarms must be equal or higher
severity level than protected alarms */
;
```

The following condition will cause an IDNV error response:

- The **newname** parameter is specified with a **pfname** that already exists for that **pftype**.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, duplicate pfname */
;
```

The following condition will cause an IDNV error response:

■ The NE receives an **ED-ASAP-PROF** command with invalid parameters, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, parameters not valid */
;
```

The following condition will cause an IDNV error response:

■ The NE receives an **ED-ASAP-PROF** command with an invalid alarm level, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid alarm level */
;
```

RELATED TL1 MESSAGES

DLT-ASAP-PROF

ENT-ASAP-PROF

ENT-ASAP-ASGNMT

INIT-ASAP-PROF

RTRV-ASAP-ASGNMT

RTRV-ASAP-PROF

NAME

ED-CRS: Edit Cross Connect

The **ED-CRS** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-CRS-*modifier:tid:src_aid,dest_aid:ctag::spec_block;*

Beginning in Release 6.0, the following input format is applicable.

ED-CRS-*modifier:tid:src_aid,dest_aid:ctag::[cct,[src2_aid]]
:spec_block;*

DESCRIPTION

The **ED-CRS-rr** command can be initiated by a user to modify the source and destination Target Identifiers (TIDs) of existing cross-connections in the network element (NE).

Beginning in Release 3.1 the **ED-CRS-rr** command, when used to modify the source TID (**loca**) and/or destination TID (**locz**) of an existing cross-connection, is applied on a per-direction basis. This can result in the splitting of a single 2-way cross-connection into two 1-way cross-connections, or the combining of two 1-way cross-connections into a single 2-way cross-connection.

The **ED-CRS-rr** command can be initiated by a user to modify the circuit ID parameter of an existing cross-connection.

Beginning in Release 3.1 the **ED-CRS-rr** command, when used to modify the circuit ID (**circuitid**) of an existing cross-connection, is applied on a per-direction basis. This can result in the splitting of a single 2-way cross-connection into two 1-way cross-connections or the combining of two 1-way cross-connections into a single 2-way cross-connection.

Because MLTPT cross-connections are by definition 2-way cross-connections, any modification of the circuit ID parameter (**circuitid**) of a MLTPT cross-connection will be applied to the entire (2-way) cross-connection.

Beginning in Release 6.0, multipoint cross-connections are provisioned as 1WAY UNSWITCHED cross-connections. Consequently, any modification of the circuit ID parameter (*circuitid*) of a multipoint cross-connection is applied only to the specified (1WAY UNSWITCHED) cross-connection.

Beginning in Release 4.0 the **ED-CRS-rr** command, when used to modify the source TID (*vtloca*) and/or destination TID (*vtlocz*) of an existing VT cross-connection, is applied on a per-direction basis. This can result in the splitting of a single 2-way cross-connection into two 1-way cross-connections, or the combining of two 1-way cross-connections into a single 2-way cross-connection.

Beginning in Release 4.0 the **ED-CRS-rr** command, when used to modify the *vtacc* parameter of an existing STS1 BLSR pass-through cross-connection, is applied on a per-direction basis. This can result in the splitting of a single 2-way cross-connection into two 1-way cross-connections, or the combining of two 1-way cross-connections into a single 2-way cross-connection.

Because the **ED-CRS-rr** command operates on a single direction of transmission, the command must be executed twice to change a given attribute for both directions of a 2WAYPR cross-connection.

Beginning in Release 6.0, support for **2WAYPR** cross-connections is discontinued. 2-way connectivity is achieved by provisioning multiple 1-way cross-connections using logical ring channel aids. (Logical ring channels aids are defined in Appendix A - AID Tables.) As a result, modifications to existing 1-way cross-connections do not result in the splitting of a single 2-way cross-connection into two 1-way cross-connections, or the combining of two 1-way cross-connections into a single 2-way cross-connection.

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-CRS** command generates a **REPT DBCHG** message.

In response to the **ED-CRS-rr** command to modify a *circuitid* parameter of a **MLTPT** cross connection, the NE issues two **REPT DBCHG** messages, one for the modified channel on each affected VCG.

Beginning in Release 6.0, multipoint cross-connections are provisioned as 1WAY UNSWITCHED cross-connections. Consequently, in response to an **ED-CRS-rr** command to modify a *circuitid* parameter of a multipoint cross connection, the NE issues one **REPT DBCHG** message for the specified cross-connection.

In systems supporting 1-way cross-connections, if the execution of the **ED-CRS-rr** command results in the splitting of a single 2-way cross connection into two 1-way cross-connections, the NE issues the following **REPT DBCHG** messages in the order indicated.

1. The NE issues a **REPT DBCHG** message, with *ccb*=DLT-CRS-rr, for deletion of the original 2-way cross connection.
2. The NE issues a separate **REPT DBCHG** message, with *ccb*=ENT-CRS-rr, for the creation of each of the resultant 1-way cross connections.

In systems supporting 1-way cross-connections, if the execution of the **ED-CRS-rr** command results in the combining of two 1-way cross-connections into a single 2-way cross connection the NE issues the following **REPT DBCHG** messages in the order indicated.

1. The NE issues a separate **REPT DBCHG** message, with *ccb*=DLT-CRS-rr, for deletion of each of the 1-way cross connections.
2. The NE issues a **REPT DBCHG** message, with *ccb*=ENT-CRS-rr, for the creation of the resultant 2-way cross connection.

Beginning in Release 6.0, support for **2WAYPR** cross-connections is discontinued. Consequently, in response to the **ED-CRS-rr** command to modify a **1WAY** or **1WAYPR** cross connection, the NE only issues a single **REPT DBCHG** message for the modified cross-connection.

In response to the **ED-CRS-rr** command to modify the *loca* parameter of an STS1 associated with a **VT1** BLSR cross connection, the NE issues a separate **REPT DBCHG**, with *ccb*=ED-CRS-rr, for each VT1 cross-connection which is carrying traffic dropped from that STS1.

In response to the **ED-CRS-rr** command to modify the *locz* parameter of an STS1 associated with a **VT1** BLSR cross connection, the NE issues a separate **REPT DBCHG**, with *ccb*=ED-CRS-rr, for each VT1 cross-connection which is carrying traffic added to that STS1.

INPUT PARAMETERS

Table 2-65. **ED-CRS-rr** Input Parameters (cont 1 of 3)

Parameter Name	Description
<i>modifier</i>	This is the command modifier for the ED-CRS-rr command. This required field will only have one of the following values: ■ VT1 This specifies that a VT1.5 cross-connection be modified.

Table 2-65. ED-CRS-rr Input Parameters (cont 2 of 3)

Parameter Name	Description
	■ STS1 This specifies that an STS-1 cross-connection be modified. ■ STS3c This specifies that an STS-3c cross-connection be modified. ■ STS12c This specifies that an STS-12c cross-connection be modified. ■ STS48c This specifies that an STS-48c cross-connection be modified.
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
src_aid	Source (input) Access Identifier. The src_aid is a required parameter and must address a valid channel. See Appendix A - AID Tables. Beginning in Release 6.0, src_aid identifies the input of a 1WAY cross-connection or the first input of a 1WAYPR cross-connection. ALL is not allowed in the src_aid for this command. Supported AID formats: ■ STS-n channel ■ STS-n ring channel ■ VT1.5 channel ■ VT1.5 ring channel When editing a 2-way pass-through cross-connection, a ring channel aid is required in order to indicate the direction of the connection to be edited. ■ STS-n logical ring channels ■ VT1.5 logical ring channels Beginning in Release 6.0, logical ring channel aids are used to specify the source and destination of a cross-connection. Refer to Appendix A - AID Table for a definition of logical ring channel aids.

Table 2-65. ED-CRS-rr Input Parameters (cont 3 of 3)

Parameter Name	Description				
dest_aid	Destination (output) Access Identifier. The dest_aid is a required parameter and must address a valid channel. See Appendix A - AID Tables. ALL is not allowed in the dest_aid for this command. AID Format/Rules: Same as in src_aid				
ctag	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.				
cct	Cross-connection Type. This parameter specifies the type of cross-connection to be modified and will be null, or will have one of the following values: <table> <tr> <td>1WAY (Default)</td><td>A 1-way point-to-point cross-connection between the src_aid and the dest_aid.</td></tr> <tr> <td>1WAYPR</td><td>A 1-way path-protected cross-connection with two inputs, src_aid and src2_aid, and one output, dest_aid.</td></tr> </table>	1WAY (Default)	A 1-way point-to-point cross-connection between the src_aid and the dest_aid .	1WAYPR	A 1-way path-protected cross-connection with two inputs, src_aid and src2_aid , and one output, dest_aid .
1WAY (Default)	A 1-way point-to-point cross-connection between the src_aid and the dest_aid .				
1WAYPR	A 1-way path-protected cross-connection with two inputs, src_aid and src2_aid , and one output, dest_aid .				
src2_aid	Second Source Access Identifier. See "Appendix A - AID Tables". src2_aid identifies the second input of a 1WAYPR cross-connection. It is required and supported only for 1WAYPR cross-connections. See src_aid for the list of supported AID values and formats.				
spec_block	The spec_block parameters are contained in the following table.				

Table 2-66. ED-CRS-rr Input *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description
<i>circuitid</i>	Circuit Identifier. <i>circuitid</i> is a quoted text string of up to 36 ASCII characters. The permitted character set consists of the 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language), with the following exceptions: the ; (semicolon), " (double quote), and \ (backslash) characters are not permitted within the quoted string. Setting <i>circuitid=""</i> (i.e. specifying a null string) in the command is the equivalent of deleting the <i>circuitid</i> parameter for the specified cross-connection. <i>circuitid</i> is a provisionable attribute of an STSn rate cross-connection. Beginning in Release 5.0, <i>circuitid</i> is a provisionable attribute of a VT1 rate cross-connection.
<i>loca</i>	Specifies the new <i>source tid</i> associated with <i>src_aid</i>. A non-NULL <i>loca</i> is required if the input is a tributary in a BLSR protection group. If the value is omitted, the current value is not modified. This parameter is only applicable to BLSR connections. Value(s): See <i>tid</i> in the RTRV-HDR command. <i>loca</i> is not a modifiable attribute of a MLTPT or UNSWITCHED cross-connection. Beginning in Release 6.0, <i>cct=MLTPT</i> is no longer supported. Multipoint cross-connections are provisioned as UNSWITCHED cross-connections. Modification of the <i>loca</i> value of VT1 cross-connection is applied to all VT1 cross-connections which use the specified STS1 as an input.

Table 2-66. ED-CRS-rr Input *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description				
locz	Specifies the new <i>destination tid</i> associated with dest_aid. A non-NULL locz is required if the output is a tributary in a BLSR protection group. If the value is omitted, the current value is not modified. This parameter is only applicable to BLSR connections. Value(s): See loca. locz is not a modifiable attribute of a MLTPT or UNSWITCHED cross-connection. Beginning in Release 6.0, cct=MLTPT is no longer supported. Multipoint cross-connections are provisioned as UNSWITCHED cross-connections. Modification of the locz value of VT1 cross-connection is applied to all VT1 cross-connections which use the specified STS1 as an output.				
vtacc	VT Accessed: vtacc is an attribute of a STS1 BLSR pass-through cross-connection. It specifies whether or not the STS1 transports VTs which are cross-connected at the VT1 rate at other nodes in the circuit. If the value is omitted, the current value is not modified. Values: <table> <tr> <td>YES</td> <td>VT-accessed</td> </tr> <tr> <td>NO</td> <td>Not VT-accessed</td> </tr> </table>	YES	VT-accessed	NO	Not VT-accessed
YES	VT-accessed				
NO	Not VT-accessed				
vtloca	VT loca: vtloca is the source node tid of a VT1 BLSR cross-connection. A non-Null vtloca is required for VT1 cross-connections if and only if src_aid is a VT1.5 in a BLSR protection group, subject to the following exceptions: vtloca must not be provisioned for VT1 pass-through cross-connections and VT1 UNSWITCHED cross-connections. If the value is omitted, the current value is not modified. This parameter is only applicable to VT1 BLSR connections. Values: See tid in the RTRV-HDR command.				

Table 2-66. ED-CRS-rr Input *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description
vtlocz	VT locz: vtlocz is the destination node tid of a VT1 BLSR cross-connection. A non-Null vtlocz is required for VT1 cross-connections if and only if dest_aid is a VT1.5 in a BLSR protection group, subject to the following exceptions: vtlocz must not be provisioned for 1-way VT1 cross-connections, VT1 pass-through cross-connections and VT1 UNSWITCHED cross-connections. If the value is omitted, the current value is not modified. This parameter is only applicable to VT1 BLSR connections. Values: See tid in the RTRV-HDR command. Beginning in Release 6.0, vtlocz is no longer supported as it is not required for 1-way cross-connections.
xcappl	Cross-connection Application: xcappl is provided as a means to identify the application in which the cross-connection is used. The management system can use xcappl in conjunction with xcnum to uniquely identify a set of cross-connections associated with one instance of an application. Values: 0-255 The mapping of applications to numeric values is a management system function.
xcnum	Cross-Connection Number: xcnum is provided as a means to identify the instance of the application (xcappl) in which the cross-connection is used. The management system can use xcnum in conjunction with xcappl to uniquely identify a set of cross-connections associated with one instance of an application. Values: Any 9-digit number is acceptable. The suggested format of the 9 digits is as follows: 2 digits for the slot, 2 digits for the port, 3 digits for the STS tributary and 2 digits for the VT tributary.

OUTPUT FORMAT

If the **ED-CRS-rr** request completes successfully, the following normal completion response is returned.

```
sid date time  
M ctag COMPLD  
;
```

The NE returns a normal (successful) completion response to an **ED-CRS** command if none of the value(s) of the existing cross-connection are being modified by the **ED-CRS** command.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for the **RTRV-HDR** command.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, all cross-connections must be provisioned using logical ring channel aids. Consequently, unless otherwise specified, the following examples should be considered invalid in Release 6.0.

The following example shows the successful completion of an **ED-CRS** command by the NE. The command modifies the value of the **locz** parameter of an existing **STS1** BLSR cross-connection.

```
ED-CRS-STs1:LT-DMX-789:m1-1-2,a-1-1:123456::locz=  
LT-DMX-456;  
LT-DMX-789 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example shows the successful completion of an **ED-CRS** command by the NE. The command modifies the value of the **loca** and **locz** parameters of an existing **STS1** BLSR through cross-connection.

```
ED-CRS-STs1:LT-DMX-789:m1-1-1,m2-1-1:123456:::locz=
LT-DMX-456,locz=LT-DMX-123;
LT-DMX-789 98-01-01 08:00:00
M 123456 COMPLD
;
```

The following example shows the successful completion of an **ED-CRS-rr** command by the NE. The command modifies the value of the **vtloca** parameter of an existing **VT1** BLSR cross-connection.

```
ED-CRS-VT1:LT-DMX1:m1-1-1-1-1,d-1-1-1-1:123456:::vtloca=LT-DMX2;
LT-DMX-1 03-04-24 08:00:00
M 123456 COMPLD
;
```

The following example shows the successful completion of an **ED-CRS** command by the NE. The command modifies the value of the **circuitid** parameter of an existing **STS1** add/drop cross-connection.

```
ED-CRS-STs1:LT-TID-789:m-1-1,g-1-1:123456:::circuitid="Boston to
Chicago";
LT-TID-789 98-01-01 08:00:00
M 123456 COMPLD
;
```

The following examples are valid beginning in Release 6.0.

The following example shows the successful completion of an **ED-CRS** command by the NE. The command modifies the value of the **locz** parameter of an existing **STS1** BLSR cross-connection.

```
ED-CRS-STs1:LT-DMX-789:m1-1-2,a1-1-1:123456::LOCZ=LT-DMX-456;  
LT-DMX-789 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example shows the successful completion of an **ED-CRS-rr** command by the NE. The command modifies the value of the **vtloca** parameter of an existing **VT1** BLSR cross-connection.

```
ED-CRS-VT1:LT-DMX1:m1-1-1-1-1,d1-1-1-1-1:123456::vtloca=LT-DMX2;  
LT-DMX-1 03-04-24 08:00:00  
M 123456 COMPLD  
;
```

The following example shows the successful completion of an **ED-CRS** command by the NE. The command modifies the value of the **circuitid** parameter of an existing **STS1** 1WAYPR cross-connection.

```
ED-CRS-STs1:LT-TID-789:m1-1-1,g1-1-1:123456::1WAYPR,m2-1-1:  
circuitid="Boston to Chicago";  
LT-TID-789 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the error responses in **RTRV-HDR**. The error responses listed there may also apply.

If the NE receives an **ED-CRS-rr** command for which the **loca**, the source TID, is not consistent with the following rules,

1. the source TID is NULL for an input tributary that is not on a port in a BLSR port protection group; and

2. a non-NULL source TID is a TID in the active ring map;

the command is denied, and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, loca not valid */
;
```

If the NE receives an **ED-CRS-rr** command containing a non-NULL value of the **loca** parameter to modify an existing MLTPT or UNSWITCHED cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, loca not valid */
;
```

Beginning in Release 4.0, if the NE receives an **ED-CRS-rr** command where the value of the **loca** parameter is not compliant with the following rules,

- a non-NULL **loca** parameter is permitted if the **src_aid** is a ring channel on a port in a BLSR port protection group, and the cross-connection is NOT one of the following types:
 - a multipoint cross-connection,
 - an unswitched cross-connection;
- a non-NULL **loca** parameter is a TID in the active ring map;
- the **loca** parameter is NULL if the **src_aid** is not a ring channel on a port in a BLSR port protection group;

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, loca not valid */
;
```

If the NE receives an **ED-CRS-rr** command and **locz**, the destination TID, is not consistent with the following rules,

1. the destination TID is NULL for an output tributary that is not on a port in a BLSR port protection group;
2. a non-NULL destination TID is a TID in the active ring map;

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, locz not valid */
;
```

If the NE receives an **ED-CRS-rr** command containing a non-NULL value of the **locz** parameter to modify an existing MLTPT or UNSWITCHED cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, locz not valid */
;
```

Beginning in Release 4.0, If the NE receives an **ED-CRS-rr** command where the value of the **locz** parameter is not compliant with the following rules,

- a non-NULL **locz** parameter is permitted if the **dest_aid** is a ring channel on a port in a BLSR port protection group and the cross-connection is NOT one of the following types:
 - a multipoint cross-connection,
 - an unswitched cross-connection;
- a non-NULL **locz** parameter is a TID in the active ring map;
- the **locz** parameter is NULL if the **dest_aid** is not ring channel on a port in a BLSR port protection group;

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, locz not valid */
;
```

If the NE receives an **ED-CRS-rr** command where the value of the **vtloca** parameter is not compliant with the following rules,

- a non-NULL **vtloca** parameter is permitted if and only if the **modifier=VT1** and the **src_aid** is a VT1 ring channel on a port in a BLSR port protection group, and the cross-connection is NOT one of the following types:
 - a pass-through cross-connection,
 - an unswitched cross-connection;
- a non-NULL **vtloca** parameter is a TID in the active ring map;
- the **vtloca** parameter is NULL if the **src_aid** is not a VT1 ring channel on a port in a BLSR port protection group;

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, unexpected or invalid vtloca */
;
```

If the NE receives an **ED-CRS-rr** command in which the **vtlocz** parameter is not compliant with the following rules,

- a non-NULL **vtlocz** parameter is permitted if and only if the **modifier=VT1** and the **dest_aid** is a VT1 ring channel on a port in a BLSR port protection group and the cross-connection is NOT one of the following types:
 - a pass-through cross-connection,
 - a 1-way cross-connection (**cct=1WAY** or **cct=1WAYPR**),
 - an unswitched cross-connection;
- a non-NULL **vtlocz** parameter is a TID in the active ring map;
- the **vtlocz** parameter is NULL if the **dest_aid** is not a VT1 ring channel on a port in a BLSR port protection group;

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, unexpected or invalid vtlocz */
;
```

Beginning in Release 6.0, the previous error response is discontinued, since the **vtlocz** parameter is no longer supported.

If the NE receives an **ED-CRS-rr** command where the value of the **vtacc** parameter is not compliant with the following rule,

- a non-NULL **vtacc** parameter is permitted if and only if the **modifier=STS1** and the resultant cross-connection is a BLSR pass-through cross-connection;

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, unexpected or invalid vtacc */
;
```

If the NE receives an **ED-CRS-rr** command for which the specified cross-connection does not exist, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, cross-connection does not exist */
;
```

If the NE receives an **ED-CRS-rr** command for which the **modifier** is not consistent with the rate of the specified cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IPNC
/* Input, Parameter Not Consistent, rate mismatch */
;
```

If the NE receives an otherwise valid **ED-CRS-rr** command in which a specified **aid** is not consistent with the provisioned value of the application, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, aid not consistent with
  provisioned port application */
;
```

Beginning in Release 6.0, the previous error response is discontinued.

If the NE receives an **ED-CRS-rr** command containing an invalid value of the **circuitid** parameter, the command is denied, and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid circuitid parameter value */
;
```

If the NE receives an **ED-CRS-rr** command requesting the modification of a UPSR pass-through cross-connection and the **src_aid** and/or **dest_aid** is a channel aid, the command is denied, and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, ring channel AIDs required to
  edit UPSR pass-through cross-connection */
;
```

Beginning in Release 6.0, the previous error response is discontinued.

If the NE receives an otherwise valid **ED-CRS-rr** command and the system is provisioned to be in ring upgrade mode (see **RTRV-SYS**, *nemode=RING-UPGRADE*), the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, command Not allowed in Ring Upgrade
mode */
;
```

Beginning in Release 6.0, the previous error response is replaced with the following one.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, command not allowed in Ring Upgrade
mode */
;
```

If the NE receives an **ED-CRS-rr** command containing an invalid value of the **xcappl** parameter, the command is denied, and the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid xcappl parameter value */
;
```

If the NE receives an **ED-CRS-rr** command containing an invalid value of the **xcnum** parameter, the command is denied, and the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid xcnum parameter value */
;
```

If the NE receives an **ED-CRS-rr** command without all the required AIDs or with one or more invalid AIDs, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID is missing, wrong or
  inconsistent with the modifier */
;
```

If the NE receives an otherwise valid **ED-CRS-rr** command to modify a cross connection which is used in a test access connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, existing test access connection */
;
```

If the NE receives an otherwise valid **ED-CRS-rr** command in which a specified **cct** is not consistent with the cross-connect topology of the specified (existing) cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cct not consistent with existing
  cross-connection */
;
```

If the NE receives an **ED-CRS-rr** command with an invalid **cct** value, the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid cct */
;
```

If the NE receives an **ED-CRS-rr** command in which **src2_aid** is missing or unexpected, based on the specified **cct**, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, missing or unexpected src2_aid */
;
```

RELATED TL1 MESSAGES

DLT-CRS-rr

ENT-CRS-rr

RTRV-CRS-rr

REPT DBCHG

NAME

ED-DAT: Edit Date and Time

The **ED-DAT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ED-DAT: *tid::ctag::date[, time];*

DESCRIPTION

The **ED-DAT** command can be used to change the NE's date and time.

Changing the NE's date or time may corrupt performance monitoring data collection.

The activation time of some pending (or scheduled) commands may be skipped or repeated as a result of changing the NE's date or time.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-DAT** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-67. **ED-DAT** Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-67. ED-DAT Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>date</i>	Date. This is the requested date in the following format: YY-MM-DD, where YY is the last two digits of the year ranging from 00 to 99; MM is the month of the year ranging from 01 to 12; and DD is the day of the month ranging from 01 to 31. If the parameter <i>time</i> is not specified, the current value is not changed, but <i>date</i> must be specified for the ED-DAT command to complete successfully. Prior to Release 3.1, the NE reverts back to the original date value 70-01-01 after system startup (or any subsequent system controller resets). Starting in Release 3.1, except for a power-up reset, the system will restore the current date.
<i>time</i>	Time. This is the requested time of day in the following format: HH-MM-SS, where HH is the hour in a 24-hour format ranging from 00 to 23; MM is the minute ranging from 00 to 59; and SS is the second ranging from 00 to 59. If not specified, the current time is not changed. If <i>time</i> is not specified, the current value is not changed, but <i>date</i> must be specified for the ED-DAT command to complete successfully. Prior to Release 3.1, the NE reverts back to the original time value 00:00:00 after system startup (or any subsequent system controller resets). Starting in Release 3.1, except for a power-up reset, the system will restore the current time.

OUTPUT FORMAT

If the **ED-DAT** request completes successfully, the following normal completion response is returned:

```
IP ctag
<
    sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for the **RTRV-HDR** command.

EXAMPLE INPUT/OUTPUT

```
ED-DAT:LT-TID123:123456::01-12-31,11-50-30;  
  
IP 123456  
<  
  
LT-TID123 01-12-31 11:50:41  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there may also apply to the **ED-DAT** command.

If the NE receives an **ED-DAT** command with an incorrectly formatted **date** or **time**, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid date or time specified */  
;
```

The value of DD is also checked for sanity with MM (for example, February 30 is not allowed), and for sanity with YY for MM-DD equaling 02-29 for leap years. Also, values of HH>24, MM>59, and/or SS>59 are invalid. If an error of this type occurs, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid date or time specified */  
;
```

If Network Time Protocol (NTP) feature is enabled (using **ENT-SYS** command) whereby an NE synchronizes its Date/Time with an NTP server, ED-DAT command will not be processed and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, ED-DAT cannot be executed while NTP is
enabled */
;
```

RELATED TL1 MESSAGES

RTRV-HDR

NAME

ED-DPORT: Edit Data Port

The **ED-DPORT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 5.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-DPORT -*modifier:tid:aid:ctag:::spec_block;*

DESCRIPTION

The **ED-DPORT** command modifies (edits) the properties of a Data port, used for the LNW73/LNW73C/LNW705/LNW708 circuit packs, when available.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-DPORT** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-68. **ED-DPORT** Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>modifier</i>	The command code modifier. This parameter must have one of the following values: ■ DATA This modifier is applicable to data ports on the LNW73/LNW73C circuit pack.

Table 2-68. **ED - DPORT** Input Parameters (cont 2 of 2)

Parameter Name	Description
	Starting in Release 7.1, this modifier is also applicable to data ports on the LNW705 circuit pack.
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of a data port AID. Refer to the AID Table in Appendix A for a list of valid AIDs.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and a description of this parameter.
<i>spec_block</i>	Specific Block. The <i>spec_block</i> parameters are defined in the following table.

Table 2-69. **ED - DPORT** Input ***spec_block*** Parameters (cont 1 of 7)

Parameter Name	Description				
<i>admin</i>	Port administration control. This parameter is used to enable/disable all frames to and from a port. This parameter applies to the LNW73, and LNW73C circuit packs. This parameter applies to the LNW705 circuit pack. It only applies to the LNW705 when <i>signaltype</i> is FC100, FC200, FC400, FICON or FICON_EXP (see RTRV - OTPE). <table> <tr> <td>■ ENABLE</td><td>Port enabled (initial value)</td></tr> <tr> <td>■ DISABLE</td><td>Port disabled</td></tr> </table> When port administration is DISABLE, a standing condition is generated.	■ ENABLE	Port enabled (initial value)	■ DISABLE	Port disabled
■ ENABLE	Port enabled (initial value)				
■ DISABLE	Port disabled				

Table 2-69. ED - DPORT Input *spec_block* Parameters (cont 2 of 7)

Parameter Name	Description
<i>almlvl</i>	Alarm Level. This parameter is removed beginning in Release 6.0. See ENT - ASAP - ASGNMT. This parameter sets the alarm level for an incoming signal failure, loss of sync, and may have one of the following values: ■ CR Critical Alarm (initial value) ■ MJ Major Alarm ■ MN Minor Alarm ■ NA No Alarm - A standing condition will exist instead of an alarm.
<i>epmode</i>	Data Port monitoring Mode. When a port is provisioned in the AUTO state, it will automatically transition to the in-service (IS) state upon detection on the port of a valid input. This parameter applies to the LNW73 and LNW73C circuit packs. This parameter applies to the LNW705 circuit pack. It only applies to the LNW705 pack when <i>signaltype</i> of the port is FC100, FC200, FC400, FICON or FICON_EXP (see RTRV - OTPE). <i>epmode</i> has the following values: ■ AUTO (initial value) ■ NMON Not monitored Beginning in Release 7.0 ■ IS Monitored

Table 2-69. ED - DPORT Input *spec_block* Parameters (cont 3 of 7)

Parameter Name	Description
<i>eppm</i>	Data Port PM enable. This parameter controls whether performance monitoring is enabled for the specified Data port. This parameter applies to the LNW73 and LNW73C5 circuit packs. This parameter applies to the LNW705 circuit pack. It applies to the LNW705 pack when <i>signaltype</i> is FC100, FC200, FC400, FICON or FICON_EXP (see RTRV - OTPE). <i>eppm</i> has the following values: ■ ENABLE (initial value) ■ DISABLE

Table 2-69. ED-DPORT Input *spec_block* Parameters (cont 4 of 7)

Parameter Name	Description
<i>gfptype</i>	GFP Encapsulation Type. This parameter sets the User Payload Identifier for GFP Client Frames. This parameter is valid when the LNW73 or LNW73C circuit pack is used as a Fibre channel/FICON circuit pack, that is when <i>datatype</i> is set to FC-FICON (see ED-EQPT). This parameter applies to the LNW705 pack when <i>signaltype</i> is FC100, FC200, FC400, FICON or FICON_EXP (see RTRV-OTPE). This parameter must have one of the following values: ■ FC Transparent Fibre Channel (initial value for LNW73/LNW73C). Used for synchronous full rate. For the LNW705, this parameter value is only allowed for ports that are provisioned for <i>signaltype</i> of FC100, FC200 or FC400 and this parameter value is the initial value for these <i>signaltypes</i>. ■ FICON Transparent FICON. Used for synchronous full rate. For the LNW705, this parameter value is only allowed for ports that are provisioned for <i>signaltype</i> of FICON or FICON_EXP and this parameter value is the initial value for these <i>signaltypes</i>. ■ ASYNC-FC Asynchronous Transparent Fibre Channel Used for full and sub-rate rate, supports distance extension. For the LNW705, this parameter value is not allowed.

Table 2-69. ED - DPORT Input *spec_block* Parameters (cont 5 of 7)

Parameter Name	Description
<i>Inrate</i>	Line Rate. This parameter sets the line rate of the addressed port(s). This parameter is valid when the LNW73/LNW73C circuit pack is used as a Fibre channel/FICON circuit pack, that is when <i>datatype</i> is set to FC-FICON (see RTRV - EQPT). This parameter applies to the LNW73 and LNW73C circuit packs. This parameter must have one of the following values: ■ 1G 1.0625 Gbps (initial value) ■ 2G 2.1250 Gbps 2G rate is only supported on port 1 and 3. In order to set port 1 to 2G, port 2 must not have a cross connect. In order to set port 3 to 2G, port 4 must not have a cross connect.
<i>rcf</i>	Remote Client Fail. This parameter is used to enable/disable Remote Client Fail message detection and generation. This parameter applies to the LNW73 and LNW73C circuit packs. This parameter must have one of the following values: ■ ENABLE Remote Client Fail message enabled (initial value) ■ DISABLE Remote Client Fail message disabled Starting in Release 6.0 ■ DISABLE Remote Client Fail message disabled (initial value) ■ ENABLE Remote Client Fail message enabled
<i>rcf_almlvl</i>	Remote Client Fail Alarm Level. When <i>rcf</i> is enabled, this parameter sets the alarm level for a Remote Client Fail message, and may have one of the following values: This parameter is removed beginning in Release 6.0. See ENT - ASAP - ASGNMT. ■ CR Critical Alarm ■ MJ Major Alarm

Table 2-69. ED - DPORT Input *spec_block* Parameters (cont 6 of 7)

Parameter Name	Description
	■ MN Minor Alarm ■ NA No Alarm (initial value) A standing condition will exist instead of an alarm.
<i>rcf_linkdown</i>	Remote Client Fail Link Shutdown. When <i>rcf</i> is enabled, this parameter is used to control link shut down by Remote Client Fail message reception. This parameter applies to the LNW73 and LNW73C circuit packs. This parameter must have one of the following values: ■ ENABLE Link shutdown enabled (initial value) Laser will be turned off. ■ DISABLE Link shutdown disabled
<i>tcamd</i>	TCA Monitoring Mode. This parameter specifies whether performance monitoring Threshold Crossing Alert reporting is enabled or disabled for the port, addressed by the <i>aid</i>. This parameter applies to the LNW73 and LNW73C circuit packs. This parameter applies to the LNW705 circuit pack. It only applies to the LNW705 pack when <i>signaltype</i> is FC100, FC200, FC400, FICON or FICON_EXP (see RTRV - OTPE). This parameter must have one of the following values: ■ ENABLE TCA reporting is enabled. ■ DISABLE TCA reporting is disabled (initial value)
<i>sync_ping</i>	Synchronous Ping Enable. This parameter enables WAN ping in synchronous GFP. This parameter is valid when <i>gfptype</i> is set to FC or FICON or when <i>datatype</i> is set to ESCON for the LNW73 or the LNW73C pack(see ED - EQPT). This parameter applies to the LNW73 and LNW73C circuit packs. This parameter applies to the LNW705 circuit pack. It only applies to the LNW705 pack when <i>signaltype</i> of the port is FC100, FC200, FC400, FICON or FICON_EXP (see RTRV - OTPE). <i>sync_ping</i> has the following values:

Table 2-69. ED - DPORT Input *spec_block* Parameters (cont 7 of 7)

Parameter Name	Description
	■ ENABLE Enable ping. Enabling this parameter allows the measurement of the WAN propagation delay. Delay is retrievable by <i>prop_delay</i> in RTRV-DPORT. ■ DISABLE Disable ping. (initial value)
compr	Data Compression. Starting in Release 6.0 and applicable to data ports with <i>gfptype</i> of async-FC on the LNW73C pack. This parameter is used to enable/disable data compression provisioning on a port, and may have one of the following values: ■ ENABLE Data compression provisioned as enabled. Note: the operational status of compression (compro of RTRV-DPORT) will be ENABLE only after both ends have provisioned compr to ENABLE and the VCG is operational between both ends (<i>pstat</i> of RTRV-DPORT is TRANS or PRT-LNK-INIT) ■ DISABLE Compression provisioned as disabled (initial value).

Data Alarm, and PM reporting will be as follows:

Table 2-70. RESULTING ALARMS/PM REPORTING

<i>eppm</i>	<i>epmode</i> = ENABLE		
	IS	AUTO	NMON
ENABLE	Yes Alarm reporting Yes PM reporting	No Alarm report- ing No PM reporting	No Alarm report- ing No PM reporting
DISABLE	Yes Alarm reporting No PM reporting	No Alarm report- ing No PM reporting	No Alarm report- ing No PM reporting

OUTPUT FORMAT

If the network element (NE) fully complies with the **ED-DPORT** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
ED-DPORT-DATA:TID123;d-1:123456::lnrate=1G,epmode=NMON,gfptype=FC;

TID123 00-01-01 08:00:00
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed for **RTRV-HDR** may also apply to this command.

If any one or more of the input parameter values are not valid, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid */
;
```

If the user enters an AID that is not valid for a circuit pack, the following error response is returned:

```
sid date time
M  ctag DENY
   IIAC
   /* Input, Data Not Valid, AID is missing, wrong, or inconsistent
with the circuit pack type or mode */
;
```

If the user enters a ***Inrate***, or ***gfptype*** value when the ***datatype*** is not set to **FC-FICON** (see **ED-EQPT**), the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, parameter not valid when datatype is not
FC-FICON */
;
```

If the user enters a ***sync_ping*** value when ***gfptype*** is set to **ASync-FC**, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, parameter not valid when gfptype is
ASync-FC */
;
```

If the user enters a **2G** value for ***Inrate*** for port 2 and 4 when the ***datatype*** is set to **FC-FICON**, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, 2G rate not supported on selected port */
;
```

In **FC-FICON (datatype)**, if the user enters a **2G** value for *Inrate* for port 1 or 3 when corresponding port 2 or 4 is in service, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, 2G rate cannot be set on current port,
adjacent port has a cross connect */
;
```

If the user enters a *compr* value when *gfptype* is not set to **ASYNC-FC** or if the circuit pack type is not LN73C, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, parameter not valid for selected port
configuration or pack type */
;
```

If the user enters a *gfptype* value other than **ASYNC-FC** when *compr* is already set to **ENABLE**, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, gfptype cannot be changed while compr is
ENABLE */
;
```

If the user enters a **gfptype** value other than **ASync-FC** when the **lcsmd** (in **RTRV-VCg-DATA**) is set to **ENABLE**, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, LCASMD is set to ENABLE */
;
```

Beginning in Release 7.0, if the user enters a request to change the **epmode** of a port corresponding to a socket that is not configured to be equipped (**RTRV-EQPT: name=UNEQ**), the following error response is returned:

```
sid date time
M  ctag DENY
   ENEQ
   /* Equipage, Not Equipped */
;
```

Beginning in Release 7.1, if the user enters a request to change a parameter to a value that is not valid for the **signaltype** provisioning of the port for the LN705, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the requested parameter incompatible with
signaltype of port/line */
;
```

RELATED TL1 MESSAGES

RTRV-DPORT, ED-EQPT

NAME

ED-EPORT: Edit Ethernet Port

The **ED-EPORT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-EPORT -*modifier*:*tid*:*aid*:*ctag*:::*spec_block*;

DESCRIPTION

The **ED-EPORT** command modifies (edits) the properties of an Ethernet port.

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-EPORT** command generates a **REPT DBCHG** message.

In response to a change in the *Inrate* of a port on an LNW87 pack, the NE resets all other **ED-EPORT** parameters associated with that port, except *admin*, to their default values. The corresponding **REPT DBCHG** message contains only the new *Inrate* value.

INPUT PARAMETERS

Table 2-71. **ED-EPORT** Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>modifier</i>	The command code modifier. This parameter must have one of the following values: ■ FE Fast Ethernet ■ 1GE 1 Gigabit Ethernet
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-71. ED-EPORT Input Parameters (cont 2 of 2)

Parameter Name	Description
aid	Access Identifier. This is the address of an Ethernet port AID. Refer to the AID Table in Appendix A for a list of valid AIDs. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. Unless specified otherwise: ■ spec_block parameters are valid for a LAG, but not its member ports. ■ References to an Ethernet port also apply to a LAG. When ethertype is specified for the LNW66 circuit pack, the allowed AIDs are: ■ port 1 (this sets the ethertype for port 1 to 8) ■ port 9 (this sets the ethertype for port 9 to 16) ■ port 17 (this sets the ethertype for port 17 to 24)
ctag	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and a description of this parameter.
spec_block	Specific Block. The spec_block parameters are defined in the following table.

Table 2-72. ED-EPORT Input **spec_block** Parameters (cont 1 of 28)

Parameter Name	Description
porttype	Port Type indicates whether the port is at the boundary of the DiffServ domain or is a port interior to the DiffServ domain. It has the following values: ■ BOUNDARY (initial value) ■ INTERIOR Port must not have a default VLAN ID or a default port tag. This parameter applies only if the port is part of a virtual switch (when vlantagmd is SWITCHED (see RTRV - EQPT)). This parameter applies to the following packs: ■ LNW70 ■ LNW78 (the only allowed value is BOUNDARY).

Table 2-72. **ED - EPORT** Input *spec_block* Parameters (cont 2 of 28)

Parameter Name	Description
portrole	Port Role controls how tags are add/removed/processed. In typical applications, "boundary" ports are "customer" ports and "interior" ports are "network" ports. Port role has the following values: ■ CUSTOMER (initial value) The port carries packets, typically from one customer, for one or more rate-controlled services. The port may have a default VLAN ID or default port tag. Customer ports are normally configured as boundary ports. ■ NETWORK The port carries packets typically from multiple customers. Port must not have a default VLAN ID or a default port tag. Network ports are typically configured as interior ports, but may also be boundary ports in some network configurations. This parameter applies only if the port is part of a virtual switch (when <i>vlantagmd</i> is SWITCHED (see RTRV - EQPT)). This parameter applies to the following packs: ■ LNW70 ■ LNW78 (the only allowed value is CUSTOMER)
dplxmd	Duplex Mode has the following values: ■ HALF ■ FULL ■ AUTO Autonegotiate (initial value) The dplxmd parameter value only applies to LNW66 Fast Ethernet (FE) ports.
epmode	Ethernet Port Monitoring Mode; When a port is provisioned in the AUTO state, it will automatically transition to the in-service (IS) state upon detection on the port of a valid input. epmode has the following values: ■ AUTO (initial value) ■ NMON Starting in Release 7.0 ■ IS epmode also applies to a member port of a LAG. When a LAG is provisioned in the AUTO state, it will automatically transition to the in-service (IS) state if any member port is in the IS state.

Table 2-72. **ED - EPORT** Input *spec_block* Parameters (cont 3 of 28)

Parameter Name	Description
<i>eppm</i>	Ethernet Port PM enable. This parameter controls whether Ethernet performance monitoring is enabled for the specified Ethernet port. It has the following values: ■ ENABLE ■ DISABLE (initial value) Starting in Release 4.0 ■ ENABLE (initial value) ■ DISABLE <i>eppm</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>fcmd</i>	Flow-Control Mode. It has the following values: ■ ENABLE Enable Transmit & Receive ■ DISABLE Disable Transmit & Receive ■ AUTO Autonegotiate (initial value) ■ DROP Disable end-to-end flow-control Transmit & Receive ENABLE and DISABLE only control Network-element controlled (local) flow-control; both ENABLE and DISABLE still allow Customer Equipment controlled end-to-end flow-control. DROP both disables Network-element controlled flow-control and drops end-to-end flow-control messages. The value AUTO does not apply to optical (FE) ports (ports 17-24) on the LNW74. Initial value is ENABLE. The value AUTO does not apply to optical FE ports on the LNW70. Initial value is ENABLE. Note: <i>fcmd</i> can be set to DROP only on the following circuit packs: ■ LNW70 and LNW74 ■ LNW63 ■ LNW64 ■ LNW705 ■ LNW87 The value AUTO does not apply to FE electrical SFP ports. Initial value is ENABLE.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 4 of 28)

Parameter Name	Description
	<i>fcmd</i> does not apply to the LNW78. <i>fcmd</i> does apply to the LNW63. <i>fcmd</i> does apply to the LNW64. <i>fcmd</i> does apply to the LNW705. <i>fcmd</i> does apply to the LNW87. <i>fcmd</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>Inrate</i>	Line Rate. Beginning in Release 9.0, this parameter is also used to provision the expected type of PTM (SFP) for multi-rate data packs that support per-port provisioning, subject to the following constraints. <i>Inrate</i> may not be changed for ports that have cross-connections or loopbacks. <i>Inrate</i> may not be changed for ports with <i>admin</i>=ENABLE. <i>Inrate</i> may not be changed if any other parameters are included in the request, and the command <i>modifier</i> must match <i>Inrate</i>. Per-port PTM provisioning is supported on the following packs: LNW87 This parameter has the following values: ■ 10M The command modifier must be FE. ■ 100M The command modifier must be FE. ■ AUTO Autonegotiate. Initial value for backplane electrical FE ports. The command modifier must be FE. ■ GX Optical GbE SFP. This is the initial value for per-port PTM provisionable packs when they are accepted into a slot with no expected pack type. The command modifier must be 1GE. ■ GT Electrical GbE. The command modifier must be 1GE.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 5 of 28)

Parameter Name	Description
	■ FX Optical FE. The command modifier must be FE. ■ FT Electrical FE. The command modifier must be FE. Note: The values 10M, 100M and AUTO only apply to backplane electrical Fast Ethernet (FE) ports. Note: The values 10M, 100M and AUTO do not apply to electrical SFP Ethernet ports. The values GX, GT, FX and FT only apply to per-port PTM provisionable packs. Changing <i>Inrate</i> may cause PTM alarms to be set or cleared.
dftvlan	Default VLAN ID. Value: An integer in the range 1 to 511, or "0." A "0" means that the user does not want a default value to be set. This parameter is only valid when it is in 802.1 VLAN Tag Mode, and has already been assigned as a member of a Virtual Switch (VRTSW). Note: This parameter is removed starting in Release 2.0.
dftporttag	Default Port Tag (Default VLAN ID). Value: An integer in the range 1 to 4093, or "0". A "0" means that the user does not want a default value to be set. This parameter is only valid when the port is in Port Tag mode (i.e., TRANSPARENT mode), and it has been assigned as a member of a Virtual Switch (VRTSW). This parameter is also valid when <i>vlantagmd</i> is set to SWITCHED (see RTRV-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to TRANS (see RTRV-VRTSW). Note: <i>dftporttag</i> does not pertain to LNW71. Note: <i>dftporttag</i> does not pertain to LNW74. Note: <i>dftporttag</i> does not pertain to LNW63. Note: <i>dftporttag</i> does not pertain to LNW64. Note: <i>dftporttag</i> does not pertain to LNW705. Note: <i>dftporttag</i> does not pertain to LNW87. The <i>dftporttag</i> value cannot be on or be provisioned in the active composite list of Port Tag identifiers in the <i>addporttag</i> list.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 6 of 28)

Parameter Name	Description
	The <i>dftporttag</i> value must not be provisioned in another virtual switch. Beginning in Release 5.1, the above restriction does not apply for the LNW70; i.e. <i>dftporttag</i> values can be provisioned in another virtual switch. Beginning in Release 6.0, the above restriction does not apply for the LNW78; i.e. <i>dftporttag</i> values can be provisioned in another virtual switch. A default porttag cannot be entered if <i>porttype</i> is INTERIOR or if <i>portrole</i> is NETWORK. To be able to modify a default port tag,the MAC+<i>dftporttag</i> address provisioning must be removed first from the port.
<i>dftpri</i>	Default Priority. Except for the Circuit Packs listed below. The allowed values are: ■ NA (initial value) ■ High ■ Low LNW70: <i>dftpri</i> is used to provision the default CoS on the LNW70. It only pertains to ports with <i>porttype</i> BOUNDARY. The allowed values for <i>dftpri</i> are integers in the range 0 to 3 and NA. <i>dftpri</i> value 3 is the highest priority and 0 (initial value) the lowest. This is the CoS as it is encoded in the two most significant bits in the user_priority field of the VLAN tag. Note: <i>dftpri</i> is ignored if <i>trafmgmtmd</i> is set to TAGPORT, COSPORT or COSTAGPORT. For TAGPORT mode, see <i>dftpri2cos</i> parameter in RTRV - ERATE . Starting in Release 6.0, <i>dftpri</i> is no longer ignored if <i>trafmgmtmd</i> is set to COSPORT. Starting in Release 6.0, <i>dftpri</i> is ignored if <i>trafmgmtmd</i> is set to PORT and <i>hlayercos</i> = DSCP. LNW71: <i>dftpri</i> does not pertain to LNW71. LNW74: <i>dftpri</i> does not pertain to LNW74.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 7 of 28)

Parameter Name	Description
	LNW63: <i>dftpri</i> does not pertain to LNW63. LNW87: <i>dftpri</i> does not pertain to LNW87. LNW64: <i>dftpri</i> does not pertain to LNW64. LNW705: <i>dftpri</i> does not pertain to LNW705. LNW78: <i>dftpri</i> is the provisioned default CoS on the LNW78, having effect only if <i>trafmgmtmd</i> is PORT or COSPORT. The allowed values for <i>dftpri</i> are integers in the range 1 to 3. Initial value is 1. <i>dftpri</i> value 3 is the highest priority (Class A) and 1 (Class C) the lowest. When <i>trafmgmtmd</i> is PORT, changing <i>dftpri</i> is only possible when all QoS services created on this port (using ENT - ERATE) have been deleted (using DLT - ERATE). Note that in this scenario traffic will not be interrupted, but will be unmetered until a new QoS service has been created for the (new) <i>dftpri</i>.
addvlan	Valid Add VLAN list. Value: An ampersand-separated list of VLAN identifiers, where each VLAN identifier is an integer in the range 1 to 511. Up to 70 VLAN identifiers can be provisioned in a single command. A range of 1 to 511 VLAN identifiers can be added or deleted. (This can be done using 8 iterations of the same command; 7 with 70 VLAN values each, and one with the remaining 21 VLAN values.) This is an optional parameter, and the initial status of this list is empty. Either the addvlan or delvlan parameters can be provisioned using this command, but not both at the same time. They must be provisioned in separate command instances. This parameter is removed starting in Release 2.0.
delvlan	Valid Delete VLAN list. Value: An ampersand-separated list of VLAN identifiers, where each VLAN identifier is an integer in the range 1 to 511. Up to 70 VLAN identifiers can be provisioned in a single command. This is an optional parameter, and the initial status of this list is empty.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 8 of 28)

Parameter Name	Description
	Either the <i>advlan</i> or <i>delvlan</i> parameters can be provisioned by this command, but not both at the same time. They must be provisioned in separate command instances. This parameter is removed starting in Release 2.0.
<i>almlvl</i>	Alarm Level. This parameter sets the alarm level for an incoming signal failure, auto-negotiation failure, and may have one of the following values: This parameter is removed beginning in Release 6.0. See ENT - ASAP - ASGNMT. ■ CR Critical Alarm (initial Value) ■ MJ Major Alarm ■ MN Minor Alarm ■ NA No Alarm
<i>tagfilter</i>	Tag Filter. This parameter is used to enable or disable VLAN/Port Tag filtering. It does not prevent creating, modifying, or deleting VLANs. ■ ENABLE Tag filtering enabled (Initial Value) ■ DISABLE Tag filtering disabled (This effectively enables all VLANs/Port Tags on the port.) LNW71: <i>tagfilter</i> does not pertain to LNW71. LNW74: <i>tagfilter</i> does not pertain to LNW74. LNW63: <i>tagfilter</i> does not pertain to LNW63. LNW87: <i>tagfilter</i> does not pertain to LNW87. LNW64: <i>tagfilter</i> does not pertain to LNW64. LNW705: <i>tagfilter</i> does not pertain to LNW705. LNW78: The only valid value is ENABLE. Starting in Release 7.0, DISABLE is also valid.

Table 2-72. **ED - EPORT** Input *spec_block* Parameters (cont 9 of 28)

Parameter Name	Description
<i>addporttag</i>	Add Port Tag ID. Composite list of Port Tag identifiers to be added. Values: The value is an ampersand-separated list of Port Tag identifiers, where each Port Tag identifier is an integer in the range 1 to 4,093. A “tag identifier’s” value cannot be or have previously been provisioned as a <i>dfporttag</i>. The <i>addporttag</i> value must not have been previously provisioned in another virtual switch. Beginning in Release 5.1, the above restriction does not apply for the LNW70; i.e. <i>dfporttag</i> values can be provisioned in another virtual switch. Beginning in Release 6.0, the above restriction does not apply for the LNW78; i.e. <i>dfporttag</i> values can be provisioned in another virtual switch. Up to 55 Port Tag identifiers can be provisioned in a single command. A range of 1 to 4093 Port Tag identifiers can be added or deleted. (This can be done with 75 iterations of the same command, 74 with 55 Port Tag values each, and one with the remaining 23 Port Tag values.) The initial status of this list is empty. Either the <i>addporttag</i> or <i>delporttag</i> parameters can be provisioned by this command, but not both. They must be provisioned in separate command instances. This parameter is valid when <i>vlantagmd</i> is set to TRANS (see RTRV-EQPT). This parameter is also valid when <i>vlantagmd</i> is set to SWITCHED (see RTRV - EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to TRANS (see RTRV - VRTSW). This parameter is added beginning in Release 3.1. Note: The <i>addporttag</i> parameter does not pertain to LNW71. Note: The <i>addporttag</i> parameter does not pertain to LNW74. Note: The <i>addporttag</i> parameter does not pertain to LNW63. Note: The <i>addporttag</i> parameter does not pertain to LNW64. Note: The <i>addporttag</i> parameter does not pertain to LNW87. Note: The <i>addporttag</i> parameter does not pertain to LNW705.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 10 of 28)

Parameter Name	Description
<i>delporttag</i>	Delete Port Tag. Composite list of Port Tag values to be deleted. Values: An ampersand-separated list of Port Tag identifiers, where each Port Tag identifier is an integer in the range 1 to 4093. Up to 55 Port Tag values can be deleted in a single command. The initial status of this list is empty. Either the <i>addporttag</i> or <i>delporttag</i> parameters can be provisioned by this command, but not both. They must be provisioned in separate command instances. This parameter is valid when <i>vlantagmd</i> is set to TRANS (see RTRV-EQPT). This parameter is also valid when <i>vlantagmd</i> is set to SWITCHED (see RTRV-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to TRANS (see RTRV-VRTSW). This parameter is added beginning in Release 3.1. Note: The <i>delporttag</i> parameter does not pertain to LNW71. Note: The <i>delporttag</i> parameter does not pertain to LNW74. Note: The <i>delporttag</i> parameter does not pertain to LNW63. Note: The <i>delporttag</i> parameter does not pertain to LNW64. Note: The <i>delporttag</i> parameter does not pertain to LNW87. Note: The <i>delporttag</i> parameter does not pertain to LNW705. The <i>delporttag</i> parameter can delete the tag even if the same tag exists on a different virtual switch. To be able to delete a port tag, MAC+tag address provisioning must first be removed from the port.
<i>rcf</i>	Remote Client Fail. This parameter is used to enable/disable Remote Client Fail message detection and generation, and may have one of the following values: ■ ENABLE Remote Client Fail message enabled (Initial Value) ■ DISABLE Remote Client Fail message disabled This parameter applies only to LNW70 and LNW74. This parameter is significant when <i>vlantagmd</i> is set to NOTAG (see RTRV-EQPT), i.e., Private Line mode.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 11 of 28)

Parameter Name	Description
	Starting in Release 6.0 ■ DISABLE Remote Client Fail message disabled (initial value) ■ ENABLE Remote Client Fail message enabled Starting in Release 6.0, this parameter applies to the LNW63. Starting in Release 7.0, this parameter applies to the LNW64. Starting in Release 9.0, this parameter applies to the LNW87. Starting in Release 7.1, this parameter applies to the LNW705.
<i>rcf_linkdown</i>	Remote Client Fail Link Shutdown. When <i>rcf</i> is enabled, this parameter is used to control link shut down by Remote Client Fail message reception, and may have one of the following values: ■ ENABLE Link shutdown enabled (Initial Value) ■ DISABLE Link shutdown disabled This parameter applies only to LNW70 and LNW74. This parameter is significant when <i>viantagmd</i> is set to NOTAG (see RTRV-EQPT), i.e., Private Line mode. Starting in Release 6.0, this parameter applies to the LNW63. Starting in Release 7.0, this parameter applies to the LNW64. Starting in Release 9.0, this parameter applies to the LNW87. Starting in Release 7.1, this parameter applies to the LNW705.
<i>rcf_rdi</i>	Remote Client Fail Reverse Defect Indication This parameter is used to enable/disable the reverse direction of two-way Auto Link Shutdown (ALS) using GFP RDI control frames and may have one of the following values: ■ ENABLE Enable Two-way (ALS) Auto Link Shutdown (Initial Value) ■ DISABLE Disable Two-way (ALS) This parameter applies only to LNW87 This parameter applies only to GE interfaces This parameter is significant when both <i>rcf</i> and <i>rcf_linkdown</i> are enabled.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 12 of 28)

Parameter Name	Description
<i>rcf_ldhotmr</i>	Link down hold-off Timer. Only in effect when <i>rcf_linkdown</i> is enabled and the link shutdown was due to VCG failure (inc. VCG failed). It specifies the delay time between the declaration of sink client signal fail defect, and the link shutdown along with the generation of the ALS (auto link shutdown) alarm. Values: ■ 0 to 10000 milliseconds (10 seconds), in 100 millisecond steps ■ 99999 milliseconds (representing infinity) Initial value: 200 milliseconds This parameter applies to LNW70, LNW170, LNW74, LNW63, LNW64 and LNW87. This parameter is significant when <i>vlangmd</i> is set to NOTAG (see RTRV-EQPT), i.e., Private Line mode.
<i>rcf_almvl</i>	Remote Client Fail Alarm Level. When <i>rcf</i> is enabled, this parameter sets the alarm level for Remote Client Fail, and may have one of the following values: This parameter is removed beginning in Release 6.0. See ENT - ASAP - ASGNMT. ■ CR Critical Alarm ■ MJ Major Alarm ■ MN Minor Alarm ■ NA No Alarm (Initial Value) A standing condition will exist instead of an alarm. This parameter applies only to LNW70 and LNW74. This parameter is significant when <i>vlangmd</i> is set to NOTAG (see RTRV-EQPT), i.e., Private Line mode.
<i>fefi_det</i>	Far End Fault Indication Detection. Different responses to FEFI are available according to the following values: ■ LAN The LAN component of FEFI detection behavior is enabled.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 13 of 28)

Parameter Name	Description
	■ LAN_RCF Both the LAN and RCF components of FEFI detection behavior are enabled. ■ RCF The RCF component of FEFI detection behavior is enabled. ■ DISABLE FEFI detection disabled (Initial Value). For values that include the LAN component: When FEFI is detected at the receiver, a LAN FERF (FEFI) alarm may be generated and if <i>link_good</i> = DISABLE, idle codes are sent by the transmitter. For values that include the RCF component: When FEFI is detected at the receiver, if <i>rcf</i> = ENABLE, a Remote Client Fail message, using the RTRV-EQPT <i>fefi_code</i>, is sent to the WAN. If <i>rcf</i> = ENABLE, and a Remote Client Fail message having the RTRV-EQPT <i>fefi_code</i> is received from the WAN, a GFP_RCF alarm may be generated for the associated VCG. This parameter applies to optical FE ports on the following pack: ■ LNW74 Starting in Release 7.1. ■ LNW70 Starting in Release 9.0. ■ LNW170 Starting in Release 9.0. ■ LNW87 Starting in Release 9.0. ~~This parameter is valid only when <i>vlantagmd</i> is set to NOTAG (see RTRV-EQPT), i.e., Private Line mode.~~ When <i>vlantagmd</i> is set to SWITCHED (see RTRV-EQPT), only values LAN and DISABLE are valid. <i>fefi_det</i> does not apply to a LAG. It does apply to a member port of a LAG.
fefi_gen	Far End Fault Indication Generation. Different FEFI generation modes are available according to the following values: ■ LAN The LAN component of FEFI generation behavior is enabled. ■ LAN_RCF Both the LAN and RCF components of FEFI generation behavior are enabled. ■ RCF The RCF component of FEFI generation behavior is enabled.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 14 of 28)

Parameter Name	Description
	■ DISABLE FEFI generation disabled (Initial Value). For values that include the LAN component: When a fault is detected at the receiver, FEFI is sent by the transmitter. For values that include the RCF component: If rcf = ENABLE and rcf_linkdown = ENABLE, and a Remote Client Fail message having the RTRV-EQPT fefi_code is received from the WAN, FEFI is sent by the transmitter. This parameter applies to optical FE ports on the following pack: ■ LNW74 Starting in Release 7.1. ■ LNW70 Starting in Release 9.0. ■ LNW170 Starting in Release 9.0. ■ LNW87 Starting in Release 9.0. ~~This parameter is valid only when vlantagmd is set to NOTAG (see RTRV-EQPT), i.e., Private Line mode.~~ When vlantagmd is set to SWITCHED (see RTRV-EQPT), only values LAN and DISABLE are valid. fefi_gen does not apply to a LAG. It does apply to a member port of a LAG.
link_good	Link Good. When link_good is enabled, the port transmitter does not insert idles in response to faults or FEFI detected at the receiver. Because FEFI may still be inserted in place of transmitted data when fefi_gen = LAN, LAN_RCF, or RCF, to assure that data can pass regardless of the state of the receiver, fefi_gen must be disabled. Values: ■ ENABLE Enable link_good ■ DISABLE Disable link_good (Initial Value) This parameter applies to optical FE ports on the following pack: ■ LNW74 Starting in Release 7.1. ■ LNW70 Starting in Release 9.0. ■ LNW170 Starting in Release 9.0. ■ LNW87 Starting in Release 9.0. ~~This parameter is valid only when vlantagmd is set to NOTAG (see RTRV-EQPT), i.e., Private Line mode.~~

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 15 of 28)

Parameter Name	Description
	<i>link_good</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>admin</i>	Port administration control. This parameter is used to enable/disable a port; this will disable all frames to and from a port. ■ ENABLE Port enabled (Initial Value) ■ DISABLE Port disabled <i>admin</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>tcamd</i>	TCA Monitoring Mode. This parameter specifies whether performance monitoring Threshold Crossing Alert reporting is enabled or disabled for the port. ■ ENABLE TCA reporting is enabled. ■ DISABLE (Initial value) TCA reporting is disabled TCA reporting will not begin until <i>tcamd</i> is enabled and port monitoring mode is enabled (<i>epm=ENABLE</i>), and the port is in service (<i>epmode=IS</i>). <i>tcamd</i> does not apply to the following packs: ■ LNW78 <i>tcamd</i> does not apply to a LAG. It does apply to a member port of a LAG. Starting in Release 8.0, <i>tcamd</i> applies to a LAG and to a member port of a LAG.
<i>jumbo</i>	Jumbo frame support. This parameter specifies whether jumbo frames are supported on the port. Disabling jumbo support improves latency for sub-rate services. ■ ENABLE (Initial value) Jumbo frames are enabled. The maximum frame size (from DA to CRC, inclusive) is 10240 bytes. ■ DISABLE Jumbo frames are dropped. The maximum frame size (from DA to CRC, inclusive) is 1536 bytes. The <i>jumbo</i> parameter applies only to the LNW71.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 16 of 28)

Parameter Name	Description
	Note: The LNW66, LNW67 and LNW68 do not have a setting for maximum frame size. For these packs, the maximum size of the frame is the same as for the LNW71 when <i>jumbo</i> is DISABLE (1536 bytes). Note: Other circuit packs do not use the <i>jumbo</i> parameter (see <i>mtu_size</i> instead).
<i>mtu_size</i>	MTU size (in bytes). This parameter specifies the MTU (Maximum Transmission Unit) size supported on the port. This is the size of the payload in the Ethernet frame, excluding Source and Destination Address, Type and CRC field, and standard VLAN tag, but including any nested VLAN tags. Starting in Release 6.0, this is the size of the payload in the Ethernet frame, excluding Source and Destination Address, Type and CRC field, but including all VLAN tags. Note: When upgrading from a previous release, the value is incremented by 4 to preserve the effect. No DBCHG message is generated. Value: For the LNW74 an integer in the range 1500 to 9614. The initial value is 1500. Starting in Release 6.0, for the LNW74 the initial value is 1508. This allows a maximum frame size (from DA to CRC, inclusive) of 1526 bytes. Value: For the LNW70 an integer in the range 42 to 10218. The initial value is 1500. Starting in Release 6.0, for the following packs: ■ LNW70 ■ LNW78 ■ LNW63 and also starting in Release 7.0, for the following packs: ■ LNW64 and also starting in Release 7.1, for the following packs: ■ LNW705 and also starting in Release 9.0, for the following packs: ■ LNW87

Table 2-72. **ED - EPORT** Input *spec_block* Parameters (cont 17 of 28)

Parameter Name	Description
	Value: an integer in the range 46 to 10222. The initial value is 1508. This allows a maximum frame size (from DA to CRC, inclusive) of 1526 bytes.
emsdt	Exceeded MTU size drop threshold. This parameter specifies the point at which an alarm is generate when the ratio (Exceeded MTU size drop count / Total frame received count) surpasses the set threshold. Value: an integer in the range 0 (feature disabled) to 1000 (100%), in steps of 1 (0.1%). The initial value is 0 (feature is disabled). Note: "feature disabled" indicates that the "exceeded MTU size drop" (emsdt) alarm is NOT generated when the threshold is surpassed. Starting in Release 9.0, the parameter applies to the LNW70/170. Starting in Release 9.0, the parameter applies to the LNW74. Starting in Release 9.0, the parameter applies to the LNW64 and LNW87. Starting in Release 9.0, this parameter applies to a LAG.
autoneg	Auto-Negotiation. This parameter specifies whether auto-negotiation is enabled on a port. ■ ENABLE (Initial value) auto-negotiation enabled. ■ DISABLE auto-negotiation disabled. If any of fcmd, lnrate, mdix or dplxmd parameters are set to AUTO, the NE maintains previously resolved operational states. If a state is unresolved, the following settings take effect: fcmd = ENABLE lnrate = 100M dplxmd = FULL mdix = MDI Note: The autoneg parameter does not pertain to optical (FE) ports (ports 17-24) on the LNW74 circuit pack. Note: The autoneg parameter does not pertain to optical FE ports on the LNW70 circuit pack. It pertains to the GbE ports only. autoneg does not apply to the LNW78. Starting in Release 7.0, autoneg applies to the LNW78 optical GbE ports.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 18 of 28)

Parameter Name	Description
	Note: The <i>autoneg</i> parameter does not pertain to Electrical SFP (GbE/FE) ports. <i>autoneg</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>mdix</i>	Crossover. This parameter sets the crossover mode for the port. ■ AUTO (Initial value) automatic crossover is enabled. The system determines if crossover is needed, then sets the port to AUTOMDIX or AUTOMDI mode. ■ MDIX RJ-45 TXP/TXN pins are transmit RJ-45 RXP/RXN pins are receive ■ MDI RJ-45 TXP/TXN pins are receive RJ-45 RXP/RXN pins are transmit Note: The <i>mdix</i> parameter does not pertain to LNW66/67/68 circuit packs. Note: The <i>mdix</i> parameter does not pertain to optical ports. Note: The <i>mdix</i> parameter applies to electrical SFP (GbE/FE) ports. <i>mdix</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>ethertype</i>	Ethernet Type field (TPID). Used to interwork with other vendors' equipment using stacked VLAN. This parameter is valid when <i>vlantagmd</i> is set to TRANS transparent mode (see RTRV-EQPT). Value: A string in the range 0601 to FFFF. The initial value is FFFF (hexadecimal). This parameter is also valid when <i>vlantagmd</i> is set to SWITCHED mode (see RTRV-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to TRANS (see RTRV-VRTSW).
<i>qwt_ntwkAF</i>	This parameter is used to specify the weighting factor used by the queue service algorithm for the AF queue for packets coming from network ports. A port is a "network" port if it is a VCG port without a Default VLAN/Tag. Starting in Release 7.0, whether a port is a customer or network port is determined by the <i>portrole</i> parameter.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 19 of 28)

Parameter Name	Description
	qwt_ntwkAF must be an integer in the range of 1 to 100 with a value of 100 being the highest weight. The initial value of qwt_ntwkAF is 64. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV - EQPT). qwt_ntwkAF does not apply to the LNW78.
qwt_custAF	This parameter is used to specify the weighting factor used by the queue service algorithm for the AF queue for packets coming from customer ports. A port is a "customer" port if it is an Ethernet port, or if it is a VCG port with a Default VLAN/Tag. Starting in Release 7.0, whether a port is a customer or network port is determined by the portrole parameter. qwt_custAF must be an integer in the range of 1 to 100 with a value of 100 being the highest weight. The initial value of qwt_custAF is 36. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV - EQPT). qwt_custAF does not apply to the LNW78.
qsz	For the LNW70 this parameter is used to specify the total queue size for the port. This includes the EF and AF queues as well as the management queues. For a LAG on the LNW70, it is the total queue size for each member port, applied individually. For the LNW78 this parameter specifies the size of individual queues for the port (the same size for each). qsz must be in the range 0 to 256. The initial value of qsz is 256. It represents the queue size in Kbytes. In order for qsz to be effective it needs to be greater than the maximum supported frame size (see also mtu_size). This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV - EQPT).
qminthldy	This parameter is used to specify the minimum dropping threshold for yellow packets used by the drop algorithm. It is expressed as a percentage of the queue size qsz. It is an integer value in the range 0 to 100. qminthldy must be less than or equal to qmaxthldy.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 20 of 28)

Parameter Name	Description
	Starting in release 7.0, qminthldy is an integer value in the range 0 to 99 and must be less than qmaxthldy. The initial value for qminthldy is 33. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV - EQPT).
qmaxthldy	This parameter is used to specify the maximum dropping threshold for yellow packets used by the drop algorithm. It is expressed as a percentage of the queue size qsz. It is an integer value in the range 0 to 100. qmaxthldy must be greater than or equal to qminthldy and less than or equal to qminthldg. Starting in release 7.0, qmaxthldy must be greater than qminthldy. The initial value for qmaxthldy is 50. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV - EQPT).
qminthldg	This parameter is used to specify the minimum dropping threshold for green packets used by the drop algorithm. It is expressed as a percentage of the queue size qsz. It is an integer value in the range 0 to 100. qminthldg must be greater than or equal to qmaxthldy. The initial value for qminthldy is 90. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV - EQPT).
qdropwt0	This parameter is used to specify the (maximum) drop probability mark for CoS 0 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). qdropwt0 must be >= qdropwt1 >= qdropwt2 >= qdropwt3 The initial value for qdropwt0 is 100. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV - EQPT). qdropwt0 does not apply to the LNW78.

Table 2-72. **ED - EPORT** Input *spec_block* Parameters (cont 21 of 28)

Parameter Name	Description
qdropwt1	This parameter is used to specify the (maximum) drop probability mark for CoS 1 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). qdropwt0 must be $\geq$ qdropwt1 $\geq$ qdropwt2 $\geq$ qdropwt3 The initial value for qdropwt1 is 100. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV - EQPT).
qdropwt2	This parameter is used to specify the (maximum) drop probability mark for CoS 2 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). qdropwt0 must be $\geq$ qdropwt1 $\geq$ qdropwt2 $\geq$ qdropwt3 The initial value for qdropwt2 is 100. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV - EQPT).
qdropwt3	This parameter is used to specify the (maximum) drop probability mark for CoS 3 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). qdropwt0 must be $\geq$ qdropwt1 $\geq$ qdropwt2 $\geq$ qdropwt3 The initial value for qdropwt3 is 50. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV - EQPT).
trafmgmtmd	Traffic management mode. This specifies how the packets will be divided into traffic flows and the services that can be provided at the port. Value: trafmgmtmd can take on the following text string values: ■ NOTC This mode is valid for ports with porttype BOUNDARY only in TRANS and 802.1Q <i>tagmd</i> (see RTRV - VRTSW). It is also valid for Private Line ports. There is no traffic conditioning of packets that are received at the port. This mode allows interworking with LNW66/67/68.

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 22 of 28)

Parameter Name	Description
■ PORT (initial value)	This mode is valid for ports with porttype BOUNDARY only in TRANS and 802.1Q <i>tagmd</i> (see ENT - VRTSW). It is also valid for Private Line ports. All traffic received at the port is processed by a single traffic conditioner. The user_priority bits are remarked with the dfpri and the drop precedence determined from the traffic conditioner according to the provisioned mapping (see RTRV - ERATE). Starting in Release 6.0, when RTRV - ERATE : hlayercos is set to DSCP: All traffic received at the port with the same Differentiated Services Code Point (DSCP) is processed by a single traffic conditioner for the CoS that is provisioned for that DSCP (see dscp2cos). There can be one service for each provisioned CoS (up to 4) at the port. The user_priority (L2) bits are remarked with the CoS and the drop precedence, which was determined from the traffic conditioner, according to the provisioned dscp2cos mapping. When <i>hlayercos</i> is set to NONE: All traffic received at the port is processed by a single traffic conditioner. The user_priority bits are remarked with the dfpri and the drop precedence determined from the traffic conditioner according to the provisioned mapping (see RTRV - ERATE).
■ TAGPORT	This mode is valid for ports with porttype BOUNDARY only in 802.1Q <i>tagmd</i> (see RTRV - VRTSW). All traffic received at the port that is tagged with the same VLANid is processed by a single traffic conditioner. The user_priority bits are remarked with the <i>dfpri2cos</i> (see RTRV - ERATE) and the drop precedence determined from the traffic conditioner according to the provisioned mapping (see RTRV - ERATE).

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 23 of 28)

Parameter Name	Description
■ COSPORT	This mode is valid for ports with porttype BOUNDARY only in 802.1Q <i>tagmd</i> (see RTRV - VRTSW). All traffic received at the port that is tagged with the same 802.1p user_priority is processed by a single traffic conditioner for the CoS that is provisioned for that user_priority (see <i>userpri2cos</i> in RTRV - ERATE). There can be one service for each provisioned CoS at the port. The user_priority bits are remarked with the CoS and the drop precedence, which was determined from the traffic conditioner, according to the user_priority mapping (see RTRV - ERATE). Starting in Release 7.0, this mode is also valid for ports with porttype BOUNDARY in TRANS <i>tagmd</i> (see RTRV - VRTSW). All traffic received at the port that is tagged with the same customer 802.1p user_priority is processed by a single traffic conditioner for the CoS that is provisioned for that user_priority (see <i>userpri2cos</i> in RTRV - ERATE). The CoS level for untagged traffic is set to the default priority (<i>dftpri</i>) or 0 if <i>dftpri</i> is NA. There can be one service for each provisioned CoS at the port. The stacked/outermost TAG user_priority bits are marked with the CoS and the drop precedence, which was determined from the traffic conditioner, according to the customer user_priority mapping (see RTRV - ERATE). But the customer VLAN TAG user_priority bits are untouched and preserved. The COSPORT traffic management mode in TRANS <i>tagmd</i> applies only to the LNW70 circuit pack.

Table 2-72. **ED - EPORT** Input *spec_block* Parameters (cont 24 of 28)

Parameter Name	Description
	■ COSTAGPORT This mode is valid for ports with porttype BOUNDARY only in 802.1Q <i>tagmd</i> (see RTRV - VRTSW). All traffic received at the port that is tagged with the same VLANid and the same CoS is processed by a single traffic conditioner for the VLANid and that CoS. There can be one service for each provisioned CoS (up to 4) on each provisioned VLANid at the port. The user_priority bits are remarked with the CoS and the drop precedence, which was determined from the traffic conditioner, according to the provisioned user_priority mapping (see RTRV - ERATE). Note: Changing trafmgmtmd is only possible when all QoS services created on this port (using ENT - ERATE) have been deleted (using DLT - ERATE). Note that in this scenario traffic will not be interrupted, but will be unmetered until new QoS services have been created in the (new) trafmgmtmd. Restriction: Setting trafmgmtmd to TAGPORT or COSTAGPORT is not allowed when tagfilter is DISABLE. For the same reason, it is not allowed to set tagfilter to DISABLE when trafmgmtmd is TAGPORT or COSTAGPORT. This parameter applies only to the LNW70 circuit pack. Starting in Release 6.0, this parameter also applies to the LNW78 (valid values are PORT and COSPORT).
hlayercos	Higher layer Class of Service (CoS) This determines whether the packets will be classified by a higher layer protocol such as DiffServ Code Point (<i>DSCP</i>) in the IP header. Higher layer classification is only supported when trafmgmtmd is set to PORT. hlayercos is ignored in other trafmgmtmd modes. Value: ■ NONE Higher layer not used for classification. (initial value) ■ DSCP Use the <i>DSCP</i> bits in the IP header for classification. This parameter applies to the LNW70 circuit pack.

Table 2-72. **ED - EPORT** Input *spec_block* Parameters (cont 25 of 28)

Parameter Name	Description
<i>bcratelimit</i>	Broadcast and Multicast rate limit. This is the data rate limit for incoming packets whose destination address is the broadcast address (FF-FF-FF-FF-FF-FF). It also includes all multicast addresses (XO-XX-XX-XX-XX-XX where "O" is an odd hexadecimal digit) including Bridge Filtered MAC group addresses used by PAUSE frames, BPDUs, Link Aggregation, etc. It also includes incoming packets whose destination address has not been learned (and therefore are broadcasted). This limit applies to the aggregate of all traffic at a port. Setting the limit greater than or equal to the port speed has the effect of no rate limiting. Value: an integer between 0 and 1000 representing Mbps. A value of 0 filters all broadcast/multicast packets. Initial value: 1000 Starting in Release 6.0 the previous paragraph is replaced by: Value: an integer between 0 and 1000000, representing Kbps. A value of 0 disables broadcast rate limiting. Initial value: 0 Starting in Release 7.0 for the LNW70 the range is extended: Value: an integer between 0 and 4000000, representing Kbps For a LAG, the rate limit is applied to the aggregate rate. This parameter applies to the following packs: ■ LNW70 only if the port is part of a virtual switch (when <i>vlantagmd</i> is SWITCHED (see RTRV - EQPT)). ■ LNW78
<i>stpp</i>	Spanning Tree Port Priority. Values: from 0 to 255. The initial value is 128. This parameter is not valid if the board tag mode is set to NOTAG (see <i>vlantagmd</i> in RTRV - EQPT). This parameter applies to the following packs: ■ LNW70 (starting in Release 6.0)

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 26 of 28)

Parameter Name	Description
<i>stpcost</i>	Spanning Tree Path Cost. Values: ■ An integer in the range 1 to 65535. ■ initial value is 65535. This parameter is not valid if the Board Tag Mode is set to NOTAG. This parameter applies to the following packs: ■ LNW70 (starting in Release 6.0)
<i>sthellotm</i>	Spanning Tree Hello Timer. Values: ■ 1 to 10 seconds. ■ Initial value is 2 seconds. This parameter is not valid if the Board Tag Mode is set to NOTAG. This parameter applies to the following packs: ■ LNW70 (starting in Release 6.0)
<i>epss</i>	Ethernet Port Spanning tree Status. Values: ■ ENABLE: Enable Ethernet port for spanning tree ■ DISA: Disable Ethernet port for spanning tree (Disabled - Administration) The initial value is ENABLE. When enabling the Ethernet port for spanning tree, the retrieved spanning tree status could be BLOCKED, DISCARDING or some other status value, depending on the state of the spanning tree; ENABLE is not a retrieved value. This parameter is not valid if the Board Tag Mode is set to NOTAG.

Table 2-72. **ED - EPORT** Input *spec_block* Parameters (cont 27 of 28)

Parameter Name	Description
	This parameter applies to the following packs: ■ LNW70 (starting in Release 6.0)
stvid	Spanning Tree VLAN ID. Values: ■ An integer in the range 0 to 4095. The value 0 means no VLAN tag. ■ The initial value is 0. This parameter is not valid if the Board Tag Mode is set to NOTAG. This parameter applies to the following packs: ■ LNW70 (starting in Release 6.0)
ethfcs	Ethernet Frame Check Sequence (FCS) mode. Controls whether to drop errored frames due to FCS or let them pass. Regardless of this setting, errored frames are always counted in the EFCRC counter. Values: ■ ENABLE: Drop errored frames (Initial Value) ■ DISABLE: Pass errored frames This parameter applies to the following packs: ■ LNW63 ■ LNW64 ■ LNW87 ■ LNW705
locked_sa	Locked Source Address. This parameter controls whether the virtual switch restricts admission of packets, with source addresses matching RTRV-MAC entries with <i>type</i>=PERSISTENT, to this port, and only this port; and discards all others on this port. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT) and can be enabled only if there are no RTRV-MAC entries with <i>type</i>=FILTERED. Values: ■ ENABLE (source addresses locked) ■ DISABLE (initial value) This parameter applies to the following packs:

Table 2-72. ED - EPORT Input *spec_block* Parameters (cont 28 of 28)

Parameter Name	Description
	■ LNW70
<i>aapslact</i>	Actor_Admin_Port_State_LACP_Activity. Values: ■ ACTIVE (initial value) ■ PASSIVE This parameter is valid only for a member of a LAG and RTRV - LAGRP protocol = LACP.
<i>aapstimo</i>	Actor_Admin_Port_State_LACP_Timeout. Values: ■ LONG (initial value) ■ SHORT This parameter is valid only for a member of a LAG and RTRV - LAGRP protocol = LACP.
<i>actppri</i>	Actor_Port_Priority. Specifies the port priority for the member of a LAG. Value: an integer in the range 0 to 65535. The initial value is 32768. This parameter is valid only for a member of a LAG.

Ethernet Alarm, PM, and TCA reporting will be as follows:

When ***tcamd*** is **DISABLED**, TCA reporting is disabled.

When ***tcamd*** is **ENABLED**, TCA reporting is dependent on the following table:

Table 2-73. RESULTING ALARMS/PM/TCA REPORTING

<i>eppm</i>	<i>epmode & tcamd = ENABLE</i>		
	IS	AUTO	NMON
ENABLE	Yes Alarm reporting Yes PM reporting Yes TCA reporting	No Alarm reporting No PM reporting No TCA reporting	No Alarm reporting No PM reporting No TCA reporting
DISABLE	Yes Alarm reporting No PM reporting No TCA reporting	No Alarm reporting No PM reporting No TCA reporting	No Alarm reporting No PM reporting No TCA reporting

Ethernet Alarm, and PM reporting for the LNW78 is as follows:

Table 2-74. RESULTING ALARMS/PM REPORTING

<i>eppm</i>	<i>epmode = ENABLE</i>		
	IS	AUTO	NMON
ENABLE	Yes Alarm reporting Yes PM reporting	No Alarm reporting No PM reporting	No Alarm reporting No PM reporting
DISABLE	Yes Alarm reporting No PM reporting	No Alarm reporting No PM reporting	No Alarm reporting No PM reporting

OUTPUT FORMAT

If the network element (NE) fully complies with the **ED-EPORT** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number may be included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

```
ED-EPORT-1GE:TID123:d-1:123456:::epmode=NMON;  
  
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed for **RTRV-HDR** may also apply to this command.

If the user enters a VLAN identifier that is not within the 1 to 4093 range, the following IDNV error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, VLAN ID out of range */  
;
```

The above error response is not valid for the LNW71 Fast Ethernet circuit pack. VLAN parameters are not used on the LNW71 pack.

The above error response is not valid for the LNW74 Fast Ethernet circuit pack. VLAN parameters are not used on the LNW74 pack.

The above error response is not valid for the LNW63 circuit pack. VLAN parameters are not used on the LNW63 pack.

The above error response is not valid for the LNW64 circuit pack. VLAN parameters are not used on the LNW64 pack.

The above error response is not valid for the LNW705 circuit pack. VLAN parameters are not used on the LNW705 pack.

Starting in Release 3.0, if **RTRV-EQPT eccmode**=STS3c, ports 17-24 are not valid for the LNW71 circuit pack. If the user enters a LAN port number between 17 and 24, the following error response is returned.

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, aid not valid for STS3c ECCMODE mode */
;
```

If the user enters a **modifier** value **FE** and the Ethernet port (**aid**) does not correspond to ports 5 to 8 on the LNW70, the following IDNV error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, Ethernet Port is not FE */
;
```

Starting in Release 6.0, if the user enters a **modifier** value **FE** and the Ethernet port (**aid**) does not correspond to a Fast Ethernet port on all Ethernet circuit packs, the following IDNV error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, Ethernet Port is not FE */
;
```

If the user enters a **modifier** value **1GE** and the Ethernet port (**aid**) does not correspond to ports 1 to 4 on the LNW70, the following IDNV error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, Ethernet Port is not 1GE */
;
```


If the user enters a **modifier** value **1GE** and the Ethernet port (**aid**) does not correspond to Gigabit Ethernet port, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Ethernet Port is not 1GE */
;
```

If the user enters a **dplxmd** value while using a 1GbE (1 gigabit Ethernet) pack, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, DPLXMD invalid with 1 GE */
;
```

Beginning in Release 3.0 with the introduction of the LNW71 Fast Ethernet circuit pack, if the user enters a **dplxmd** value while using a 1GbE pack or the LNW71 Fast Ethernet circuit pack, the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

Beginning in Release 5.0 with the introduction of the LNW74 Fast Ethernet circuit pack and the LNW70 Ethernet circuit pack, if the user enters a **dplxmd** value while using any Ethernet pack other than an LNW66 the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

If the user enters a **dftporttag** or **dftpri** value while using an LNW71 Fast Ethernet circuit pack, the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

If the user enters a **dftporttag** or **dftpri** value while using an LNW74 Fast Ethernet circuit pack, the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

If the user enters a **lnrate** value while using a 1GbE pack, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, LNRATE invalid with 1 GE */
;
```

If the user enters a **lnrate** value for an Ethernet port that is not an electrical FE port, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, LNRATE only valid for Electrical FE */
;
```

Beginning in Release 1.0, the previous error response is not returned if the port is PTM socket-based, and the pack supports per-port PTM provisioning.

If the user enters a **Inrate** value for an Ethernet port on a pack that supports per-port PTM provisioning, and any other port parameters are included in the request, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, other parameters not allowed when changing Inrate */
;
```

If the user enters a **Inrate** value of **10M**, **100M** or **AUTO** for an Ethernet port on a pack that supports per-port PTM provisioning, or a value of **GX**, **GT**, **FX**, or **FT** for a pack that does not support per-port PTM provisioning, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters not valid with
specified circuit pack */
;
```

If the user enters a **Inrate** value that is not consistent with the command modifier, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, parameter settings inconsistent with modifier
*/
;
```

If a user enters a new **Inrate** value for a multi-rate PTM-based ethernet port and any of the following conditions exist for the specified port,

- cross-connection
- loopback
- admin=ENABLE

the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, can't change lnrates of port in use */
;
```

If the user enters an **autoneg** value for an Ethernet port that is an optical FE port, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, AUTONEG not valid for Optical FE on this
pack */
;
```

If the user enters a Spanning Tree Port Priority (**stpp**) that is not within the 0 to 255 range, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, STPP out of range */
;
```

If the user enters a Spanning Tree Hello Timer (**sthellotm**) that is not within the 1 to 10 range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, STHELLOTM out of range */
;
```

If the user enters a ***dfporttag*** value and **RTRV-EQPT:vlantagmd** is not TRANS (Transparent Tag mode), the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, VLANTAGMD is not set to TRANS */
;
```

Starting in Release 5.1, the above error is generated under a new condition: If the user enters a ***dfporttag*** value, and the **RTRV-EQPT:vlantagmd** is not TRANS (Transparent Tag Mode) or the **vlantagmd** is not set to SWITCHED and the port belongs to a virtual switch whose **tagmd** is not set to TRANS, the following IDNV error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, VLANTAGMD is not set to TRANS */
;
```

If the user enters a ***dfporttag*** value, but the Ethernet/LAN port specified in the AID has not been assigned as a member of a VRTSW (Virtual Switch ID), the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, Ethernet port is not a member of a Virtual
Switch */
;
```

The above error response is not valid for the LNW71 Fast Ethernet circuit pack. Port tag parameters are not used on the LNW71.

The above error response is not valid for the LNW74 Fast Ethernet circuit pack. Port tag parameters are not used on the LNW74.

If the user tries to set **tagfilter** to **DISABLE** while **RTRV-EQPT:vlantagmd** is **NOTAG** (No Tag mode), the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, VLANTAGMD is set to NOTAG */
;
```

If the user tries to set **tagfilter** to **DISABLE** and there exists two or more virtual switches on the circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, TAGFILTER not disabled - more than one
virtual switch exists on pack */
;
```

Beginning in Release 5.1, the above restriction also does not apply to the LNW70 circuit pack because every virtual switch has its own independent and complete VLAN space.

Beginning in Release 6.0, the above restriction also does not apply to the LNW78 circuit pack because every virtual switch has its own independent and complete VLAN space.

If the user tries to set **tagfilter** to **DISABLE** and the Ethernet/LAN port specified in the AID previously has not been assigned as a member of a VRTSW (Virtual Switch ID), or there is more than one VRTSW on the pack, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Ethernet port is not a member of a Virtual
Switch */
;
```

It is possible on the LNW70 to independently disable tagfiltering per virtual switch. Therefore on the LNW70: If the user tries to set **tagfilter** to **DISABLE** and the

Ethernet/LAN port specified in the AID previously has not been assigned as a member of a VRTSW (Virtual Switch ID), the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, Ethernet port is not a member of a Virtual
Switch */
;
```

The above error response also applies to the LNW78.

Beginning in Release 3.1, if the user enters a **addporttag** or **delporttag** value while using a LNW71 Fast Ethernet circuit pack, the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

Beginning in Release 5.0, if the user enters a **addporttag** or **delporttag** value while using a LNW74 Fast Ethernet circuit pack, the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

Beginning in Release 3.1, if the user enters a **addporttag** or **delporttag** value and the **RTRV-EQPT:vlantagmd** is not TRANS (Transparent Tag mode), the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, VLANTAGMD is not set to TRANS */
;
```

Starting in Release 5.1, the above is generated under a new condition: If the user enters a **addporttag** or **delporttag** value, and the **RTRV-EQPT:vlantagmd** is not TRANS (Transparent Tag Mode) or the **vlantagmd** is not set to SWITCHED and the port belongs to a virtual switch whose **tagmd** is not set to TRANS, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, VLANTAGMD is not set to TRANS */
;
```

Beginning in Release 3.1, if the user enters a **addporttag** or **delporttag** value, but the Ethernet/LAN port specified in the AID has not been assigned as a member of a VRTSW (Virtual Switch ID), the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Ethernet port is not a member of a Virtual
Switch */
;
```

Beginning in Release 4.0, if the user enters a **jumbo** value while using a LNWX66/67/68 circuit pack, the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

Beginning in Release 5.0, if the user enters a **jumbo** value on any other than an LNWX71 circuit pack, the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```


Starting in Release 4.0, if the *vlantagmd* (**RTRV-EQPT**) is set to 802.1Q or NOTAG and the **ethertype** is being modified, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, tag mode is not set to TRANS, changing
ethertype is not allowed */
;
```

Starting in Release 5.1, if the *vlantagmd* (**RTRV-EQPT**) is set to SWITCHED and the port belongs to a virtual switch whose **tagmd** is not set to **TRANS**, and the **ethertype** is being modified, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, tag mode is not set to TRANS, changing
ethertype is not allowed */
;
```

Starting in Release 4.0, If the specified **ethertype** value is not in the correct range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, ethertype value is not valid */
;
```

Starting in Release 4.0, if the port with the tag specified in **delporttag** or **dftporttag** has a MAC+tag address provisioned, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, a MAC+tag address exist on the port */
;
```

Starting in Release 1.0, If the specified parameter value does not have a valid value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more parameters value are not valid */
;
```

If the user enters a value for any of the following parameters, and the Ethernet/ LAN port specified in the AID is not on an LNW70 circuit pack...

porttype		qwt_ntwkAF	qwt_custAF	qsiz
qmaxthldy	qminthldy	qminthldg	qdropwt0	qdropwt1
qdropwt2	qdropwt3	trafmgmtmd	bcratelimit	

...the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

If the user enters a value for any of the following parameters, and the Ethernet/ LAN port specified in the AID is not on either an LNW70 or LNW78 circuit pack...

porttype			qsiz
qmaxthldy	qminthldy	qminthldg	qdropwt1
qdropwt2	qdropwt3	trafmgmtmd	bcratelimit

or If the user enters a value for any of the following parameters, and the Ethernet/ LAN port specified in the AID is not on an LNW70 circuit pack...

qwt_ntwkAF	qwt_custAF
qdropwt0	

...the following error response is returned:

```

sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid
   with specified circuit pack */
;

```

Starting in Release 7.0, if the user enters a value for the **portrole** parameter, and the Ethernet/LAN port specified in the AID is not on an LNW70 or LWN78 circuit pack, the above error response is returned.

If the user enters a value for any of the following parameters, and the Ethernet/LAN port specified in the AID is a private line (the LNW70 is in NOTAG *vlantagmd*)...

porttype		qwt_ntwkAF	qwt_custAF	qsz
qmaxthldy	qminthldy	qminthldg	qdropwt0	qdropwt1
qdropwt2	qdropwt3	bcratelimit	dftpri	

...the following error response is returned:

```

sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid for
   private line */
;

```

If the user enters a value for any of the following parameters, and the Ethernet/LAN port specified in the AID is not a private line (the LNW70 is not in NOTAG *vlantagmd*) ...

rcf	rcf_almvl	rcf_linkdown	rcf_ldhotmr

...the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters only valid
for private line */
;
```

If the user enters a link down hold-off timer (**rcf_ldhotmr**) value that is not within the 0 to 10000 range, and not in multiple of 100, and not equal to 99999, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, link down hold-off timer value not valid
*/
```

If the user enters a value for **stpp**, **stpcost**, **sthellotm**, **epss**, or **stvid** for a pack on which it is not valid, or for one in which **vlantagmd** in **RTRV-EQPT** is NOTAG ...

...the following error response is returned:.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

Starting in Release 9.0, if the user enters a value for **stpp**, **stpcost**, **sthellotm**, **epss**, or **stvid** for a port that is configured as an ERP port, the following error response is returned:.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters not valid for
this ERP port */
;
```

If the user enters a value for **locked_sa** for a pack on which it is not valid, or for one in which **vlantagmd** in **ED-EQPT** is NOTAG ...

...the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

On an LNW70 circuit pack when *vlantagmd* is SWITCHED, if the user enters a value for any of the following parameters, and the Ethernet/LAN port specified in the AID is not a port with **porttype** BOUNDARY...

trafmgmtmd **dftpri** **dftporttag**

...the following error response is returned:.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid for
the port type (BOUNDARY/INTERIOR) */
;
```

If the user enters a value for either **qminthldy**, **qmaxthldy**, or **qminthldg** and they do not meet the following relationship

qminthldy <= **qmaxthldy** <= **qminthldg** then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the values of QMINTHLDY, QMAXTHLDY, and QMINTHLDG
must meet the following relationship: QMINTHLDY <= QMAXTHLDY <= QMINTHLDG */
;
```

The values of **qminthldy**, **qmaxthldy**, and **qminthldg** that are used are the user input values if entered at the same time or the current stored values if these are not entered at the same time.

Starting in release 7.0, if the user enters a value for either ***qminthldy***, ***qmaxthldy***, or ***qminthldg*** and they do not meet the following relationship

qminthldy < ***qmaxthldy*** <= ***qminthldg*** then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
/* Input, Data Not Valid, the values of QMINTHLDY, QMAXTHLDY, and QMINTHLDG
must meet the following relationship: QMINTHLDY < QMAXTHLDY <= QMINTHLDG */
;
```

The values of ***qminthldy***, ***qmaxthldy***, and ***qminthldg*** that are used are the user input values if entered at the same time or the current stored values if these are not entered at the same time.

For the LNW70, if the user enters a value for any of ***qdropwt0***, ***qdropwt1***, ***qdropwt2***, or ***qdropwt3*** and they do not meet the following relationship

qdropwt3 <= ***qdropwt2*** <= ***qdropwt1*** <= ***qdropwt0***

then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
/* Input, Data Not Valid, the values of QDROPWT0, QDROPWT1, QDROPWT2, AND
QDROPWT3 must meet the following relationship: QDROPWT3 <= QDRPWT2 <= QDROPWT1
<= QDROPWT0 */
;
```

The values of ***qdropwt0***, ***qdropwt1***, ***qdropwt2***, and ***qdropwt3*** that are used are the user input values if entered at the same time or the current stored values if these are not entered at the same time.

For the LNW78, if the user enters a value for any of ***qdropwt1***, ***qdropwt2***, or ***qdropwt3*** and they do not meet the following relationship

qdropwt3 <= ***qdropwt2*** <= ***qdropwt1***

then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, the values of QDROPWT1, QDROPWT2, and QDROPWT3
must meet the following relationship: QDROPWT3 <= QDRPWT2 <= QDROPWT1 */
;
```

The values of **qdropwt1**, **qdropwt2**, and **qdropwt3** that are used are the user input values if entered at the same time or the current stored values if these are not entered at the same time.

If the user enters a **trafmgmtmd** value other than **NOTC** or **PORT**, and **RTRV-EQPT:vlantagmd** is set to NOTAG, then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, TRAFMGMTMD value not valid when VLANTAGMD
is set to NOTAG */
;
```

If the user enters a **trafmgmtmd** value other than **NOTC** or **PORT**, and **RTRV-EQPT:vlantagmd** is set to SWITCHED, and the port belongs to a virtual switch with **tagmd** equal to TRANS (see **RTRV-VRTSW**), then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, TRAFMGMTMD value not valid when TAGMD is
set to TRANS */
;
```

Starting in Release 7.0, for LNW70, the above error response is not valid if the user enters a **trafmgmtmd** value **COSPORT**, and **RTRV-EQPT:vlantagmd** is set to SWITCHED, and the port belongs to a virtual switch with **RTRV-VRTSW:tagmd** equal to TRANS.

If the user attempts to modify the **trafmgmtmd** value, and there are QoS services defined on the port (see **RTRV-ERATE**), then the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, TRAFMGMTMD value cannot be modified while
QoS services defined */
;
```

For the LNW78, when **trafmgmtmd** is **PORT**, if the user attempts to modify the **dftpri** value and there are QoS services defined on the port (see **RTRV-ERATE**), then the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, DFTPRI value cannot be modified while QoS
services defined */
;
```

If the user modifies the **hlayercos** value, and there are QoS services defined on the port (see **RTRV-ERATE**), then the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, HLAYERCOS value cannot be modified while
QoS services defined */
;
```

If the user modifies the **porttype** value, and there are QoS services defined on the port (see **RTRV-ERATE:cos, tagid**), then the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, PORTTYPE value cannot be modified while
QoS services defined */
;
```


If **trafmgmtmd** is set to **TAGPORT** or **COSTAGPORT**, and **tagfilter** is set to **DISABLE**, then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, TRAFMGMTMD value not valid when TAGFILTER
  is set to DISABLE */
;
```

If a Port Tag is specified on both an add or delete Port Tag membership list and an add or delete default Port Tag, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, Port Tag cannot be on both Port Tag
  membership list and default Port Tag */
;
```

If a Port Tag is specified on an add Port Tag membership list and it has previously been provisioned as a default Port Tag, or if a Port Tag is specified on a Port Tag default and it has previously been provisioned as a Port Tag membership list, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, Port Tag cannot be on both Port Tag member
  list and default Port Tag */
;
```

If the **dftporttag** exists on a different virtual switch, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, default Port Tag exists in a different
  virtual switch */
;
```

If one or more **addporttag** values exist on a different virtual switch, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Port Tag exists in a different virtual
switch */
;
```

Beginning in Release 5.1, the above 2 restrictions do not apply to the LNW70 circuit pack because every virtual switch has its own independent and complete VLAN space.

Beginning in Release 6.0, the above 2 restrictions do not apply to the LNW78 circuit packs because every virtual switch has its own independent and complete VLAN space.

If the user enters an AID that is not valid for a circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, AID is missing, wrong, or inconsistent with
the circuit pack type or mode */
;
```

Beginning in Release 4.0, if the user enters a **mdix** value while using a LNW66/67/68 circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters not valid with
specified circuit pack */
;
```

Beginning in Release 5.1, if the user enters a **mdix** value while using an LNW70 circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, one or more input parameters not valid with
  specified circuit pack */
;
```

Beginning in Release 6.0, if the user enters a **mdix** value while using an LNW70 or LNW78 circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, one or more input parameters not valid with
  specified circuit pack */
;
```

Beginning in Release 5.0, if the user enters a **mdix** value for optical ports (17 to 24) while using a LNW74 circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, MDIX not valid for optical FE ports on this
  pack */
;
```

Beginning in Release 9.0, if the user enters an **fefi_gen**, **fefi_det**, or **link_good** value for a port that is not an optical FE port on the following circuit packs:

- LNW74 (dmx[7.1], xtend[5.1])
- LNW70/170 (dmx[9.0], xtend[9.0])

the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, FEFI_GEN, FEFI_DET, and LINK_GOOD not
  valid for a port that is not an optical FE port on this pack */
;
```

Beginning in Release 9.0, if the user enters an ***fe fi _gen***, ***fe fi _det***, or ***link _good*** value for an optical FE port of an LNW70/170 that is not a private line (the LNW70/170 is not in NOTAG vlantagmd) the following error response is returned:-

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters only valid
for private line */
   ;
;
```

This requirement obsoletes requirement 964.6. Beginning in Release 9.0, the user is allowed to enter an ***fe fi _gen***, ***fe fi _det***, or ***link _good*** value for an optical FE port of an LNW70/170 that is either in NOTAG mode or SWITCHED mode.

Beginning in Release 9.0, if the user enters **LAN_RCF** or **RCF** as an ***fe fi _gen*** or ***fe fi _det*** value for an optical FE port of an LNW70/170 that is in SWITCHED mode (vlantagmd = SWITCHED), the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid for
switched mode */
   ;
;
```

Beginning in Release 5.0, if the user enters an ***ethertype*** value for an ***aid*** other than for ports 1, 9, or 17 on the LNW66, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, ETHERTYPE is not supported with specified
AID */
   ;
;
```

For the LNW70, if the user sets ***admin*** to **ENABLE**, and by doing so the total enabled bandwidth on the pack exceeds 9Gb, the following error response is returned:

```
sid date time
M  ctag DENY
   SARB
   /* Status, All Resources Busy, max allowed bandwidth exceeded */
   ;
;
```

The total enabled bandwidth is defined as the bandwidth allocated to every LAN port (with **admin** set to ENABLE) + the bandwidth allocated to every VCG trib (with **inmbs** set to ENABLE) (see **RTRV-VCGTRIB**).

On the LNW78, if the user sets **admin** to ENABLE, and by doing so the total “enabled” bandwidth for “LAN” ports exceeds 2.5Gb, the following error response is returned:

```
sid date time
M ctag DENY
  SARB
/* Status, All Resources Busy, max allowed bandwidth exceeded */
;
```

The total enabled bandwidth for “LAN” ports is defined as the bandwidth allocated to every LAN port (with **admin** set to ENABLE) + the bandwidth allocated to every EoS VCG trib (with **inmbs** set to ENABLE) (see **RTRV-VCGTRIB**).

If the user attempts to set **locked_sa** and the Ethernet/LAN port specified in the AID previously has not been assigned as a member of a VRTSW (Virtual Switch ID), the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, Ethernet port is not a member of a Virtual
Switch */
;
```

If the user attempts to set **locked_sa** to **ENABLE** and there is a static MAC entry of **type=FILTERED** (see **RTRV-MAC**) on the port, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, MAC addresses type FILTERED must be
deleted on port */
;
```

Starting in Release 7.0, if a default VLAN or **dftporttag** is configured on a port, then **porttype** BOUNDARY and **portrole** CUSTOMER are the only supported values for these parameters on the LNW70.

If the user attempts to provision an unsupported combination of **porttype**, **portrole**, and default **vlanid**, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, specified combination of PORTTYPE,
   PORTROLE, and default VLANID is not supported */
;
```

If the user attempts to provision an unsupported combination of **porttype**, **portrole**, and **dftporttag** (when **vlangmd** TRANS for the virtual switch), the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, specified combination of PORTTYPE,
   PORTROLE and DFTPORTTAG is not supported */
;
```

Beginning in Release 9.0, if the user attempts to provision a VLANID (using **dftporttag** or **addporttag**) the following error response is returned if this VLANID is already in use for ERP on this port:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, VLANID already in use for ERP */
;
```

Note that it is allowed to provision a VLANID that is in use for ERP on any port that is not a port for the ERP instance.

Beginning in Release 7.0, if the user enters a **porttype** other than BOUNDARY or a **portrole** other than **CUSTOMER** for a port on the LNW78 circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, one or more input parameters not valid with
  specified circuit pack */
;
```

Beginning in Release 9.0, if the user modifies the **portrole** for an ERP port, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, modifying portrole not allowed on ERP
  ports */
;
```

Beginning in Release 7.0, if the user enters a request to change the **epmode** of a port corresponding to a socket that is not configured to be equipped (**RTRV-EQPT:name=UNEQ**), the following error response is returned:

```
sid date time
M ctag DENY
  ENEQ
  /* Equipage, Not Equipped */
;
```

If the user enters a parameter which is not valid because the port is a member of a LAG, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, one or more input parameters not valid for
  the port when a member of a LAG */
;
```

If **aid** is a LAG and the user enters a parameter that is not valid for a LAG or is not valid when *protocol* in **RTRV-LAGRP** is not LACP, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid for
LAG */
;
```

If **aid** is not a LAG and the user enters a parameter which is valid only for a LAG, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters valid only
for a LAG */
;
```

Beginning in Release 9.0, if the user enters an **emsdt** value on a circuit pack that is not an LNW70/170, LNW64, LNW74, or LNW87 the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

Beginning in Release 9.0, if the user enters an exceeded MTU size drop threshold (**emsdt**) value that is not an integer within the 0 to 1,000 range, the following IDNV error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```


If the user enters a Actor_Port_Priority (**actppri**) that is not within the 0 to 65535 range, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, actppri out of range */
;
```

If the user enters a **actppri** value, but the Ethernet/LAN port specified in the AID is not a member of a LAG, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Ethernet port is not a member of a LAG */
;
```

If the user enters a **rcf_rdi** value with a modifier that is not 1GE, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, parameter settings inconsistent with modifier
*/
;
```

RELATED TL1 MESSAGES

RTRV-EPORT

NAME

ED-EQPT: Edit Equipment

The **ED-EQPT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-EQPT:*tid:aid:ctag::type:spec_block;*

DESCRIPTION

The **ED-EQPT** command modifies the properties of a circuit pack.

Starting in Release 7.1, when companion FN/Growth slots are equipped with LNW170 Ethernet circuit packs, the LAN ports on the companion circuit packs may operate independently, or using the **prot_state** parameter, certain corresponding LAN ports on the companion packs may operate in an equipment protection mode. In Release 7.1, the equipment protection mode is accompanied by predefined Link Aggregation Groups.

The **prot_state** parameter applies to both companion slots and both slots always have the same protection state value. Values are **PROT** for companion ports to be in the same pre-defined LAG, and **UNPROT** for the circuit packs to operate independently (two independent packs are allowed only with VLF mains).

Provisioning the protection state of the companion LNW170 circuit packs to **PROT** creates 4 LAGs and assigns the corresponding LAN ports to these LAGs as follows:

Table 2-75. LNW170 LAG Port Assignments when
prot_state = PROT

Link Aggregation Group	Slot 1 Port	Slot 2 Port
LAG1	1	1
LAG2	2	2
LAG3	5	5
LAG4	6	6

The other LAN ports are unavailable. Sockets for unavailable ports that are equipped with SFPs are alarmed with an "unexpected or failed Pluggable Transmission Module" alarm.

When provisioning the **prot_state** parameter to either **PROT** or to **UNPROT**, the pre-conditions, command **aid** and results depend on the following conditions:

- is the NE equipped with VLF MAIN or non-VLF MAIN circuit packs?
- with VLF MAIN circuit packs, is one slot or are both slots provisioned to be equipped with LNW170 circuit packs?
- with VLF MAIN circuit packs, which slot is addressed by the **aid**?
- for both the VLF MAIN and non-VLF MAIN cases, is an LNW170 inserted into the unequipped slot after **ED-EQPT:prot_state=PROT** is executed, but before **ED-EQPT:prot_state=UNPROT**?

VLF MAIN Pre-Conditions:

When the NE is equipped with VLF MAIN circuit packs, provisioning the **prot_state** of a slot pair to **PROT** is allowed only when:

- both slots are provisioned for LNW170 circuit packs or one slot is provisioned for an LNW170 circuit pack and the other slot is provisioned as unequipped
- Pre-conditions if both slots are provisioned for LNW170 circuit packs:
 - both packs must be provisioned with:
 - **vlantagmd=SWITCHED**
 - the value of **enetmd** must result in the same port rates on the companion LAG ports, ports 1, 2, 5 or 6, on the companion circuit packs
 - the values of **eccmode** and **taudit** must be the same for both circuit packs
 - or
 - the circuit pack not addressed by the **aid** must be provisioned with **vlantagmd=SWITCHED**, and
 - if the circuit pack in the slot that is addressed by the command is not provisioned with **vlantagmd=SWITCHED**, it must be provisioned as such in the same instance of **ED-EQPT** that provisions **prot_state** to **PROT**, and
 - if the values of **eccmode** and/or **taudit** for the companion circuit packs are different, the same instance of **ED-EQPT** that specifies **prot_state=PROT** must also specify a value of **eccmode** and/or **taudit** for the circuit pack addressed by the **aid** that is the same value as provisioned on the companion circuit pack, and
 - if the values of **enetmd** for the companion circuit packs result in the different port rates on the companion ports, the same instance of **ED-EQPT** that specifies **prot_state=PROT** must also specify a value of **enetmd** for the circuit pack addressed by the **aid** that results in the same port rates on the companion ports on the companion circuit pack
- there must not be any Link Aggregation Groups (LAGs) provisioned on either companion circuit pack

- only the slot specified by the **aid** can be provisioned with cross-connects or virtual switches, and the provisioned virtual switches and cross-connects cannot be on ports 3, 4, 7 or 8, that is, the ports that will be unavailable after **prot_state=PROT** is provisioned
- Pre-conditions if one slot is provisioned for an LNW170 circuit pack and the other slot is provisioned as unequipped:
 - For the LNW170 circuit pack in the equipped slot:
 - there must not be any Link Aggregation Groups (LAGs) provisioned
 - virtual switches are allowed on ports 1, 2, 5 and 6
 - virtual switches are not allowed on ports 3, 4, 7 and 8
 - if the equipped slot is not provisioned with **vlantagmd=SWITCHED**, it must be provisioned as such in the same instance of **ED-EQPT** that provisions **prot_state** to **PROT**
 - the same instance of **ED-EQPT** can also change the provisioning of **ecc-mode**, **taudit** and **enetmd**
 - **ED-EQPT:aid** can address only the slot equipped with the LNW170 circuit pack

VLF MAIN Results:

The results of successfully executing an **ED-EQPT** command specifying **prot_state=PROT** when both slots are equipped with LNW170 circuit packs are as follows:

- the LAGs are created and the provisioned cross-connects, virtual switches and layer 2 parameters of the member ports in the slot specified by the **aid** are inherited by their LAGs. See **RTRV-VLAN**, **RTRV-STGRP**, **RTRV-MAC**, **RTRV-ERATE**, **RTRV-EPORT**, **RTRV-EPM**, **RTRV-VRTSW** and **RTRV-EPM-QOS** for the layer 2 parameters that apply to LAGs.
- a 1+1EQPT protection group is created, a **DBCHG** message is issued and the circuit pack in the slot specified by **aid** becomes the ACTIVE-WAN circuit pack (see **RTRV-STATE-EQPT:switch-state**).
- the value of all VCG parameters are copied from the LNW170 in the addressed to the LNW170 in the companion slot.
- **DBCHG** messages are issued for the LAGs, protection group and other new provisioned values.
- If the addressed slot is slot 2 and cross-connects were provisioned on slot 2, **DBCHG** messages are issued for the deletion of the cross-connects on the slot 2 AID and the creation of the same cross-connects on the slot 1 AID. Subsequently, all cross-connects are reported against slot 1, regardless of whether they were originally provisioned for slot 1 or were inherited from slot 2 when the LAGs were created. The **DBCHG** messages are issued because of the change of slot on which the cross-connects are reported. Since the cross-connects are not actually deleted and re-created, transmission hits do not occur.

In addition to the results when both slots are equipped with LNW170 circuit packs, the results of successfully executing an **ED-EQPT** command specifying **prot_state=PROT** when only one slot is equipped with an LNW170 circuit packs are as follows:

- For the unequipped slot, the slot becomes provisioned for the LNW170 and a **DBCHG** message is issued. The slot is also provisioned for **vlantagmd=SWITCHED** and for the same values of **eccmode**, **enetmd**, **taudit** and VCG parameters as the companion LNW170 circuit pack. **DBCHG** messages are issued for **vlantagmd** and for **eccmode**, **enetmd**, **taudit** and VCG parameters if the values inherited from the companion pack are not the default values for these parameters. **REPT DBCHG** messages are issued for this slot with the new provisioned values. At this point, there is no difference between the original "both slots equipped" case and the "only one slot equipped" case.

For slots provisioned for **prot_state=PROT**, the value of **vlantagmd=SWITCHED** cannot be changed.

VLF MAINs: Provisioning Back to **UNPROT** When Both Slots are Equipped:

When companion slots are provisioned for **prot_state=PROT** and both slots are equipped with LNW170 circuit packs, the following are the conditions and results when provisioning the slots to be unprotected via **ED-EQPT:prot_state=UNPROT**:

- **ED-EQPT:aid** may address either slot, regardless of which slot was addressed when **prot_state=PROT** was provisioned
- the LAGs and 1+1EQPT protection group are removed and appropriate **DBCHG** messages are issued
- both slots remain provisioned for LNW170 circuit packs, even if one slot was originally unequipped when **prot_state=PROT** was provisioned
- values of **vlantagmd**, **eccmode**, **enetmd**, **taudit** and all VCG parameters remain the same for the slot addressed by **aid**, unless the values are specifically changed in the instance of the **ED-EQPT** command that sets **prot_state=UNPROT**
- the member ports on the circuit pack in the slot addressed by **aid** inherit the cross-connects, virtual switches and layer 2 parameters of the member ports in the slot specified by the **aid** from the LAGs.
- the values of all provisionable parameters for the slot not addressed by **aid** are changed to their default values, regardless of their values when **prot_state=PROT** was provisioned. Appropriate **DBCHG** messages are issued for the changed values
- if the **aid** addresses slot 1, there are no changes to cross-connects
- if **aid** addresses slot 2, **DBCHG** messages are issued for deleting the cross-connects on the slot 1 AID and for creating the cross-connects on the slot 2 AID. These cross-connects are now reported only against slot 2. The **DBCHG** messages are issued because of the change of slot on which the cross-connects are reported. Since the cross-connects are not actually deleted and re-created, transmission hits do not occur.

Non-VLF MAIN Pre-conditions:

When the NE is equipped with non-VLF MAIN circuit packs, provisioning the **prot_state** of a slot pair to **PROT** is allowed only when:

- one slot is provisioned for an LNW170 circuit pack.
 - note that prior to provisioning **prot_state** to **PROT**, a "CP not allowed -eqpt" alarm is issued if an LNW170, or any other circuit pack, is inserted into the other slot. After **prot_state** is changed to **PROT**, an LNW170 in the other slot is accepted and the alarm is cleared. If a circuit pack other than an LNW170 is in the other slot, the "CP not allowed -eqpt" alarm is not cleared.
- other pre-conditions are the same as the VLF MAIN, one slot equipped case.

Non-VLF MAIN Results:

The results of successfully executing an **ED-EQPT** command specifying **prot_state=PROT** when the NE is equipped with non-VLF MAIN circuit packs are the same as the VLF MAIN case when one slot is unequipped. Note that, as in the VLF MAIN case,

- For the unequipped slot, the slot becomes provisioned for the LNW170 and a **DBCHG** message is issued. The slot is also provisioned for **vlantagmd=SWITCHED** and for the same values of **eccmode**, **enetmd**, **taudit** and VCG parameters as the companion LNW170 circuit pack. **DBCHG** messages are issued for **vlantagmd** and for **eccmode**, **enetmd**, **taudit** and VCG parameters if the values inherited from the companion pack are not the default values for these parameters.

This is an exception to the normal non-VLF MAIN behavior that doesn't allow Ethernet or data circuit packs in both slots of a companion pair.

When LNW170 CPs in companion slots are provisioned with **prot_state = PROT**:

- the value of **vlantagmd** cannot be changed.
- Provisioning **eccmode** on either circuit pack will change its value for both circuit packs.
- Provisioning **taudit** on either circuit pack will change its value for both circuit packs.
- If provisioning **enetmd** for one of the circuit packs results in a change in the line rate, then the value of **enetmd** is changed for both packs. If changing **enetmd** doesn't change the line rate, then it is changed only on the pack specified by **aid**.
- If the provisioning changes the values of the parameter on both packs, separate **DBCHG** messages will be issued for each pack.

Non-VLF MAINs: Provisioning Back to **UNPROT**:

The results of successfully executing an **ED-EQPT** command specifying **prot_state=UNPROT** when the NE is equipped with non-VLF MAIN circuit packs are mostly the same as the VLF MAIN case. The following are the differences from the VLF MAIN case:

- If **prot_state=PROT** and an LNW170 has not been inserted into the unequipped slot, when **ED-EQPT:prot_state=UNPROT** is executed, the unequipped slot reverts back to its normal non-VLF MAIN unequipped state in which any circuit pack inserted into the slot will cause an "CP not allowed -eqpt" alarm to be issued

- If **prot_state=PROT** and an LNW170 has been inserted into the unequipped slot, when **ED-EQPT:prot_state=UNPROT** is executed, the slot not addressed by **aid** reverts back to its normal non-VLF MAIN unequipped state in which any circuit pack inserted into the slot will cause an "CP not allowed -eqpt" alarm to be issued. If the LNW170 in the slot not addressed by **aid** has not been removed, the "CP not allowed -eqpt" alarm is issued at the completion of the **ED-EQPT** command.

When **prot_state** is changed from **UNPROT** to **PROT** or from **PROT** to **UNPROT**, many **DBCHG** messages are issued as LAGs are created or deleted, cross-connects are moved, and port parameter values are inherited by the LAG or revert back to the port. The table below identifies the **DBCHG** CCB values specifying the real or virtual TL1 commands associated with the entities and parameters that are changed when the **prot_state** value is changed.

Entity	Change	DBCHG CCB
prot_state changed from UNPROT to PROT		
Link Aggregation Group	creation of LAGs	ENT-LAGRP
	For each LAG: L2 provisioning copied from member to LAG	ED-VRTSW, ED-EPORT, ED-VLAN, ED-ERATE, ED-STGRP, ENT-MAC
LAG Member port	remove member port	ED-VRTSW, ED-VLAN, ED-STGRP, DLT-MAC
Target Slot	if target is in slot 2, cross-connects deleted on slot 2.	DLT-CRS
Companion Slot	LAGs and VCGs added to the command port list for the companion slot, as applicable (e.g., ENT-STGRP: eplst).	ENT-VRTSW, ENT-VLAN, ENT-ERATE, ENT-MAC, ENT-STGRP, ED-VCG, and ED-VCGTRIB
	if companion is in slot 1, cross-connects added to slot 1.	ENT-CRS
	if non-VLF Mains, and companion CP is present, companion CP is accepted	PLUGIN
prot_state changed from PROT to UNPROT		

Table 5. DBCHG CCBs for *prot_state* Provisioning

Entity	Change	DBCHG CCB
Link Aggregation Group	LAGs deleted	DLT - LAGRP
	1+1 protection group deleted	DLT - PROTN - GRP
Target slot	for each LAG/member: L2 provisioning is copied from LAG to member	ED - VRTSW, ED - EPORT, ED - VLAN, ED - ERATE, ED - STGRP, ENT - MAC
	if target is in slot 2, cross-connects created on slot 2	ENT - CRS
Companion Slot: VLF Mains	if companion is in slot 1, cross-connects deleted on slot 1	DLT - VRTSW DLT - CRS
Companion Slot: non-VLF Mains	if companion is in slot 1, cross-connects deleted on slot 1	DLT - CRS
	pack is no longer allowed	UNPLUG

Table 5. DBCHG CCBs for *prot_state* Provisioning

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-EQPT** command generates a **REPT DBCHG** status message.

INPUT PARAMETERS

Table 2-76. ED-EQPT Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of a slot AID. Beginning in Release 6.0, this may also be the address of a socket AID.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and a description of this parameter.

Table 2-76. ED-EQPT Input Parameters (cont 2 of 2)

Parameter Name	Description
type	Equipment Type. Legal values when addressed to a slot AID are: ■ ETHPK (Ethernet circuit pack) ■ DS1E1 (LNW8 56DS1E1 circuit pack) Starting in Release 8.0, DS1E1 also applies to the LNW801 56DS1E1 circuit pack. ■ OLIU (OLIU circuit pack) ■ DATA (LNW73 circuit pack) ■ MUXP (LNW705 circuit pack) Legal values when addressed to a socket AID are: ■ PTM (Pluggable Transmission Module)
spec_block	The spec_block parameters are defined in the following table.

Table 2-77. ED-EQPT *spec_block* Parameters (cont 1 of 13)

Parameter Name	Description
brst	This parameter determines the length or size of the burst that will be allowed by the PIR (peak information rate) policer. The valid range for brst is 1 to 255. The default is 5. A larger value of brst mean that larger bursts will be allowed; a smaller value of brst means that the PIR is more strictly enforced, i.e. less "burstability" is allowed. The brst parameter affects policing on the circuit pack and applies for all vlantagmd modes (802.1Q, transparent, and NOTAG). This parameter is valid when type=ETHPK. This parameter pertains to the LNW66, LNW67, and LNW68 Ethernet circuit packs, starting in release 3.0. This parameter does not pertain to the LNW71. This parameter does not pertain to the LNW70 or the LNW74. This parameter does not pertain to the LNW170. This parameter does not pertain to the LNW78, LNW63. This parameter does not pertain to the LNW64.

Table 2-77. ED-EQPT *spec_block* Parameters (cont 2 of 13)

Parameter Name	Description
	This parameter does not pertain to the LNW87.
<i>cint</i>	Credit interval for adding tokens to the token buckets used by the PIR (peak information rate) rate policer. The valid range for <i>cint</i> is 1 to 4095. The default is 125, which corresponds to an interval of approximately 65.5ms. The minimum value of 1 corresponds to an interval of 524.288us; the maximum value of 4095 corresponds to 2.15 sec. The <i>cint</i> parameter affects policing on the circuit pack and applies for all <i>vlantagmd</i> modes (802.1Q, transparent, and NOTAG). This parameter is valid when <i>type</i>=ETHPK. This parameter pertains to the LNW66, LNW67, and LNW68 Ethernet circuit packs, starting in release 3.0. This parameter does not pertain to the LNW71. This parameter does not pertain to the LNW70 or the LNW74. This parameter does not pertain to the LNW170. This parameter does not pertain to the LNW78, LNW63. This parameter does not pertain to the LNW64. This parameter does not pertain to the LNW87.
<i>datatype</i>	Data Type. This parameter pertains only to the LNW73 circuit pack. This parameter cannot be changed if there are any existing cross connections. This parameter is valid when <i>type</i>=DATA. This parameter cannot be changed if there is an existing loopback. See RTRV-LPBK. Note: changing the value of <i>datatype</i> will cause the target data circuit pack to reset, which may take up to several minutes to complete. Until the pack reset is complete, subsequent provisioning commands directed toward the pack may not complete and may cause a transient pack failure. Values for <i>datatype</i> are as follows: ■ FC-FICON Fibre Channel and FICON. In this mode, data ports (Initial default) can be configured individually for Fibre Channel or FICON. (see ED-DPORT). ■ ESCON In this mode, all ports on the circuit pack are set for ESCON.

Table 2-77. ED-EQPT *spec_block* Parameters (cont 3 of 13)

Parameter Name	Description
<i>eccmode</i>	Ethernet Cross-Connect Mode. This parameter pertains only to the LNW71 Fast Ethernet circuit pack. This parameter cannot be changed if there are any existing cross connections. This parameter is valid when <i>type</i>=ETHPK. Starting in release 5.1, this parameter is also used for the LNW70 Ethernet pack to select either the STS1 mode or the STS12c mode. Starting in release 7.1, this parameter is also used for the LNW170 Ethernet pack to select either the STS1 mode or the STS12c mode. Starting in release 6.0, this parameter is also used for the LNW78 Ethernet pack to select either the STS1 mode or the STS12c mode. This parameter cannot be changed if there is an existing Ethernet loopback. See RTRV-LPBK. Note: changing the value of <i>eccmode</i> will cause the target Ethernet circuit pack to reset, which may take up to several minutes to complete. Until the pack reset is complete, subsequent provisioning commands directed toward the pack may not complete and may cause a transient pack failure. Values for <i>eccmode</i> are as follows: ■ STS1 STS1 mode. In this mode, only STS-1 cross connections can be used. This is the initial value. ■ STS3C STS3c mode. In this mode, which applies only to the LNW71, STS-1 and STS-3c cross connections can be used, but at most one cross connection can be made to each VCG. Note: In this mode, only the first 16 Ethernet/LAN ports (1-16) can be used, and only the first 16 VCG/WAN ports (1-16) can be used. ■ STS12C STS12c mode. In this mode, which applies only to the LNW70, only STS-3c and STS-12c cross connections can be used as well as virtual concatenations of STS-3cs. - Starting in release 7.1, this value also applies to the LNW170. - Starting in release 6.0, this value also applies to the LNW78.

Table 2-77. ED-EQPT *spec_block* Parameters (cont 4 of 13)

Parameter Name	Description
efreq	Expected DWDM Frequency. Values: integers in the range from 9200 to 9590, in increments of 10. The initial value is NA. The efreq values are equivalent to DWDM frequencies 192.0 to 195.9 THz. Starting in Release 8.0, this parameter also may have the value AUTO. efreq only applies to sockets associated with OC-48 and OC-192 lines. The value of efreq for sockets associated with OC-3 and OC-12 lines is NA. Starting in Release 7.1.1, efreq also applies to sockets associated with OTU2 lines. This parameter is valid when type=PTM. Starting in Release 8.0, this parameter is valid for non-PTM based DWDM circuit packs when type=OLIU. Only values NA and AUTO apply when type=OLIU. Starting in Release 8.0, this parameter is valid for the DWDM compatible LNW57 and LNW60 OLIU circuit packs when type=OLIU. efreq is used to verify that the frequency of an installed DWDM PTM is the expected frequency. If the PTM frequency, as determined by the frequency encoding on the PTM EEPROM (see RTRV-EQPT:freq), is not the same as efreq, then an "unexpected or failed Pluggable Transmission Module" alarm is issued. If the value of efreq is NA, then there is no PTM frequency verification. If efreq is provisioned to NA, an existing PTM alarm is cleared. efreq is also used to verify that the expected frequency of the specified optical ports are the same when provisioning an optical cross-connect (see ENT-CRS-OCH). If the frequencies of the optical ports are different, or if efreq = NA, then provisioning the cross-connect is denied. The value of efreq may not be changed for a PTM port or non-PTM based OLIU circuit pack if an optical cross-connect is provisioned to the PTM or OLIU port, even if the value of efreq is NA. The value AUTO automatically sets efreq to the actual value of the frequency of a DWDM PTM, of a non-PTM based DWDM circuit pack or of a DWDM compatible circuit pack. The value AUTO is not persistent - once AUTO is used to set the value of efreq, RTRV-EQPT:efreq reports the numerical frequency value, not a value of AUTO. If a PTM or non-PTM based circuit pack is replaced with one with a different frequency, ED-EQPT:efreq=AUTO may be issued again to set the value of efreq to the new frequency, as long as there are no optical cross-connects provisioned to the port.

Table 2-77. ED-EQPT *spec_block* Parameters (cont 5 of 13)

Parameter Name	Description
	When a PTM, non-PTM based or DWDM compatible circuit pack is removed and UPD-SYS is executed to transition the socket or slot to be unequipped, if there is not an optical cross-connect to the port, the value of efreq is changed to NA. If a optical cross-connect exists to the port, the value of efreq is not changed. The LNW523, LNW527 and LNW554 circuit packs are 4 channel tunable DWDM packs, with the frequency selected via ENT-rr:wsel. efreq is set according to the current value of wsel, and is changed when the value of wsel is changed. However, attempting to change wsel will be denied if there are optical cross-connects provisioned to the port on this pack.
enetmd	Ethernet Port Mode. This parameter sets the Ethernet ports to operate with different type of SFPs for the circuit pack. This parameter is valid when type=ETHPK. This parameter does not pertain to the LNW87. This parameter cannot be changed if there is an existing loopback. See RTRV-LPBK. Note: changing the value of enetmd may cause the target data circuit pack to reset, which may take up to several minutes to complete. Until the pack reset is complete, subsequent provisioning commands directed toward the pack may not complete and may cause a transient pack failure. Values for enetmd are as follows: ■ GX_FX - For the LNW70: (Initial Value) Port 1-4 are set to operate with optical GbE SFPs. Port 5-8 are set to operate with optical FE SFPs. - For the LNW170: (Initial Value) Port 1-4 are set to operate with optical GbE SFPs. Port 5-8 are set to operate with optical FE SFPs. - For the LNW78: (Initial Value) Port 1-2 are set to operate with optical GbE SFPs. Port 5-8 are set to operate with optical FE SFPs. ■ GT_FX - For the LNW70: Port 1-4 are set to operate with electrical GbE SFPs Port 5-8 are set to operate with optical FE SFPs.

Table 2-77. ED-EQPT *spec_block* Parameters (cont 6 of 13)

Parameter Name	Description
■ FT_FX	For the LNW170: Port 1-4 are set to operate with electrical GbE SFPs Port 5-8 are set to operate with optical FE SFPs. For the LNW78: Port 1-2 are set to operate with electrical GbE SFPs Port 5-8 are set to operate with optical FE SFPs. For the LNW70: Port 1-4 are set to operate with electrical FE SFPs. Port 5-8 are set to operate with optical FE SFPs. For the LNW170: Port 1-4 are set to operate with electrical FE SFPs. Port 5-8 are set to operate with optical FE SFPs. For the LNW74: Electrical FE backplane ports 1-16 are enabled. Port 17-24 are set to operate with optical FE SFPs. enetmd is provisionable for the LNW74 only when the NE is equipped with VLF MAIN circuit packs. FT_FX is the initial value except for LNW74 packs equipped in the growth slots. Provisioning enetmd to FT_FX will be denied when both companion slots are equipped with LNW74 packs.
■ FX	For the LNW74: Electrical FE backplane ports 1-16 are disabled and operations on these ports are denied. Port 17-24 are set to operate with optical FE SFPs. enetmd is provisionable for the LNW74 only for NEs equipped with VLF MAIN circuit packs. FX is the only value allowed for when both companion slots are equipped with LNW74 packs. FX is the initial value and the only value allowed for LNW74 packs equipped in the growth slots.
■ GX_FT	For the LNW70: Port 1-4 are set to operate with optical GbE SFPs. Port 5-8 are set to operate with electrical FE SFPs.

Table 2-77. ED-EQPT *spec_block* Parameters (cont 7 of 13)

Parameter Name	Description
	For the LNW78: Port 1-2 are set to operate with optical GbE SFPs. Port 5-8 are set to operate with electrical FE SFPs. For the LNW170: Port 1-4 are set to operate with optical GbE SFPs. Port 5-8 are set to operate with electrical FE SFPs. ■ GT_FT For the LNW70: Port 1-4 are set to operate with electrical GbE SFPs. Port 5-8 are set to operate with electrical FE SFPs. For the LNW78: Port 1-2 are set to operate with electrical GbE SFPs. Port 5-8 are set to operate with electrical FE SFPs. For the LNW170: Port 1-4 are set to operate with electrical GbE SFPs. Port 5-8 are set to operate with electrical FE SFPs. ■ FT For the LNW70: Port 1-8 are set to operate with electrical FE SFPs. For the LNW170: Port 1-8 are set to operate with electrical FE SFPs. ■ GX For the LNW63: (Initial Value) Port 1-4 are set to operate with optical GbE SFPs. For the LNW64: (Initial Value) Port 1-8 are set to operate with optical GbE SFPs. ■ GT For the LNW63: Port 1-4 are set to operate with electrical GbE SFPs. For the LNW64: Port 1-8 are set to operate with electrical GbE SFPs. ■ GT_GX For the LNW64: Port 1-4 are set to operate with electrical GbE SFPs. Port 5-8 are set to operate with optical GbE SFPs.

Table 2-77. ED-EQPT *spec_block* Parameters (cont 8 of 13)

Parameter Name	Description
<i>fe fi _code</i>	Far End Fault Indication Code. <i>fe fi _code</i> is a 2 digit hexadecimal number in the range 03 to FE. The initial value is 05. (If a single digit is entered, it is padded with a zero to the left, e.g., 5 is interpreted as 05). <i>fe fi _code</i> is applicable only for LNW74 circuit packs and is specified on a circuit pack basis, that is, it is valid only for slot <i>aids</i> and for <i>type=ETHPK</i> .
<i>intftype</i>	Interface Type. This parameter sets the electrical interface type of a group to T1 or E1. This parameter is valid when <i>type=DS1E1</i>. The <i>aid</i> specified must be that of a slot in a group provisioned to contain LNW8 56DS1E1 circuit packs. Though the <i>aid</i> is that of a slot, the provisioning for both slots of the group is changed. Starting in Release 8.0, <i>intftype</i> also applies to the LNW801 56DS1E1 circuit pack. The <i>intftype</i> of a group may only be changed if there are no cross-connects to any ports in the group. Valid values are: ■ DS1 The group is provisioned to provide 56 DS1 ports in 2 STS1s. STS1 or VT cross-connects are allowed. The first STS1 uses ports 1-28, and the second uses ports 29-56. ■ E1 The group is provisioned to provide 56 E1 ports: the first 2 STS1s contain 21 E1 ports, and the third STS1 contains 14 E1 ports. A single STS3c cross-connect is allowed; each E1 is mapped to a VC12. The first STS1 uses ports 1-21, the second uses ports 22-42, and the third uses ports 43-56.
<i>mst</i>	Socket Maintenance State. This parameter is only allowed when <i>type=PTM</i>, and may only be addressed to sockets which are provisioned to be equipped (i.e. in RTRV-EQPT, <i>name</i> is not reported as UNEQ). Values for <i>mst</i> are: ■ NORMAL (initial value) When <i>mst=NORMAL</i>, a subsequent socket removal alarm is reported using the applicable assigned ASAP alarm severity level. See RTRV-ASAP-ASGNMT and RTRV-ASAP-PROF, <i>sa_sktrmv</i> or <i>nsa_sktrmv</i>.

Table 2-77. ED-EQPT *spec_block* Parameters (cont 9 of 13)

Parameter Name	Description
	■ MAINT When <i>mst</i>=MAINT, a subsequent socket removal alarm is either not reported, if the applicable assigned ASAP alarm severity level is NR, or reported as a standing condition (using the NA alarm severity level) regardless of the assigned ASAP alarm severity level. Also, when <i>mst</i>=MAINT, a standing condition, "PTM maintenance IP", is issued against the socket AID, along with an associated ABN (abnormal) indication. Note that changing <i>mst</i> does not affect the alarm severity level of any existing alarm. <i>mst</i> is set to NORMAL after CPY-MEM RESTORE.
<i>prot_state</i>	Slot protection state. This parameter specifies the protection state for the companion circuit packs in a slot pair. Values are PROT and UNPROT. <i>prot_state</i> is provisionable only when <i>type</i>=ETHPK and only for the LNW170 circuit pack. When a slot pair is equipped with LNW170 circuit packs, provisioning the slot <i>prot_state</i> to PROT sets the packs to be equipment protected and assigns certain corresponding ports on the companion circuit packs to the same fixed link aggregation groups. See Table 2-75. When <i>prot_state</i> is provisioned to UNPROT, if the NE is equipped with VLF MAINS, the LNW170 circuit packs are unprotected and the corresponding ports on the companion packs operate independently. If the NE is equipped with non-VLF MAINS, the LNW170 in the slot addressed by the ED-EQPT command is unprotected and any circuit pack in the companion slot is alarmed. When the value of <i>prot_state</i> is changed to either PROT or to UNPROT, the LNW170 circuit packs are hard reset, which may take up to several minutes to complete, resulting in the disruption of any existing service on these packs until the packs recover from the reset. Until the pack reset is complete, subsequent provisioning commands directed toward the pack may not complete and may cause a transient pack failure.
<i>ssbits</i>	SS bits. For low-speed OC-n boards, this parameter specifies the value of the outgoing SS bits in the H1 pointer byte of all outgoing STSn signals transported in the OC-n line overhead (incoming SS bits are ignored). This parameter applies to all lines on the board. Provisioning changes to the SS bits of a pack in one slot in a function group are applied to both packs in the function group. This parameter is valid when <i>type</i>=OLIU. Values:

Table 2-77. ED-EQPT *spec_block* Parameters (cont 10 of 13)

Parameter Name	Description
	Starting in Release 7.1, ssbits also applies when type=MUXP for LNW705 client ports that are provisioned as OC-n ports (see RTRV-OTPE). ■ SS00 The outgoing SS bits are set to '00'. (Initial default) ■ SS10 The outgoing SS bits are set to '10'. This parameter applies only to low-speed OLIU circuit packs. Beginning in Release 9.0, this parameter is not applicable to the LNW55, LNW62, or LNW603.
taudit	Enable or disable the LNW70 transmission audit. The transmission audit is a consistency check between counters on various hardware devices on the LNW70 circuit pack. A transmission audit failure will result in a LAN or VCG segment audit failed alarm or equipment NP audit failed alarm. The values are: ENABLED Enable the transmission audit function. This is the initial value. DISABLED Disable the transmission audit function. taudit is available in Release 5.1.5 and applies only to the LNW70 circuit pack and when type=ETHPK. taudit is not available in Release 6.0. taudit is not available in Release 7.0. taudit is available again starting in Release 7.1 and applies only to the LNW70 and LNW170 circuit packs. Starting in Release 7.1, when taudit is provisioned for a protected LNW170 circuit pack, the provisioned value will apply to both circuit packs of the protected pair.
vlantagmd	Virtual LAN Tagging Mode. This parameter is valid when type=ETHPK. Starting in Release 7.1, vlantagmd also applies when type=MUXP for LNW705 client ports that are provisioned as Ethernet ports (see RTRV-OTPE).

Table 2-77. ED-EQPT *spec_block* Parameters (cont 11 of 13)

Parameter Name	Description
	Note: changing the value of <i>vlangmd</i> will cause the target Ethernet circuit pack to reset, which may take up to several minutes to complete. Until the pack reset is complete, subsequent provisioning commands directed toward the pack may not complete and may cause a transient pack failure. Values are as follows: ■ 802.1TAG IEEE 802.1Q tag mode (initial value for FE circuit packs). In this mode, the ENT-VLAN and ED-VLAN commands are used to set tag values. IEEE802.1 tag mode does not apply to the LNW71 Fast Ethernet circuit pack. IEEE802.1 tag mode does not apply to the LNW70 or the LNW74 circuit packs. IEEE802.1 tag mode does not apply to the LNW170 circuit pack. ■ TRANS Transparent mode (also called “port tag mode”). In this mode, the ED-EPORT and ED-VCG commands are used to set tag values. Transparent mode does not pertain to the LNW71, another Fast Ethernet circuit pack. Transparent mode does not apply to the LNW70 or the LNW74 circuit packs. Transparent mode does not apply to the LNW170 circuit pack. ■ NOTAG No Tag or Private Line mode. This is the initial value for Gigabit Ethernet circuit packs. Notes for specific circuit packs: LNW71: No tag mode is the only mode of operation for the LNW71 Fast Ethernet circuit pack. LNW74: No tag mode is the only mode of operation for the LNW74 Fast Ethernet circuit pack.

Table 2-77. ED-EQPT *spec_block* Parameters (cont 12 of 13)

Parameter Name	Description
	LNW70: NOTAG mode is the default mode. In NOTAG mode on the LNW70 the ports with the following aids are connected together: <i>{group}-1</i> and <i>{group}-v1</i> <i>{group}-2</i> and <i>{group}-v2</i> <i>{group}-3</i> and <i>{group}-v3</i> <i>{group}-4</i> and <i>{group}-v4</i> <i>{group}-5</i> and <i>{group}-v5</i> <i>{group}-6</i> and <i>{group}-v6</i> <i>{group}-7</i> and <i>{group}-v7</i> <i>{group}-8</i> and <i>{group}-v8</i> E.g., a-1 and a-v1 are connected. NOTAG mode as is applies to the LNW70 also applies to the LNW170 circuit pack. LNW63: No tag mode is the only mode of operation for the LNW63 circuit pack. LNW64: No tag mode is the only mode of operation for the LNW64 circuit pack. LNW705: No tag mode is the only mode of operation for the client ports on the LNW705 circuit pack when provisioned as Ethernet ports (see RTRV-OTPE). LNW87: No tag mode is the only mode of operation for the LNW87 circuit pack. ■ SWITCHED Switched mode. In this mode, switched Ethernet ports are allowed on the Ethernet circuit pack. The virtual switch tagging mode (TRANS or 802.1TAG) is selectable per virtual switch via ENT-VRTSW:tagmd. Switched mode applies only to the LNW70 circuit pack. Starting in release 6.0, switched mode is the only mode that applies to the LNW78 circuit pack. Starting in release 7.1, switched mode applies to the LNW170 circuit pack.

Table 2-77. ED-EQPT *spec_block* Parameters (cont 13 of 13)

Parameter Name	Description
vt_vcat	VT Virtual Concatenation. This parameter specifies the number of STS-1s dedicated to VT virtual concatenation. This parameter is valid when type=ETHPK. Values are as follows: The valid values are 0 and 12. The default is 0. Note: vt_vcat applies only to the LNW74 circuit pack.

OUTPUT FORMAT

If the network element (NE) fully complies with the **ED-EQPT** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number may be included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

The following example shows the provisioning of the Ethernet Cross-Connect mode:

```
ED-EQPT:TID123:aid:123456::ETHPK:eccmode=STS3C;

TID123 00-01-01 08:00:00
M 123456 COMPLD
;
```

The following example shows the provisioning of the VLAN tag mode:

```
ED-EQPT:TID123:aid:123456::ETHPK:vlangmd=802.1TAG;  
  
    TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example shows the provisioning of an LNW70 that supports switched Ethernet. Only STS-1 cross-connections are allowed:

```
ED-EQPT:TID123:aid:123456::ETHPK:vlangmd=SWITCHED,eccmode=STS1;  
  
    TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example shows the provisioning of an LNW73:

```
ED-EQPT:TID123:aid:123456::DATA:datatype=ESCON;  
  
    TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example shows the provisioning of the Ethernet Port Mode parameter:

```
ED-EQPT:TID123:aid:123456::ETHPK:enetmd=GX_FX;  
  
    TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example shows the provisioning of a socket:

```
ED-EQPT:TID123:g1-sc3:123456::PTM:mst=MAINT;  
  
    TID123 06-03-15 13:07:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR** command **ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the **vlantagmd** is either **802.1TAG** or **TRANS**, and the user changes to another mode without first deleting all virtual switches, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, virtual switches must be deleted before  
changing vlantagmd */  
;
```

If the **vlantagmd** is **SWITCHED**, and the user changes to another mode without first deleting all virtual switches, the following error response is returned:

```
sid date time  
M ctag DENY  
SNVS  
/* Status, Not in Valid State, virtual switches must be deleted before  
changing vlantagmd */  
;
```

If the **vlantagmd** is changed without first deleting all QoS services, the following error response is returned:

```
sid date time  
M ctag DENY  
SNVS  
/* Status, Not in Valid State, QoS services must be deleted before  
changing vlantagmd */  
;
```


If the user tries to change **vlantagmd** to **NOTAG** without first removing all of the cross-connections on the circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cross connections must be deleted before
  changing vlantagmd */
;
```

If the user sets **vlantagmd** to **NOTAG**, and the circuit pack does not support **NOTAG** mode, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, NOTAG mode does not apply to this
  board type */
;
```

The following circuit packs support **NOTAG** mode:

- LNW67
- LNW68
- LNW70
- LNW71
- LNW74
- LNW63
- LNW64
- LNW87

When trying to provision the **vlantagmd** for a LNW71 to either **802.1TAG** or **TRANS** modes, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, 802.1TAG and TRANS modes do not
  apply to this board type */
;
```

Beginning in Release 5.1, the previous **vlantagmd** provisioning checks are obsolete and replaced by the following:

When trying to provision the **vlantagmd** to any mode not supported by the pack, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, the requested mode does not
apply to this board */
;
```

For a Gigabit Ethernet circuit pack, if the user sets **vlantagmd** to **NOTAG** and the circuit pack has a multipoint cross-connect set up, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, NOTAG mode invalid when board has a
multipoint cross-connect */
;
```

Beginning in Release 7.0, if **ED-EQPT** is received with a new value for **vlantagmd** and a Link Aggregation Group exists on the circuit pack specified by **aid**, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot change vlantagmd when a link
aggregation group exists for the specified circuit pack */
;
```

Beginning in Release 7.1, if **ED-EQPT** is received with a value for **vlantagmd** other than **NOTAG** and the circuit pack specified by **aid** has one or more VCGs provisioned as EDGE ports (**RTRV-CPORT-VCG:portclass**) the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, cannot change VLANTAGMD when CP has
EDGE ports */
;
```

If the user tries to change **eccmode** without first removing all of the cross-connections on the circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, cross connections must be deleted
before changing eccmode */
;
```

If the user tries to enter **eccmode** on a circuit pack that does not support it, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, eccmode does not apply to this board
type */
;
```

If the user tries to change **eccmode** without first removing all loopbacks on the circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, loopback must be removed before
changing eccmode */
;
```

When trying to provision the **eccmode** for an LNW70 to **STS3C** or an LNW71 to **STS12C**, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, eccmode value does not apply to this
board type */
;
```

When trying to provision the **eccmode** for an LNW70 or LNW78 to **STS3C** or an LNW71 to **STS12C**, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, eccmode value does not apply to this
board type */
;
```

If the user tries to enter **vt_vcat** on a circuit pack that is not an LNW74, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, vt_vcat does not apply to this board
type */
;
```

If the user tries to edit **brst** on a circuit pack to which it does not apply, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, brst does not apply to this board type
*/
;
```

If the entered value of **brst** is outside the valid range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, brst is out of range */
;
```

If the user tries to edit **cint** on a circuit pack to which it does not apply, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, cint does not apply to this board type
*/
;
```

If the entered value of **cint** is outside the valid range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, cint is out of range */
;
```

If the request contains a parameter that is not valid for the given **type**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, parameter not valid for TYPE */
;
```

If the request contains **type=DS1E1**, and the addressed **aid** is not configured to be equipped with an LNW8 56DS1E1 circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
ENSI
/* Equipage, Not equipped for Setting specified Information */
;
```

Starting in Release 8.0, the previous error response also applies to the LNW801 circuit pack.

If the request changes the **intftype**, and there are any cross-connections to the group, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, INTFTYPE inconsistent with existing
cross-connections */
;
```

If the request contains **ssbits**, and the addressed **aid** is not configured to be equipped with low speed OLIU circuit packs, the following error response is returned:

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, Not equipped for Setting specified Information */
;
```

Beginning in Release 9.0, if the request contains **ssbits**, and the addressed **aid** is for a slot containing one of the following Circuit Packs:

Table 2-78. Unsupported SSBIT provisioning

Circuit Pack
LNW55
LNW62
LNW603

the following error response is returned:

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, Not equipped for Setting specified Information */
;
```

If the request changes the **intftype**, and there is a transmission test or loopback is up, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, transmission test running or
  loopback exists */
;
```

If the request changes the **intftype**, and there is a test access session, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, test access active */
;
```

If the user attempts to reduce the value of **vt_vcat** and an existing VT cross connection conflicts, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, one or more VT cross connections must
  be deleted before changing vt_vcat */
;
```

If the user attempts to increase the value of **vt_vcat** and an existing STS cross connection conflicts, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, one or more STS cross connections must
  be deleted before changing vt_vcat */
;
```

If the user tries to change **datatype** without first removing all of the cross-connections on the circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cross connections must be deleted before
changing datatype */
;
```

If the user tries to change **datatype** without first removing all loopbacks on the circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, loopback must be removed before changing
datatype */
;
```

If the user tries to enter **enetmd** on a circuit pack that does not support it, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, enetmd does not apply to this board
type */
;
```

If the user tries to change **enetmd** without first removing all loopbacks on the circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, loopback must be removed before changing
enetmd */
;
```


If the user attempts to change **enetmd** to change the port rate of a port that is a member of a Link Aggregation Group (**RTRV-LAGRP:epaid**), the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, can't change enetmd, port is in a link
  aggregation group */
;
```

If the user attempts to change **enetmd** to **FT_FX** for an LNW74 circuit pack when both companion slots are equipped with LNW74 packs, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, can't change enetmd to FT_FX when both
  slots are equipped with LNW74 circuit packs */
;
```

If the user attempts to change **enetmd** to **FX** for an LNW74 circuit pack when there is an existing loopback on one of the electrical LAN ports of the pack, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, can't change enetmd to FX when
  loopbacks exist on an electrical LAN port on an LNW74 pack */
;
```

If the user attempts to change **enetmd** to **FX** for an LNW74 circuit pack when there are existing (traditional or control plane) cross-connections on the VCG tributaries associated with one or more of the electrical LAN ports of the pack, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, can't change enetmd to FX when cross-
  connects exist on electrical LAN port VCG tributaries on an LNW74 pack */
;
```

If the user attempts to change **enetmd** to **FX** for an LNW74 circuit pack when one or more of the VCGs associated with an electrical LAN port is provisioned as an **EDGE** port, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, can't change enetmd to FX when an
electrical LAN port VCG on an LNW74 pack is provisioned as an edge port
*/
;
```

If an NE is equipped with non-VLF Main circuit packs and the user attempts to change the value of **enetmd** for an LNW74 circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, can't change enetmd for an LNW74
circuit pack when the NE is equipped with non-VLF main packs */
;
```

If the user attempts to change **enetmd** to **FT_FX** for an LNW74 circuit pack in a Growth slot, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, can't change enetmd to FT_FX for a
growth slot equipped with an LNW74 circuit pack */
;
```

If the request contains **type=PTM**, and the addressed socket **aid** is not configured to be equipped, the following error response is returned:

```
sid date time
M ctag DENY
ENSI
/* Equipage, Not equipped for Setting specified Information */
;
```

If the user specifies a value for **prot_state** other than **PROT** or **UNPROT**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid prot_state */
;
```

If an NE receives an **ED-EQPT** command to change the value of **prot_state** from **UNPROT** to **PROT** and LAGs are provisioned on the circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cannot change prot_state when LAGs
  exist */
;
```

Starting in Release 9.0, if an NE receives an **ED-EQPT** command to change the value of **prot_state** from **UNPROT** to **PROT** and ERPs are provisioned on at least one Ethernet port, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cannot change prot_state when
  Ethernet port ERPs exist */
;
```

If an NE receives an **ED-EQPT** command with a valid value of **prot_state**, and the addressed **aid** is not configured to be equipped with an LNW170 circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, Not equipped for Setting specified Information */
;
```

If an NE receives an **ED-EQPT** command with a value of **prot_state=PROT** and the slot addressed by the **aid** is configured to be equipped with an LNW170 circuit

pack but the companion slot is configured for a different circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, Not equipped for Setting specified Information */
;
```

If an NE that is equipped with VLF MAIN circuit packs receives an **ED-EQPT** command with a value of **prot_state=PROT**, and if the pack in the slot specified by the **aid** is not provisioned for **vlantagmd=SWITCHED**, and if **vlantagmd=SWITCHED** is not specified in the command, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, can provision PROT_STATE to PROT only
  when VLANTAGMD set to SWITCHED */
;
```

If an NE that is equipped with VLF MAIN circuit packs receives an **ED-EQPT** command with a value of **prot_state=PROT**, and if the pack in the companion slot to the slot specified by the **aid** is not provisioned for **vlantagmd=SWITCHED**, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, can provision PROT_STATE to PROT only
  when VLANTAGMD set to SWITCHED */
;
```

If an NE that is equipped with VLF MAIN circuit packs receives an **ED-EQPT** command with a value of **prot_state=PROT** and cross-connects or virtual switches are provisioned on the companion circuit pack to the pack specified by **aid**, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, cannot provision PROT_STATE to PROT
  with cross-connects, LAGs or virtual switches on the companion pack */
;
```

If an NE receives an **ED-EQPT** command with a value of **prot_state=PROT** and ports 3, 4, 7 or 8 on the slot identified by **aid** are members of a virtual switch, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, cannot provision PROT_STATE to PROT
when ports 3, 4, 7 or 8 are members of a virtual switch */
;
```

If an NE that is equipped with VLF MAIN circuit packs receives an **ED-EQPT** command with a value of **prot_state=PROT** and the value of **eccmode** is not the same on the companion circuit packs, or if the command does not include the value of **eccmode** for the slot identified by **aid** that is the same value as the companion slot, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, cannot provision PROT_STATE to PROT
when ECCMODE is different on the companion packs */
;
```

If an NE that is equipped with VLF MAIN circuit packs and LNW170 circuit packs receives an **ED-EQPT** command with a value of **prot_state=PROT** and the value of **taudit** is not the same on the companion LNW170 circuit packs, or if the command does not include the value of **taudit** for the slot identified by **aid** that is the same value as the companion slot, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, cannot provision PROT_STATE to PROT
when TAUDIT is different on the companion packs */
;
```

If an NE that is equipped with VLF MAIN circuit packs and LNW170 circuit packs receives an **ED-EQPT** command with a value of **prot_state=PROT** and there is an existing cross-connection on the LNW170 in the companion slot, the following error response is returned:

```
sid date time
M ctag PRTL
"AID:SR0F"
/* Status, Requested Operation Failed, CRS exists */
;
```

If an NE that is equipped with VLF MAIN circuit packs receives an **ED-EQPT** command with a value of **prot_state=PROT** and port rates of the ports 1, 2, 5 and 6 on the companion circuit packs are not the same, or if the command does not include the value of **enetmd** for the slot identified by **aid** that results in the same port rates as the companion slot, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, cannot provision PROT_STATE to PROT
when companion ports have different port rates */
;
```

If an NE receives an **ED-EQPT** command with a value of **vlantagmd** other than **SWITCHED** and the **aid** identifies a slot that is provisioned with **prot_state=PROT**, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, cannot change VLANTAGMD when
PROT_STATE is PROT */
;
```

If an NE receives an **ED-EQPT** command with a value of **efreq** and the **aid** doesn't identify a socket that is associated with an OC-48 or OC-192 line, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, AID not valid for EFREQ */
;
```

Starting in Release 7.1.1, the previous error response also applies to a socket that is associated with an OTU2 line.

Starting in Release 8.0, the previous error response is replaced with the following error response:

If an NE receives an **ED-EQPT** command with a value of **efreq** and the **aid** doesn't identify either a socket that is associated with an OC-48, OC-192 or OTU2 line or a slot that is associated with an non-PTM based DWDM OLIU circuit pack, the following error response is

returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, AID not valid for EFREQ */
;
```

Starting in Release 8.0, if an NE receives an **ED-EQPT** command with a value of **efreq** that changes the **efreq** value of a PTM socket or a non-PTM based OLIU which has an optical cross-connect provisioned for the associated port, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, cannot change EFREQ for a port with
an optical cross-connect */
;
```

If an NE receives an **ED-EQPT** command with an **fefi_code** value that is not in the range "03" to "FE", the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid FEFI_CODE */
;
```

If an NE receives an **ED-EQPT** command with an **fefi_code** value and a slot **aid** that is not provisioned for an LNW74, the following error response is returned:

```
sid date time
M ctag DENY
ENSI
/* Equipage, Not equipped for Setting specified Information */
;
```

If an NE receives an **ED-EQPT** command with a **taudit** value other than **ENABLED** or **DISABLED**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TAUDIT */
;
```

If an NE receives an **ED-EQPT** command with a ***taudit*** value for a circuit pack which doesn't support it, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, TAUDIT does not apply to the board
indicated by AID */
;
```

RELATED TL1 MESSAGES

RTRV-EQPT

NAME

ED-ERATE: Edit Ethernet Rate

The **ED-ERATE** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 3.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-ERATE:*tid:aid:ctag::[tagid]:spec_block;*

Starting in Release 5.1, the optional **cos** parameter is supported.

ED-ERATE:*tid:aid:ctag::[tagid],[cos]:spec_block;*

DESCRIPTION

The **ED-ERATE** command modifies the rate control properties for Ethernet QoS services.

Beginning in Release 5.1, the **ED-ERATE** command is used to modify the properties of the QoS services that have been created on the LNW70 circuit pack depending on **trafmgmtmd** of the port on which the services are defined.

Beginning in Release 6.0, the **ED-ERATE** command applies to the LNW78 circuit pack.

Beginning in Release 5.1, for the LNW70 circuit pack, the **ED-ERATE** cannot be used if **porttype** for the port pointed to by **aid** is set to INTERIOR or if **trafmgmtmd** is set to NOTC.

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-ERATE** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV-EQPT prot_state** = PROT, the **ED-ERATE** command generates a **REPT DBCHG** message for an addressed VCG and its companion.

INPUT PARAMETERS

Table 2-79. ED-ERATE Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and a description of this parameter.
<i>aid</i>	Access Identifier. For the circuit packs LNW66/67/68: ■ This is the address of an Ethernet slot <i>aid</i> when the <i>vlantagmd</i> = 802.1TAG or <i>vlantagmd</i> = TRANS. ■ This is the address of an Ethernet port <i>aid</i> when the <i>vlantagmd</i> = NOTAG Refer to the AID Table in Appendix A for valid AIDs For the LNW70: ■ This is the address of an Ethernet port <i>aid</i> ■ Starting in release 7.0, this may be the <i>aid</i> of a VCG port, or a Link Aggregation Group (LAG). It may not be the <i>aid</i> of a port that is a member of a LAG. References to a port also apply to a LAG. For the LNW78: ■ This is the address of an Ethernet port <i>aid</i> ■ Starting in release 7.0, for the LNW78 the <i>aid</i> may be the <i>aid</i> of an EoS (i.e. non-RPR) VCG. See Description in ENT - ERATE for notes on accessing services using <i>trafmgmtmd</i>, <i>aid</i>, <i>tagid</i> and <i>cos</i>.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and a description of this parameter.
<i>tagid</i>	Tag ID. Represents the VLAN ID in 802.1TAG mode and represents the Port Tag ID in TRANS mode. Tag ID is omitted in NOTAG mode. Value: An integer in the range of 1 to 4093. LNW70 circuit pack only: See Description in ENT - ERATE for notes on accessing services using <i>trafmgmtmd</i> (ENT - ERATE), <i>aid</i>, <i>tagid</i> and <i>cos</i>. If <i>trafmgmtmd</i> is set to PORT or COSPORT then <i>tagid</i> must be omitted.

Table 2-79. ED-ERATE Input Parameters (cont 2 of 2)

Parameter Name	Description
	If trafmgmtmd is set to TAGPORT or COSTAGPORT, then a valid numerical value for tagid must be entered.
cos	Class of Service. This optional parameter specifies the class of service that the parameters in this command apply to. See Description in ENT-ERATE for notes on accessing services using trafmgmtmd (ENT-ERATE), aid, tagid and cos. Value: An integer in the range of 0 to 3 ■ The value of 0 specifies CoS level 0. ■ The value of 1 specifies CoS level 1. ■ The value of 2 specifies CoS level 2. ■ The value of 3 specifies CoS level 3. For an RPR pack the allowed value is an integer between 1 and 3: ■ The value of 1 specifies CoS level 1 (Class C). ■ The value of 2 specifies CoS level 2 (Class B). ■ The value of 3 specifies CoS level 3 (Class A). If trafmgmtmd is set to PORT or TAGPORT then cos must be blank. Starting in release 6.0, the following apply for the LNW70: If trafmgmtmd is set to PORT and ED-EPORT:hlayercos is set to: ■ DSCP: then a valid cos must be entered. ■ NONE: then cos must be blank. If trafmgmtmd is set to COSPORT or COSTAGPORT, then a valid numerical value for cos must be entered. This parameter applies only to the following circuit packs: ■ LNW70 ■ LNW78
spec_block	Specific Block. The spec_block parameters are defined in the following table.

Table 2-80. ED-ERATE input *spec_block* parameters. (cont 1 of 4)

Parameter Name	Description
<i>cbs</i>	Committed Burst Size. This is the committed burst size in kilobytes (1024 bytes) for the service addressed by the <i>trafmgmtmd</i>, port <i>aid</i>, <i>tagid</i>, and <i>cos</i>. The value of <i>cbs</i> must be less than or equal to <i>pbs</i>. Value: An integer in the range of 1 to 1024. For the LNW78 the range is 1 to 256. Starting in release 7.0, for the LNW70 and LNW78: Value: An integer in the range of 1 to 255. In case of Private Line (<i>vlantagmd</i> set to NOTAG), the <i>cbs</i> value cannot be set (it takes on the <i>pbs</i> value). <i>cbs</i> cannot be set for CoS level 1 on an RPR pack. This parameter applies only to the following circuit packs: ■ LNW70 ■ LNW78
<i>cir</i>	Committed Information Rate. This is the committed information rate of the traffic conditioner function in Mbps for the service addressed by the <i>trafmgmtmd</i>, port <i>aid</i>, <i>tagid</i>, and <i>cos</i>. Value: An integer in the range of 0 to 1000. The value of <i>cir</i> must be less than or equal to <i>pir</i>. A value of 0 means that there is no network commitment on incoming traffic. All traffic will be considered excess traffic. Starting in release 7.0, for the LNW70: Value: An integer in the range of 0 to 10000. The value of <i>cir</i> must be less than or equal to <i>pir</i>. A value of 0 means that there is no network commitment on incoming traffic. All traffic will be considered excess traffic. A value above the port rate (aggregate if a LAG) means that there is no policing of the traffic. i.e., traffic will flow unconditioned. This parameter applies only to the following circuit packs: ■ LNW70 ■ LNW78 In case of Private Line (<i>vlantagmd</i> set to NOTAG), the <i>cir</i> value cannot be set (it takes on the <i>pir</i> value). <i>cir</i> cannot be set for CoS level 1 on an RPR pack.

Table 2-80. ED-ERATE input *spec_block* parameters. (cont 2 of 4)

Parameter Name	Description
<i>pbs</i>	Peak Burst Size. This is the peak burst size in kilobytes (1024 bytes) for the service addressed by the <i>trafmgmtmd</i>, port <i>aid</i>, <i>tagid</i>, and <i>cos</i>. Value: An integer in the range of 1 to 1024. For the LNW78 the range is 1 to 256. Starting in release 7.0, for the LNW70 and LNW78: Value: An integer in the range of 1 to 255. <i>pbs</i> cannot be set for CoS level 3 on an RPR pack. This parameter applies only to the following circuit packs: ■ LNW70 ■ LNW78
<i>pir</i>	Peak Information Rate. This is the peak information rate of the traffic conditioner function in Mbps. Value: An integer in the range of 0 to 1000. Initial value: 0. A value of 0 means that the PIR function is bypassed and there is no policing of the traffic. I.e., traffic will still flow unconditioned. Starting in Release 5.0 with the introduction of the LNW70, the following applies: This is the <i>pir</i> for the service addressed by the <i>trafmgmtmd</i>, port <i>aid</i>, <i>tagid</i> and <i>cos</i>. Value: an integer in the range of 0 to 1000. The value of <i>pir</i> must be greater than or equal to <i>cir</i>. A value of 0 means that the traffic is halted, i.e., 0 Mbps. Starting in release 7.0, for the LNW70: Value: An integer in the range of 0 to 10000. A value of 0 means that the traffic is halted. i.e., 0 Mbps. The value of <i>pir</i> must be greater than or equal to <i>cir</i>. Initial value: 10000 A value above the port rate (aggregate if a LAG) means that there is no policing of the traffic. i.e., traffic will flow unconditioned. <i>pir</i> cannot be set for CoS level 3 on an RPR pack.
<i>dftpri2cos</i>	This parameter sets the traffic class of all packets that ingress the port with <i>tagid</i> and sets the <i>cos</i> value that will be inserted into the packet prior to egressing the NE. The <i>cos</i> value will be inserted into the <i>user_priority</i> bits. This parameter is only applicable if the port pointed to by <i>aid</i> has <i>trafmgmtmd</i> set to TAGPORT.

Table 2-80. ED-ERATE input *spec_block* parameters. (cont 3 of 4)

Parameter Name	Description
	Values allowed: Integers between 0-3, inclusive. This parameter applies only to the following circuit packs: ■ LNW70
<i>qospm</i>	Enables Performance Monitoring data collection for the service addressed by the <i>trafmgmtmd</i>, port <i>aid</i>, <i>tagid</i>, and <i>cos</i>. Counters for the service will be re-initialized to 0 when <i>qospm</i> is toggled from DISABLE to ENABLE. Values allowed: ■ ENABLE - QoS performance monitoring is enabled ■ DISABLE - QoS performance monitoring disabled This parameter applies only to the following circuit packs: ■ LNW70 ■ LNW78
<i>userpri2cos</i>	This parameter shows the user priority bit values that map to the specified <i>cos</i> value. It is a map consisting of 8 elements left-to-right in increasing order of user priority, where each element specifies whether the user priority value maps to the CoS ("1") or not ("0"). This parameter is only applicable if the port pointed to by <i>aid</i> has <i>trafmgmtmd</i> set to COSPORT or COSTAGPORT. Values allowed: A string of 8 characters from the set ("0","1"). <i>userpri2cos</i> does not apply to an RPR pack. The mapping is specified by IEEE 802.17a-2004.
<i>dscp2cos</i>	Differentiated Services Code Point (DSCP) to associated CoS Level (<i>cos</i>) map. This parameter lists the DSCP integer (six bits of the DS field) values that map to the specified <i>cos</i> value. This parameter is only applicable if the port pointed to by <i>aid</i> has <i>trafmgmtmd</i> set to PORT and the <i>hlayercos</i> set to DSCP.

Table 2-80. ED-ERATE input *spec_block* parameters. (cont 4 of 4)

Parameter Name	Description
	Values allowed: An ampersand-separated list of integers between 0 and 64. A dash "-" between 2 integers is allowed and represents a range. The value 64 is used to classify non DSCP traffic to a cos. A dash "-" without integers will remove all previously entered values. Any number can only be mapped to one service. Any DSCP value that is not mapped to a cos will default to class of service 0, even if cos 0 was not created using (ED-ERATE). If value 64 (for non IP frames) is not assigned to a cos, it will be assigned by default to class of service 0. Removing a DSCP value from a cos may be done by omitting the value from the list of valid DSCP values for a cos. A value can be reassigned to a different cos (ED-ERATE) without being removed from a previous cos. A cos can be deleted (DLT-ERATE) without removing all it's DSCP values, unassigned value will default to cos 0. Initial values are based on RFC2474, RFC2597, and RFC2598: ■ for cos 0: 0-9&11&13&15&26&28&30&34&36&38&44&50&52&54&58&60&62 ■ for cos 1: 16-25&27&29&31 ■ for cos 2: 10&12&14&32&33&35&37&39&40&43&45&47&64 ■ for cos 3: 46&48&49&51&53&55-57&59&61&63 This parameter applies only to the following circuit packs: ■ LNW70

OUTPUT FORMAT

If the network element (NE) fully complies with the **ED-ERATE** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example is applicable when **vlantagmd** is 802.1TAG (802.1/VLAN Tag Mode) and TRANS (Transparent Mode):

```
ED-ERATE:TID123:<aid>:123456::4093:pir=950;  
  
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example is applicable when **vlantagmd** is NOTAG:

```
ED-ERATE:TID:<aid>:123456:::pir=950;  
  
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example is applicable to the LN70:

```
ED-  
ERATE:TID123:<aid>:123456::4093,1:pir=950,cir=300,pbs=125,cbs  
=125;  
  
TID123 00-01-01 08:00:00  
M 123456 COMPLD
```

The following example is applicable to the LN78:

```
ED-ERATE:TID123:<aid>:123456::,1:pir=950,pbs=125;  
  
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```


ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the user enters a value for **pir** that is not an integer in the allowed range, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, PIR out of range */
;
```

If the **aid** points to an LNW70 circuit pack and the user enters a **pir** value that is less than **cir**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of PIR and CIR must meet the
following relationship: CIR <= PIR */
;
```

If the **aid** points to an LNW78 circuit pack and the user enters a **pir** value that is less than **cir**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of PIR and CIR must meet the
following relationship: CIR <= PIR */
;
```

If **aid** points to an RPR span or RPR IF port on the LNW78, then the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID is missing, wrong, or refers
  to a port that does not support this TL1 command */
;
```

If the user tries to set the **pir** for a LNW71 (FE-PL) circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, PIR not valid on specified pack */
;
```

Starting in release 5.0, the above error message is generalized as follows: if the user tries to use the **ED-ERATE** command for a port on a LNW71 or LNW74 (FE-EPL) circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, QoS services are not supported
  on this pack */
;
```

Starting in release 6.0, the above error message is generalized as follows: if the user tries to use the **ED-ERATE** command for a port on circuit pack that doesn't support **ED-ERATE**, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, QoS services are not supported
  on this pack */
;
```

If **aid** points to a port that is on an LNW70 and the QoS service does not exist then the following error response is returned:

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, QoS service does not exist */
;
```

If a port is a member of a Link Aggregation Group, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, one or more ports are members of a
LAG */
;
```

If **aid** points to a port that is on an LNW78 and the QoS service does not exist then the following error response is returned:

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, QoS service does not exist */
;
```

If the specified **tagid** (VLAN or Port Tag ID) does not exist, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, TAGID does not exist */
;
```

When in **ED-EQPT** *vlantagmd* of 802.1TAG mode or TRANS, if a value of *tagid* is not included in the input command, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, no tagid specified */
;
```

If the *aid* points to an LNW70 circuit pack and *trafmgmtmd* (see **ED-PORT** or **ED-VCG**) is set to either TAGPORT or to COSTAGPORT, and a numerical value of *tagid* is not included in the input command, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, no TAGID specified */
;
```

If the *aid* points to an LNW70 circuit pack and *trafmgmtmd* for the port is set to either PORT or to COSPORT, and a numerical value of *tagid* is included in the input command, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, TAGID must not be specified with this
   TRAFMGMTMD at this port */
;
```

If the *aid* points to an LNW78 circuit pack and a numerical value of *tagid* is included in the input command, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, TAGID does not apply to this pack */
;
```

If the user enters a **cos** value that invalid, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of COS is not valid */
;
```

If **trafmgmtmd** for the port is set to either COSPORT or to COSTAGPORT, and a numerical value of **cos** is not included in the input command, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, no COS specified */
;
```

If **trafmgmtmd** for the port is set to either PORT or to TAGPORT, and a numerical value of **cos** is included in the input command, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, COS must not be specified with this
   TRAFMGMTMD at this port */
;
```

Starting in release 6.0, the previous error message is changed as follows:

If **trafmgmtmd** is set to TAGPORT and the user inputs a value for **cos**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, COS must not be specified with this
   TRAFMGMTMD at this port */
;
```

For the LN70, If **trafmgmtmd** for the port is set to PORT and **ED_EPORT:hlayerscos = NONE** and the user inputs a value for **cos**, then the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, COS must not be specified with this
TRAFMGMTMD when HLAYERCOS is not set at this port */
;
```

If the user enters a value for any of the following parameters:

cbs	cir	cos	userpri2cos	cascadecos
pbs	qospm	dftpri2cos	aggregatetc	

but the port specified in the **aid** is not a port on an LN70 circuit pack, then the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

If the user enters a value for any of the following parameters on an LN78:

cbs	cir	cos
pbs	qospm	

the above denial does not apply (these parameters are valid). The denial for an invalid port is separate.

If the user enters a value for any of the following parameters:

	userpri2cos	cascadecos
dftpri2cos	aggregatetc	

but the port specified in the **aid** is an Ethernet port or EoS VCG on an LNW78 circuit pack, then the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid
   with specified circuit pack */
;
```

If the user enters a **cir** value that is not an integer within the allowed range, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, CIR out of range */
;
```

In case of Private Line (**vlantagmd** is set to **NOTAG**), if the user enters a **cir** value, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, CIR cannot be set for a Private Line */
;
```

If the user enters an **pbs** value that is not an integer in the allowed range, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, PBS out of range */
;
```

If the user enters a **cbs** value that is not an integer within the allowed range, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, CBS out of range */
;
```

In case of Private Line (**vlantagmd** is set to **NOTAG**), if the user enters a **cbs** value, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, CBS cannot be set for Private Line */
;
```

If the user enters a **cbs** value that is greater than **pbs**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of PBS and CBS must meet the
following relationship: CBS <= PBS */
;
```

On an RPR pack, if the user enters a **cir** or **cbs** value when **cos** is 1, or when **trafmgmtmd** for the port is set to **PORT** and **dftpri** for the port is set to **1**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, CIR or CBS do not apply to COS 1 */
;
```


On an RPR pack if the user enters a **pir** or **pbs** value when **cos** is 3, or when **trafmgmtmd** for the port is set to **PORT** and **dfpri** for the port is set to **3**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, PIR or PBS do not apply to COS 3 */
;
```

If the user enters a **qospm** value that is not either the string “ENABLE” or the string “DISABLE”, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of QOSPM is not valid */
;
```

If the user enters a **dfpri2cos** value that is not an integer between 0-3, inclusive, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of DFPRI2COS is not valid */
;
```

If the user enters a **dscp2cos** value that is not as specified in the input parameter table above, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of DSCP2COS is not valid */
;
```

If the user enters a **dftpri2cos** value and the port pointed to by **aid** does not have **trafmgmtmd** set to TAGPORT, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid TRAFMGMTMD for DFTPRI2COS */
;
```

If the user enters a **userpri2cos** value that is not an eight character string of 0 or 1s, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of USERPRI2COS is not valid */
;
```

If the user enters a **userpri2cos** value and the port pointed to by **aid** does not have **trafmgmtmd** set to COSPORT or COSTAGPORT, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid TRAFMGMTMD for USERPRI2COS */
;
```

If the user enters a **dscp2cos** value and the port pointed to by **aid** does not have **trafmgmtmd** set to PORT, then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid TRAFMGMTMD for DSCP2COS */
;
```

If the user enters a **userpri2cos** value and one of the user priority values is already provisioned for another service then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, USERPRI2COS value already provisioned */
;
```

RELATED TL1 MESSAGES

RTRV-ERATE

NAME

ED-ERP : Edit ERP Instance

The **ED-ERP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-ERP : *tid:aid:ctag::erpid:spec_block;*

DESCRIPTION

The **ED-ERP** command edits an ERP (Ethernet Ring Protection) instance.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-ERP** command generates a **REPT DBCHG** message for the addressed slot. In case of protected LNW170s (*prot_state* (**ED-EQPT**)) a **REPT DBCHG** message is generated for the companion slot as well.

This command applies to the following packs : LNW70, LNW170.

INPUT PARAMETERS

Table 2-81. ED - ERP Input Parameters

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access identifier. This is the address of a slot equipped with an Ethernet circuit pack. Refer to the AID Table for valid AIDs.
<i>ctag</i>	Correlation tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>erpid</i>	ERP ID: an alphanumeric string of up to 32 characters. It may not contain a hyphen("-"). The ERP ID must be unique per slot. The ERP ID has no network-wide significance. i.e there is no requirement that the same ERP ID must be provisioned on the port(s) at the remote network element(s) to which the port(s) at this network element are connected.
<i>spec_block</i>	Specific block. The <i>spec_block</i> parameters are defined in the following table.

Table 2-82. ED - ERP Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>vlan</i>	VLAN identifier used for ERP signaling. It is an integer in the range 1-4093.
<i>addprotlink</i>	Make this port the RPL (Ring Protection Link). It is the aid (Ethernet port or VCG) of one of the 2 ERPports . A ring requires one (and only) one RPL. Therefore, this parameter is optional on any node of the ring.
<i>delprotlink</i>	Make this port not to be the RPL (Ring Protection Link). It is the aid (Ethernet port or VCG) of the port that was previously configured to be the RPL.
<i>wtr</i>	Wait-to-Restore timer. A value in the range 1-12 minutes. Default is 5 min. Only applies to RPL Owners (nodes that have an RPL provisioned).

Table 2-82. ED-ERP Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
<i>guard</i>	Guard timer. A value in the range 10-2000 milliseconds in steps of 10 milliseconds. Default is 500 milliseconds. Prevents nodes from reacting to outdated information.
<i>mdlevel</i>	Maintenance Domain level. A value in the range 0-7. Default is 1. It is the service OAM maintenance domain level used in the ERP signaling control messages (R-APS).
<i>proptc</i>	Controls enabling propagation of Topology Change (TC) messages. Values : enable/disable. Default : disable. Only applies to sub-ring ERP instances where the sub-ring interconnects with its Main ring and controls whether a sub-ring topology change results in a TC message in the main ring.
<i>state</i>	Controls enabling the ERP instance. Values : enable/disable. Default : enable. When an ERP instance is disabled, it no longer participates in ERP signaling. Port block/unblock states remain unchanged and ERP messages are still forwarded (unless one of the ports is blocked).
<i>pri</i>	R-APS PDU priority. Represents the encoding of the p-bits in the R-APS VLAN tag. A value in the range 0-7. Default is 7.

OUTPUT FORMAT

If the network element (NE) fully complies with the **ED-ERP** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
ED-ERP:TID123:<aid>:123456:my_Erp:delprot link=a-v1,vlan=1234;  
  
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the slot in the specified AID contains a circuit pack to which this command does not apply, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, circuit pack does not support ERP */  
;
```

If the **vlantagmd (ED-EQPT)** for the board is set to NOTAG, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, ERP not supported in NOTAG mode */  
;
```

If the port AID in the addprotlink or delprotlink is not an Ethernet port or VCG AID, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, protlink syntax error */  
;
```


If the specified erpid is not an alphanumeric string up to 32 characters, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, erpid not valid */
;
```

If the entered **erpid** is not in use in the same Function or Growth Unit pair, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, ERPID does not exist */
;
```

If the user enters a **vlan** that is not within the 1 to 4093 range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, VLAN out of range */
;
```

If the vlan is not unique among all sub-rings attached to the same main ring, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, VLAN not unique among sub-rings */
;
```

If the user enters a **vlan** that is not available because it is already in use on any of the **ERPports** (ref **dftporttag/addporttag** (**ED-EPOR**T/**ED-VCG**) or **ENT-VLAN**), the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, VLAN not available */
;
```

If the **addprotlink** or **delprotlink** AID is not one of the Ethernet port or VCG AIDs of this ERP instance, the following error response is returned.

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, protlink is not available for ERP. */
;
```

If the **addprotlink** or **delprotlink** AID is not an Ethernet port or VCG AID, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, protlink syntax error */
;
```

If the user enters a Wait to Restore Timer (**wtr**) value that is not within the 1 to 12 range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, WTR out of range */
;
```

If the user enters a Wait to Restore Timer (*wtr*) value and this is not an RPL owner node (*protlink*), the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, WTR only applicable to RPL owners
*/
;
```

If the user enters a Guard Timer (*guard*) value that is not within the 10 to 2000 range or not a multiple of 10, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, GUARD out of range */
;
```

If the user enters a Maintenance Domain Level (*mdlevel*) value that is not within the 0 to 7 range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, mdlevel out of range */
;
```

If the user enables TC propagation (*proptc*) for an ERP instance that is not a sub-ring (second para in **ERPport(ENT - ERP)**), the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, TC propagation cannot be enabled.
*/
;
```

If the user enters a priority (*pri*) value that is not within the 0 to 7 range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, priority out of range */
;
```

ED-ERP
TL1 Message Details

ED-ERP
Alcatel-Lucent 1665 DMX, R9.0

RELATED TL1 MESSAGES

DLT - ERP

ENT - ERP

RTRV - ERP

NAME

ED-FETID: Edit Far End Target Identifier

The **ED-FETID** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-FETID: *tid*: [*aid*]: *ctag*: : [*rid*]: *spec_block*;

DESCRIPTION

The **ED-FETID** command is used to update the ***tid*** of a remote node on the ring, which may be associated with one or more local cross connections. The command permits the user to address a Bidirectional Line Switched Ring (BLSR) protection group using the BLSR protection group Access ID (***aid***), or the Ring ID (***rid***).

This command is denied if automatic ring discovery (when supported) is enabled.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

In response to the **ED-FETID** command, the NE shall issue a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-83. ED - FETID Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. See Appendix A - AID Tables. This is the access identifier for a 2F BLSR protection group. Either the <i>aid</i> or the <i>rid</i> , but not both, must be specified.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>rid</i>	Ring Identification name. Storage and retrieval of the <i>rid</i> is case sensitive, but actual use of the <i>rid</i> to determine the corresponding BLSR protection group is case insensitive. Value: The ring ID parameter is a quoted text string of up to 15 characters consisting of 7-bit hex values of [20-7E] (printable ASCII characters found in the English language). If this parameter is specified, then the command will operate on the protection group associated with that ring ID. Either the <i>rid</i> or the <i>aid</i> must be specified, but not both.
<i>spec_block</i>	The following table contains the <i>spec_block</i> parameters.

Table 2-84. ED - FETID Input *spec_block* Parameters

Parameter Name	Description
<i>oldtid</i>	Old Target ID. This is the previous <i>tid</i> of a remote node on the ring, which may be associated with one or more local cross connections. Refer to the RTRV - HDR command for the parameter syntax and a description of this parameter.
<i>newtid</i>	New Target ID. This is the new <i>tid</i> of a remote node on the ring, which may be associated with one or more local cross connections. Refer to the RTRV - HDR command for the parameter syntax and a description of this parameter.

OUTPUT FORMAT

After receiving the **ED-FETID** command, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to the **ED-FETID** command.

EXAMPLE INPUT/OUTPUT

The following is an example of the **ED-FETID** command:

```
ED-FETID:LT-DMX::123456::"rid1":oldtid=tid123,newtid=tid456;
LT-DMX 98-01-01 08:00:00
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the error responses in **RTRV-HDR**. The error messages listed there may also apply.

If the system receives an **ED-FETID** command for a BLSR protection group for which automatic ring discovery (when supported) is enabled, the command is denied, and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, automatic ring discovery enabled */
;
```

If the system receives an **ED-FETID** command for which the specified **oldtid** is not in the ring map, the command is denied, and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, oldtid not in ring map */
;
```

If the system receives an **ED-FETID** command for which the specified **aid** is not a BLSR protection group aid, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, Not a 2FBLSR protection group */
;
```

If the system receives an **ED-FETID** command in which the specified **newtid** is the same as the TID of another node in the ring, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, duplicate TID in BLSR */
;
```

If the system receives an **ED-FETID** command in which the specified **rid** is not enclosed in quotes, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, rid is not quoted */
;
```


RELATED TL1 MESSAGES

ED-MAP-RING

SET-MAP-RING

RTRV-MAP-RING

REPT-DBCHG

NAME

ED-IP-TUNNEL : Edit IP Tunnel

The **ED-IP-TUNNEL** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ED-IP-TUNNEL : *tid* : [*aid*] : *ctag* : :: *spec_block* ;

DESCRIPTION

This command can be used to enable and disable IP Tunnel Auto Provisioning (TAP), protocol learning and advertising, and for assigning a TAP group number. IP tunneling routes are updated among all network elements (NEs) in the same OSI area using the TAP protocol. IP tunneling supports encapsulation and IP packet routing within the OSI protocol stack on the Data communications Channel (DCC) and/or OSI LAN between a File Transfer Protocol-Gateway NE (FTP-GNE) and File Transfer Protocol-Remote NEs (FTP-RNEs).

Remote file transfers through an FTP-GNE to/from FTP-RNEs, such as those initiated by related commands **CPY-MEM** and **SCHED-BACKUP**, rely on IP tunneling to download a software generic from an FTP server to an FTP-RNE, or to backup or restore an FTP-RNE's provisionable database to/from an FTP server.

An FTP-GNE must have a direct TCP/IP interface (to access an FTP server). Multiple FTP-GNEs are supported for load balancing within a network, but are not used for automatic routing redundancy.

The following related TL1 commands support FTP file transfer and IP tunneling provisioning:

1. **ENT-SYS** FTP is enabled by default.
2. **ENT-ULS** is used to provision each FTP-GNE and FTP-RNE's IP address, subnet mask, as well as to enable TCP/IP (and IP tunneling) communications.
3. **ENT-IP-ROUTE** is used to authorize and specify the FTP-GNE's IP routing to the FTP server's IP subnet address, if it is different from the FTP-GNE's IP subnet address. Otherwise, default values suffice except in large networks with OSI IS-IS Level 2 Routing, or if there are multiple FTP-GNEs in the same OSI area. Under these conditions, additional provisioning may be necessary.

4. **ED - IP - TUNNEL** The TAP Learn Status (***tlearnstat***) and TAP Advertise Status (***tadverstat***) parameters have to be enabled. Additionally, if there are multiple FTP-GNEs in the same OSI area, then additional FTP-GNE provisioning may be necessary. If there are multiple FTP-GNEs in a network and the load balancing of FTP-GNEs supporting FTP-RNEs on a per-area basis (using ENT-IP-ROUTE) is inadequate, ED-IP-TUNNEL can be used to assign FTP-GNEs and FTP-RNEs to different TAP groups within an area.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command generates a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-85. ED - IP - TUNNEL Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. Because this command applies to the TAP protocol on all DCC and OSI LANs, this parameter can only have the value all or null (default = all).
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-86. ED - IP - TUNNEL Input ***spec_block*** Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tlearnstat</i>	TAP Learn Status. This parameter can be used to ENABLE (the default) or DISABLE the NE's ability to use the TAP protocol to automatically learn IP tunneling routes from other NEs in the same TAP (Tunnel Auto Provisioning Protocol) group. Starting in Release 3.0, the initial value of this parameter is DISABLE.

Table 2-86. ED-IP-TUNNEL Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tadverstat</i>	TAP Advertise Status. If this parameter is set to ENABLE (the default), the automatic or manual TAP (per the ENT-IP-ROUTE parameter <i>tapadvert</i>) advertises the setting for each individual entry in the NE's IP routing table. If this parameter is set to DISABLE, the TAP advertises the setting for each individual entry in the NE's IP routing table is superseded, and the TAP protocol that is used to automatically advertise all the NE's IP tunneling routes to other NEs in the same TAP group is disabled. Starting in Release 3.0, the initial value of this parameter is DISABLE.
<i>tapgroup</i>	TAP Group Number. This parameter can be used to assign an NE's TAP group number. Allowed values are 0 to 65535. The default value is 0. By default, all NEs in the same OSI area are in the same TAP group. By assigning different TAP group numbers to NEs, multiple TAP groups can be defined <i>within</i> an OSI area, but a TAP group can't extend beyond an OSI area. Even if all the NEs in different OSI areas have the same TAP group number, the NEs in each OSI area are in different TAP group(s) than the NEs in all the other areas.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<

    sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example disables all of the NE's TAP advertising and assigns the NE to TAP group number 2:

```
ED-IP-TUNNEL:LT-TID123::123456:::TADVERSTAT=DISABLE,TAPGROUP=2;  
  
IP 123456  
<  
  
LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
;
```

The following example enables all of the NE's TAP learning and advertising:

```
ED-IP-TUNNEL:LT-TID123::123456:::TLEARNSTAT=ENABLE,TADVERSTAT=ENABLE;  
  
IP 123456  
<  
  
LT-TID123 02-10-30 20:18:33  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the *aid* value is invalid:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid Access Identifier */  
;
```

The NE returns the following error response if the ***tlearnstat*** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TLEARNSTAT value */
;
```

The NE returns the following error response if the ***tadverstat*** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TADVERSTAT value */
;
```

The NE returns the following error response if the ***tapgroup*** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TAPGROUP value */
;
```

RELATED TL1 MESSAGES

CPY-MEM

ENT-IP-ROUTE

ENT-SYS

ENT-ULS

RTRV-IP-TUNNEL

SCHED-BACKUP

NAME

ED - LAGRP: Edit Link Aggregation Group

The **ED - LAGRP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED - LAGRP: *tid:aid:ctag:::spec_block;*

DESCRIPTION

The **ED - LAGRP** command modifies a Link Aggregation Group (LAG).

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED - LAGRP** command generates a **REPT DBCHG** message.

This command applies to the following packs:

- LNW70
- LNW170 (starting in Release 7.1)

INPUT PARAMETERS

Table 2-87. ED - LAGRP Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of the Link Aggregation Group (LAG). Refer to the AID Table for valid AIDs.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are defined in the following table.

Parameter Name	Description
addep	Add Ethernet/LAN port list. Value: An ampersand-separated list of Ethernet/LAN port AIDs. All ports in a LAG must be the same rate. Any loopback on an added port is released. The maximum number of ports allowed in a LAG is two. addep does not apply to the LNW170 when <i>prot_state</i>=PROT (see RTRV-EQPT).
asmode	active/standby mode. Values: ■ ENABLE active/standby mode is enabled The value is valid only when LACP is enabled (protocol = LACP). ■ DISABLE active/standby mode is disabled. The LAG is in Load Balanced Mode (initial value)
actsyspri	Actor_System_Priority. Specifies the system priority for a LAG. Value: an integer in the range 0 to 65535. The initial value is 32768.
delep	Delete Ethernet/LAN port list. Value: An ampersand-separated list of Ethernet/Lan port AIDs. All but one port may be deleted from the LAG. When a port is deleted, its facility, or the LAGs terminal, loopback is released. delep does not apply to the LNW170 when <i>prot_state</i>=PROT (see RTRV-EQPT).
hashtype	The basis for assigning a conversation to a link. Values: ■ MAC Use SA/DA (initial value) ■ IP Use SIP/DIP. This may allow better load distribution when connected to a router where the MAC SA/DA are constant or nearly constant and the traffic is IP.
protocol	The protocol used for Link Aggregation. Values: ■ LACP IEEE Std 802.3™-2002 Link Aggregation Control Protocol (initial value) ■ NONE Aggregation among members is forced. Any Link Aggregation protocol messages received are ignored and none are sent.

Table 2-88. ED - LAGRP Input *spec_block* Parameters

OUTPUT FORMAT

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
ED-LAGRP:TID123:d-lag1:1:::hashtype=MAC;

TID123 98-01-01 08:00:00
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR** command **ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the slot in a specified Ethernet/LAN port AID contains a circuit pack to which this command does not apply, the following error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, circuit pack does not support link aggregation */
;
```

If the specified LAG **aid** doesn't exist, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, LAG doesn't exist */
;
```

If the user enters an Ethernet/LAN port AID that is not in the same pack as ports in the LAG, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
/* Input, Status, Data Not Consistent, ports must be in the same pack */
;
```

If a specified Ethernet/LAN port is a member of another LAG the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
/* Status, Data Not Consistent, one or more ports are members of another LAG */
;
```

If a port to be added is a member of a Virtual Switch the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, added ports must not be in a Virtual Switch */
;
```

If adding a port would exceed the maximum allowed for a LAG, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, too many ports specified for LAG */
;
```

If the specified port deletions would remove all ports from a LAG the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, LAG must have at least one port */
;
```

If a specified Ethernet/LAN port is being deleted and that port is not a member of the specified LAG, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, the port is not a member of the specified LAG
*/
;
```

If a port is specified on both an add and a delete eport list the following error response is returned:

```
sid date time
M ctag DENY
INDV
/* Input, Data Not Valid, port cannot be on both add port and delete port
lists */
;
```

If a port to be added is not the same rate as existing members, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, all ports must be the same rate */
;
```

If the user enters **addep** or **delep** and **RTRV-EQPT prot_state=PROT**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more parameters not valid when RTRV-EQPT
PROT_STATE=PROT */
;
```

If a NE receives an ED-LAGRP command with a value of **asmode=ENABLE**, and any one of the following conditions exists:

- if the LAG specified by the AID is provisioned with **protocol = NONE**, and if **protocol = LACP** is not specified in the command
- if **protocol = NONE** is specified in the ED-LAGRP command

the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, active/standby LAG requires LACP to be enabled.
*/
;
```

If a NE receives an ED-LAGRP command with a value of **protocol = NONE**, and any one of the following conditions exists:

- if the LAG specified by the AID is provisioned with **asmode = ENABLE**, and if **asmode = DISABLE** is not specified in the command
- if **asmode=ENABLE** is specified in the ED-LAGRP command

the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, active/standby LAG requires LACP to be enabled.
*/
;
```

If the user enters a Actor_System_Priority (**actsyspri**) that is not within the 0 to 65535 range, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, actsyspri out of range */
;
```

RELATED TL1 MESSAGES

DLT-LAGRP, ENT-LAGRP, RTRV-LAGRP

NAME

ED-MAP-RING: Edit Map Ring

The **ED-MAP-RING** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-MAP-RING: *tid*: [*aid*]: *ctag*: : [*rid*]: *spec_block*;

DESCRIPTION

The **ED-MAP-RING** command allows the user to modify the inactive 2-fiber Bidirectional Line Switched Ring (BLSR) map. The command permits the user to address a BLSR protection group using the BLSR protection group access identifier (*aid*) or the ring identifier (*rid*). In systems supporting automatic ring discovery (ARD), this command can be entered whether ARD is enabled or disabled for the specified BLSR port protection group. The manually provisioned map information is only maintained in RAM, and will be lost if there is a system reset. Note that with the exception of the *localnid* the ring map is the same at all nodes on the ring.

The inactive map is applied using the **SET-MAP-RING** command.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-MAP-RING** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-89. ED-MAP-RING Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the access identifier for a 2F (BLSR) protection group. Either the <i>aid</i> or <i>rid</i> , but not both, must be specified. See Appendix A - AID Tables.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>rid</i>	Ring Identification name. Storage and retrieval of the <i>rid</i> is case sensitive, but using the <i>rid</i> to determine the corresponding protection group is case insensitive. Value: The ring ID parameter is a quoted text string of up to 15 characters consisting of 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language), with the following exceptions: ; (semicolon) is not allowed, and " (double quote) and \ (backslash) must be preceded by a backslash. If this parameter is specified, then the command will operate on the protection group associated with that ring ID. Beginning in Release 3.1, the " (double quote) and \ (backslash) characters are not allowed within the quoted text string. Note: Either the <i>rid</i> or the <i>aid</i> must be specified, but not both.
<i>spec_block</i>	The following are the spec_block parameters.

Table 2-90. ED-MAP-RING Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description Spec_Block Parameters
<i>localnid</i>	Local Node ID. This is the user assigned node ID value for the local node. Value(s): An integer with a range of 0 to 15.

Table 2-90. ED-MAP-RING Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description Spec_Block Parameters
<i>ringdir</i>	Ring Direction. This indicates that the local node's east provisioned or hardwired direction port is connected to the next node in the ring map. Value(s): ■ E
<i>rnids</i>	Ring Node ID list. This is an ampersand-separated list with a maximum of 16 entries, where each entry is an integer between 0 and 15. The first entry should be the lowest numbered Node ID on the ring. Each subsequent value is the node ID of the next node on the ring. The ring is traversed in the direction specified by the <i>ringdir</i> parameter (relative to the first node in the list). Each permitted value may only be used once in the list. The number of values defines the number of nodes on the ring. If the number of nodes specified are fewer than previously specified, those unspecified entries in the ring map are set to the default value(s). The number of values for <i>rnids</i> and <i>rtids</i> must be equal.
<i>rtids</i>	Ring TID list. This is an ampersand-separated list with a maximum of 16 entries, where each entry is a valid <i>tid</i> . Each entry in the list is the <i>tid</i> corresponding to the entry in that position in the <i>rnids</i> list. If the size of the ring map decreases from the previous ED-MAP-RING command, those unspecified TID entries in the ring map are set to the default value. The number of values for <i>rtids</i> and <i>rnids</i> must be equal.

OUTPUT FORMAT

After receiving the **ED-MAP-RING** command, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to the **ED-MAP-RING** command.

EXAMPLE INPUT/OUTPUT

The following is an example of the **ED-MAP-RING** command.

```
ED-MAP-RING:LT-DMX:main-1:123456::localnid=3,ringdir=E,rnids=3&8,  
rtids=LT-DMX&t2;  
    LT-DMX 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

Beginning in Release 6.0, the BLSR protection group identified by a line-pair aid in the previous example is identified by a slot 1 line aid as shown below.

```
ED-MAP-RING:LT-DMX:main-1-1:123456::localnid=3,ringdir=E,rnids=3&8,  
rtids=LT-DMX&t2;  
    LT-DMX 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the error responses in **RTRV-HDR**. The error responses listed there may also apply.

If the system receives an **ED-MAP-RING** command in which the number of **rnids** does not equal the number of **rtids**, the command is denied and the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, unequal number of rnids and rtids */  
;
```

Beginning in Release 5.1, if the system receives an **ED-MAP-RING** command in which the specified **rnids** contains too many nodes, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, too many nodes in rnids */
;
```

If the system receives an **ED-MAP-RING** command in which one or more of the input parameter values does not belong to the set of allowable parameter values for that specific parameter, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter value(s)*/
;
```

Beginning in Release 5.1, if the system receives an **ED-MAP-RING** command in which the specified **rnids** contains a node ID value that is out of range, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, node ID out of range */
;
```

Beginning in Release 5.1, if the system receives an **ED-MAP-RING** command in which the specified **rnids** contains an invalid character, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, bad character in rnids */
;
```

If the system receives an **ED-MAP-RING** command containing duplicate **rnids**, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, duplicate rnids */
;
```

If the system receives an **ED-MAP-RING** command containing duplicate **rtids**, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, duplicate rtids */
;
```

If the system receives an **ED-MAP-RING** command defining the ring map for a single node ring, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, single node ring not supported */
;
```

If the system receives an **ED-MAP-RING** command in which the **localnid**, **ringdir**, **rnids** or **rtids** parameters are not specified, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, <parameter> is required */
;
```

...where <parameter> identifies the missing parameter.

Beginning in Release 5.1, if the system receives an **ED-MAP-RING** command in which the specified **localnid** is already assigned to another node in the ring, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, new localnid already assigned to other node */
;
```

Beginning in Release 5.1, if the system receives an **ED-MAP-RING** command in which the specified **localnid** is not in the specified **rnids**, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, localnid not in rnids */
;
```

Beginning in Release 5.1, if the system receives an **ED-MAP-RING** command in which the local **tid** is not in the specified **rtids**, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, local tid not in rtids */
;
```

If the system receives an **ED-MAP-RING** command in which both the *aid* and *rid* parameters are not specified, the command is denied and the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, Neither aid nor rid entered */
;
```

Beginning in Release 5.1 the previous error response is replaced by the following one:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, neither aid nor rid entered */
;
```

If the system receives an **ED-MAP-RING** command in which the specified *rid* is not enclosed in quotes, the command is denied and the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, rid is not quoted */
;
```

RELATED TL1 MESSAGES

SET-MAP-RING

RTRV-MAP-RING

REPT DBCHG

NAME

ED-NE-SECU: Edit Network Element Security

The **ED-NE-SECU** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 4.0

LOGIN PRIVILEGE

This command is available to users with Privileged or Administration access.

INPUT FORMAT

ED-NE-SECU:*tid::ctag:::spec_block;*

DESCRIPTION

The **ED-NE-SECU** command can be initiated by users to modify security attributes associated with the network element (NE) at the system level, but not associated with any particular user ID.

Execution of this command will be recorded in the Security log.

The **ED-NE-SECU** command generates a **REPT DBCHG** message.

When the **ED-NE-SECU** command is used to change the value of the minimum waiting period before changing a password, *pidwpd*, the password aging interval for individual users, which is provisioned by **ED-USER-SECU:page**, may be changed to a value that is greater than the new value of *pidwpd*. For each User ID for which their value of page is changed, an **ED-USER-SECU REPT DBCHG** message will also be generated.

INPUT PARAMETERS

Table 2-91. **ED-NE-SECU** Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-91. ED-NE-SECU Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-92. ED-NE-SECU Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>aclstat</i>	Access Control List (ACL) Status. Enable or disable the access control list. Values: ENABLED and DISABLED . The initial value is DISABLED .
<i>usrage</i>	User ID Aging Period. If a UID has not been used during this time interval, it will be disabled. User ID aging does not apply to the three default logins. Values (in days): 0-999. The initial value is 60. A value of 0 disables user ID aging.
<i>intrvl</i>	Failed Login Attempts Lockout Period. The time during which login attempts using that UID will not be allowed. This occurs when the number of consecutive invalid login attempts by a UID exceeds <i>thrshld</i> . When <i>intrvl</i> expires, login attempts will again be allowed from that UID. If this parameter is set to 0 (zero), the lockout feature is disabled. Values (in minutes): 0-99. The initial value is 10.
<i>thrshld</i>	Failed Login Attempts Lockout Threshold. The maximum number of consecutive invalid login attempts that are allowed by a UID. If the count of invalid login attempts exceeds the threshold, the UID is locked out for <i>intrvl</i> period of time. If a login attempt is successful, the count of invalid login attempts by that UID is reset to zero. Values: 2-99. The initial value is 5.
<i>age</i>	Failed Login Attempts Lockout Aging Period. The time interval during which the number of invalid login attempts are counted. When the Lockout Aging Period expires, the counter of invalid login attempts by that UID is reset to zero. Values (in minutes): 1-999. The initial value is 60 minutes.
<i>pidwprd</i>	Minimum Waiting Period Before Changing A Password. Values (in days): 0 - 30 days. The initial value is 20 days.

Table 2-92. ED-NE-SECU Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
	Except for the case when the password aging interval, <i>page</i> , (provisioned by ENT-USER-SECU:page and ED-USER-SECU:page) is set to zero, the value of <i>pidwpd</i> has to be less than the value of the password aging interval. The password aging interval, <i>page</i> , is provisioned on an individual user basis. Thus, when the value of <i>pidwpd</i> is changed, for any user IDs, <i>uid</i> , that have a non-zero value of <i>page</i> that is less than or equal to the new value of <i>pidwpd</i> , the value of <i>page</i> for that user will be changed to the value of <i>pidwpd</i> + 1.
<i>chg_pwd_stat</i>	Change password status. Enable or disable the requirement to change a password when it is first used by a new login ID or after a password is changed by a System Administrator. Values: ENABLE , DISABLE . The initial value is DISABLE .
<i>pwmin</i>	Minimum password length. Range 6 to 18. The default value is 6.
<i>pwmax</i>	Maximum password length. Range 10 to 20. The default value is 10. The maximum password length, <i>pwmax</i> , must be equal to or greater than the minimum password length, <i>pwmin</i> . If the maximum password length is greater than 10, additional password composition rules apply. See ED-PID .
<i>pwreuse</i>	The number of most recently used passwords that are not allowed to be reused. The range is 5 to 15, with a default value of 5.

OUTPUT FORMAT

If the NE fully complies with the **ED-NE-SECU** request, the following completion response is returned:

```
IP ctag
<
    sid date time
M  ctag COMPLD
;
```

If the **ED-NE-SECU** command does not alter the existing system level attributes, the NE will not deny the command. Instead the system will respond with the normal completion message (shown above).

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows a command used to modify the user ID aging period:

```
ED-NE-SECU:LT-TID123::123456:::usrage=100;
```

```
IP 123456
```

```
<
```

```
LT-TID123 03-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If an NE receives an **ED-NE-SECU** command with **usrage** set to a numeric value other than between 0 to 999, or a non-numeric value, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid USRAGE */  
;
```

If an NE receives an **ED-NE-SECU** command with *intrvl* set to a numeric value other than between 0 to 99, or a non-numeric value, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid INTRVL */
;
```

If an NE receives an **ED-NE-SECU** command with *thrshld* set to a numeric value other than between 2 to 99, or a non-numeric value, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid THRSHLD */
;
```

If an NE receives an **ED-NE-SECU** command with *age* set to a numeric value other than between 1 to 999, or a non-numeric value, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid AGE */
;
```

If an NE receives an **ED-NE-SECU** command with *pidwpd* set to a numeric value other than between 0 to 30, or a non-numeric value, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid PIDWPD */
;
```

Starting in Release 5.1, if the NE receives an **ED-NE-SECU** command with a value of **chg_pwd_stat** other than **ENABLE** or **DISABLE**, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid CHG_PWD_STAT */
;
```

Starting in Release 9.0, if the NE receives an **ED-NE-SECU** command with an invalid value of **pwmin**, **pwmax** or **pwreuse**, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid PWMIN, PWMAX or PWREUSE */
;
```

Starting in Release 9.0, if the NE receives an **ED-NE-SECU** command with a value of **pwmax** that is not equal to or greater than **pwmin**, or with a value of **pwmin** that is not less than or equal to **pwmax**, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, PWMAX must be greater or equal to PWMIN
*/
;
```

If an NE receives an **ED-NE-SECU** command with an **aclstat** value other than **ENABLED** or **DISABLED**, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid ACLSTAT */
;
```

If an NE receives an **ED-NE-SECU** command with an *acl/stat*= **ENABLED** and there are no entries in the Access Control List, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, no entries in ACL */
;
```

RELATED TL1 MESSAGES

ENT-USER-SECU

ED-USER-SECU

DLT-USER-SECU

RTRV-USER-SECU

RTRV-NE-SECU

NAME

ED-NTP: Edit NTP

The **ED-NTP** command is available beginning in

- Alcatel-Lucent 1665 DMX, Release 3.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ED-NTP: *tid*: [*aid*]: *ctag*::: *spec_block*;

DESCRIPTION

This command can be used to modify a NE's NTP parameters used by an NTP client for clock adjustment and polling the NTP servers.

Whenever NTP parameters are changed, the new values will not take effect until NTP is re-enabled using the **ENT-SYS** command.

The provisioned parameters can be retrieved using the **RTRV-NTP** command.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command generates a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-93. ED-NTP Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
<i>aid</i>	Access Identifier. Because this command applies to the NTP protocol on all DCCs and OSI LANs, this parameter can only have the value ALL or the parameter can be omitted, that is equivalent to the NULL value (default = ALL).

Table 2-93. ED-NTP Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-94. ED-NTP Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>timechg</i>	Time Change Threshold. The <i>timechg</i> parameter is the threshold for determining when the clock adjustment is significant enough to generate a REPT DBCHG message. If the offset between the NE system clock and the NTP server is greater than this value a step adjustment will be made according to the offset and a REPT DBCHG message will be generated. The valid values are between 1 and 499 milliseconds, inclusive. Default = 128 ms.
<i>minpinvl</i>	Minimum Poll Interval. Minimum number of seconds between NE polls to NTP server. The valid values are powers of two between 16 and 16384 seconds, inclusive. (Possible values are 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192 and 16384.) Default = 64 seconds.
<i>maxpinvl</i>	Maximum Poll Interval. Maximum number of seconds between NE polls to NTP server. The valid values are powers of two between 16 and 16384 seconds, inclusive. (Possible values are 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192 and 16384.) Default = 1024 seconds.
<i>maxadj</i>	Maximum Adjustment Threshold. Maximum number of milliseconds a clock can be adjusted by before the time change is regarded as significant enough to affect scheduled operations.

Table 2-94. ED-NTP Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
	The <i>maxadj</i> parameter is the threshold for determining when to generate a time change event to notify tasks that a significant time change that impacts their scheduled operations has occurred. An autonomous REPT EVT message is also generated. The crossing of the Maximum Adjustment Threshold affects scheduled operations similar to the ED-DAT command. Valid values are between 500 and 10000 milliseconds, inclusive. Default = 1000 milliseconds.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<
    sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example provisions time change threshold:

```
ED-NTP:TID123::123456:::timechg=300;
```

```
IP 123456  
<
```

```
      TID123 01-10-30 22:25:30  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the *aid* value is invalid:

```
      sid date time  
M ctag DENY  
  IIAC  
/* Input, Invalid Access Identifier */  
;
```

The NE returns the following IDNV error response if the *timechg* value is invalid:

```
      sid date time  
M ctag DENY  
  IDNV  
/* Input, Data Not Valid, invalid TIMECHG value */  
;
```

The NE returns the following error response if the ***minpinvl*** value is invalid, or is not a power of 2:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid MINPINVL value */
;
```

The NE returns the following error response if the ***maxpinvl*** value is invalid, or is not a power of 2:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid MAXPINVL value */
;
```

The NE returns the following error response if the ***minpinvl*** entered is greater than existing ***maxpinvl***:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, MINPINVL value must be less than MAXPINVL value
*/
;
```

The NE returns the following error response if the ***maxpinvl*** entered is less than existing ***minpinvl***:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, MAXPINVL value must be greater than MINPINVL value
*/
;
```

The NE returns the following error response if the *maxadj* value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid MAXADJ value */
;
```

RELATED TL1 MESSAGES

ENT-SYS

ENT-NTP-SERVER

RTRV-NTP

RTRV-NTP-STATE

RTRV-NTP-SERVER

DLT-NTP-SERVER

ED-DAT

NAME

ED-PID: Edit Private Identifier (Password)

The **ED-PID** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports-Only access.

Starting in Release 4.0, this command is available to users with Privileged, Administration, General, Maintenance and Reports-Only access.

INPUT FORMAT

ED-PID:*tid:uid:ctag::old_pid,new_pid;*

DESCRIPTION

The **ED-PID** command is initiated to change the user's password ID (*pid*) on the network element (NE).

When the NE receives an **ED-PID** command, the password associated with the given login identifier will be changed on the NE provided that:

- The login identifier is currently active on the access channel on which the command is received,
- The *old_pid* provided matches the current password for the login identifier, and
- The *new_pid* provided satisfies the password requirements of the NE.

The characters allowed in a password are as follows:

ASCII character	Description	Notes
A.. Z	Upper case letters	alphabetic characters
a.. z	Lower case letters	alphabetic characters
0.. 9	Digits	numeric characters
'	Apostrophe	special character

Table 6. Characters Allowed in a Password (cont 1 of 2)

ASCII character	Description	Notes
-	Hyphen	special character
(	Left parenthesis	special character
)	Right parenthesis	special character
.	Period (full stop)	special character
/	Slash (Solidus)	special character
+	Plus sign	special character
[	Left square bracket	special character
]	Right square bracket	special character
^	Caret	special character
'	Grave accent	special character
{	Left curly brace	special character
	Vertical bar	special character
}	Right curly brace	special character
<	Less than	special character
>	Greater than	special character
~	Tilde	special character
%	Percent sign	special character
#	Number sign	special character
&	Ampersand	special character
\$	Dollar sign	special character
_	horizontal bar (underscore)	special character

Table 6. Characters Allowed in a Password (cont 2 of 2)

The characters not allowed in a password are as follows:

ASCII character	Description	Notes
	Space	
@	Commercial at	Special TL1 meaning

Table 7. Characters Not Allowed in a Password (cont 1 of 2)

ASCII character	Description	Notes
,	Comma	Special TL1 meaning
:	Colon	Special TL1 meaning
=	Equals sign	Special TL1 meaning
"	Quotation mark	Special TL1 meaning
;	Semicolon	Special TL1 meaning
*	Asterisk	Special TL1 meaning
!	Exclamation mark	Special character
?	Question mark	Context sensitive help
\	Back slash	Special TL1 meaning

Table 7. Characters Not Allowed in a Password (cont 2 of 2)

Execution of this command will not be recorded in the Security log.

The **ED-PID** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-95. ED-PID Input Parameters (cont 1 of 3)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>uid</i>	User Identifier. This is the unique case-sensitive user login identifier for which the ED-PID login command is intended. Grouping and/or ranging <i>uid</i> values for this command is not allowed.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
<i>old_pid</i>	Old Private Identifier (password). This is included in the command by the user and must exactly match the current <i>pid</i> for the login identifier.
<i>new_pid</i>	New Private Identifier (password). This is included in the command by the user and will become the new password for the login identifier.

Table 2-95. ED - PID Input Parameters (cont 2 of 3)

Parameter Name	Description
	Valid new_pid values consist of case-sensitive strings of six to ten alphabetic, numeric and symbolic characters where at least two characters are non-alphabetic and at least one is symbolic (white space is ignored). Starting in Release 5.0, the new password must contain at least one alphabetic and at least three non-alphabetic characters. Of the three non-alphabetic characters, at least one must be a numeric character and at least one must be a symbolic character. The third non-alphabetic character can be either a numeric or a symbolic character. Starting in Release 9.0, the previous rules for the password composition apply if the maximum password length, as provisioned by ED-NE-SECU:pwmax, is less than or equal to 10 characters. If the provisioned maximum password length is greater than 10 characters, the following composition rules apply: • The password shall contain a mix of upper-case alphabetic characters, lower-case alphabetic characters, numeric characters, and special characters, including at least two of each type. • The password shall not contain the consecutive identical characters. • The password shall not contain the user login. Password strings are transmitted in unencrypted form in the ED-PID command, become encrypted when stored in the NE, and are never transmitted from the NE. The new_pid value must differ from the old_pid value in at least one character. Beginning in Release 3.0, the new_pid value must differ from the old_pid value in at least three characters. The test for determining if the old and new passwords are different in at least 3 character positions is as follows: If the current and new passwords are the same length, then the characters in at least 3 character positions must be different. If the current and new passwords are different lengths, then for each possible contiguous sub-string of the length of the shorter password within the longer password, the characters in at least 3 character positions must be different between the shorter password and the character sub-string within the longer password. The number of sub-strings of the longer password to check against the shorter password is 1 + the difference in the length between the old and new passwords. Beginning in release 4.0, the new_pid value must not be one of the last five pids used

Table 2-95. ED-PID Input Parameters (cont 3 of 3)

Parameter Name	Description
	Beginning in release 9.0, the number of previously used passwords that cannot be used is provisioned by ED-NE-SECU:pwreuse .

OUTPUT FORMAT

If the password change request completes successfully, and the state of the login procedure transitions from the "Password_Expired" state to the "Login_Active" state, the following normal completion response is returned:

```

sid date time
"uid"
M ctag COMPLD
/* LUCENT <system>
<release>
User Privilege Level: <privilege>
LUCENT - PROPRIETARY
THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
*/
>
sid date time
M ctag COMPLD
/*
<LINE1>
<LINE2>
...
...
...
<LINE10>
<LINE11>
*/
;

```

The following string is used for the <system> value: **METROPOLIS DMX**

Starting in Release 7.1, if the password change request completes successfully, and the state of the login procedure transitions from the "Password_Expired" state to the "Login_Active" state, the following normal completion response is returned:

```

sid date time
"uid"
M ctag COMPLD
/*  ALCATEL-LUCENT <system>
<release>
User Privilege Level: <privilege>
ALCATEL-LUCENT - PROPRIETARY
THIS SOFTWARE IS NOT TO BE DISCLOSED OR USED EXCEPT
IN ACCORDANCE WITH APPLICABLE AGREEMENTS.
UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.
*/
>
sid date time
M ctag COMPLD
/*
<LINE1>
<LINE2>
...
...
...
<LINE10>
<LINE11>

*/
;

```

Starting in Release 7.1, the following string is used for the <system> value: **DMX**

The <release> string is of the form:

Release x.y.z

where x.y.z reflects the actual software release number.

The <privilege> string will have one of the following values reflecting the user's privilege level:

PRIVILEGED
GENERAL
MAINTENANCE
REPORTS-ONLY

Beginning in Release 4.0, the <privilege> string may also have the value ADMINISTRATION.

The above response is provided by the NE only if the **ED-PID** command is being used to update an expired password at user login (**ACT-USER**).

If the password change request completes successfully, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **RTRV-HDR OUTPUT PARAMETERS** section .

EXAMPLE INPUT/OUTPUT

The following example shows a successful password change operation.

```
ED-PID:LT-TID123::PeterPan:123456::soup3r+,8_6oober;

IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **ED-PID** command with a login identifier specified by a **uid** that is not currently logged in on the access channel over which the command is received, the following error response is returned:

```
sid date time
M ctag DENY
PIUI
/* Privilege, Illegal User Identity, user ID not logged in */
;
```

If the NE receives an **ED-PID** command with an *old_pid* value that does not match the currently provisioned *pid* for the associated user login identifier, the following error response is returned:

```
sid date time
M ctag DENY
PIUI
/* Privilege, Illegal User Identity, invalid OLD_PID */
;
```

If the NE receives an **ED-PID** command with a missing *new_pid*, or a *new_pid* that does not meet the required attributes of a valid user login identifier password, the following error response is returned:

```
sid date time
M ctag DENY
PIUI
/* Privilege, Illegal User Identity, invalid NEW_PID */
;
```

Starting in Release 5.1, the previous error response is replaced by the following three error responses:

If the NE receives an **ED-PID** command with a missing *new_pid*, the following error response is returned:

```
sid date time
M ctag DENY
PIUI
/* Privilege, Illegal User Identity, missing NEW_PID */
;
```

If the NE receives an **ED-PID** command with a *new_pid* that does not meet the character syntax requirements of a valid user login identifier password, the following error response is returned:

```
sid date time
M ctag DENY
PIUI
/* Privilege, Illegal User Identity, invalid NEW_PID, syntax error */
;
```

If the NE receives an **ED-PID** command with a *new_pid* that contains a character that is not allowed in a valid user login identifier password, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
/* Privilege, Illegal User Identity, invalid NEW_PID, illegal character
*/
;
```

If the NE receives an **ED-PID** command with a *new_pid* value equal to the *old_pid* value, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
/* Privilege, Illegal User Identity, NEW_PID same as OLD_PID */
;
```

Beginning in Release 3.1, if the NE receives an **ED-PID** command with a *new_pid* that is not different from the *old_pid* in at least 3 character positions, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
/* Privilege, Illegal User Identity, invalid NEW_PID */
;
```

Starting in Release 5.1, the previous error response is replaced by the following error response:

If the NE receives an **ED-PID** command with a *new_pid* that is not different from the *old_pid* in at least 3 character positions, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
/* Privilege, Illegal User Identity, NEW_PID not different from the
OLD_PID in at least three characters */
;
```

Beginning in Release 4.0, if the NE receives an **ED-PID** command with a **new_pid** that is not different from the last five **pids** used, the following error response is returned:

```
sid date time
M ctag DENY
PIUI
/* Privilege, Illegal User Identity, invalid NEW_PID */
;
```

Starting in Release 5.1, the previous error response is replaced by the following error response:

If the NE receives an **ED-PID** command with a **new_pid** that is not different from the last five **pids** used, the following error response is returned:

```
sid date time
M ctag DENY
PIUI
/* Privilege, Illegal User Identity, NEW_PID not different from the
last five pids used */
;
```

Starting in Release 9.0, the previous error response is replaced by the following error response:

If the NE receives an **ED-PID** command with a **new_pid** that is not different from the number of most recently used **pids**, as provisioned by **ED-NE-SECU:pwreuse**, the following error response is returned:

```
sid date time
M ctag DENY
PIUI
/* Privilege, Illegal User Identity, NEW_PID not different from the
last PWREUSE pids used */
;
```

Beginning in Release 4.0, if the NE receives an **ED-PID** command to change the user's **pid** before the minimum waiting period has expired, as defined by the

pidwpd parameter in the **ED-NE-SECU** command, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not In Valid State, waiting period to change password has
not expired */
;
```

Starting in Release 9.0, if the NE receives an **ED-PID** command with a ***new_pid*** that the maximum password length as provisioned by **ED-NE-SECU: *pwmax*** is greater than 10 characters and the new password contains the user login, the following error response is returned :

```
sid date time
M ctag DENY
PIUI
/* Privilege, Illegal User Identity, invalid NEW_PID, UID contained in
NEW_PID */
;
```

RELATED TL1 MESSAGES

ACT-USER

CANC-USER

DLT-USER-SECU

ENT-USER-SECU

RTRV-USER-SECU

NAME

ED-PROTN-ACC: Edit Protection Access

The **ED-PROTN-ACC** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 3.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-PROTN-ACC: *tid:aid:ctag::prototype:spec_block;*

DESCRIPTION

The **ED-PROTN-ACC** command modifies the NUT (non-preemptible unprotected traffic) attribute of tributaries in a Bidirectional Line Switched Ring (BLSR) protection group.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

In response to the **ED-PROTN-ACC** command, the NE shall issue a **REPT DBCHG** message.

Beginning in Release 4.0, if a provisioning change in the local NUT attribute(s) results in a corresponding change in the operational NUT attribute of one or more timeslots, each node in the ring issues a **REPT EVT** message for each affected working timeslot indicating that the operational NUT has changed. **REPT EVT** messages are not issued for protection timeslots since there is a 1-to-1 correspondence between the operational NUT value of a protection timeslot and the operational NUT value of its corresponding working timeslot.

INPUT PARAMETERS

Table 2-96. ED - PROTN - ACC Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the access identifier for a 2F (BLSR) protection group. See Appendix A - AID Tables. Beginning in Release 6.0, a line-pair aid will no longer be accepted as the identifier of a linear protection group. Instead the aid of the line in slot 1 becomes the identifier.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>protype</i>	Protection Type. Value(s): ■ 2F
<i>spec_block</i>	The <i>spec_block</i> parameters are listed in the following table.

Table 2-97. ED - PROTN - ACC Input *spec_block* Parameters

Parameter	Description	Value	
<i>nutatr</i>	NUT Attribute: This is the protection attribute of the addressed timeslot.	■ PROT	protected
		■ NOTPR	not protected
		■ TNOTP	temp not protected

Table 2-97. ED-PROTN-ACC Input *spec_block* Parameters

Parameter	Description	Value	
<i>nutrate</i>	NUT Rate: The rate of a concatenated group of timeslots to which the <i>nutatr</i> parameter is applied. <i>nutatr</i> is maintained on a per STS1 timeslot basis. <i>nutrate</i> simply provides a convenient method of provisioning <i>nutatr</i> on several timeslots using a single instance of the ED-PROTN-ACC command	■ STS1 (default) timeslots [1-24] for OC-48 and [1-96] for OC-192 ■ STS3c timeslots 3n+1 where n=[0-7] for OC-48 and n=[0-31] for OC-192 ■ STS12c timeslots 12n+1 where n=[0-1] for OC-48 and n=[0-7] for OC-192 ■ STS48c timeslots 48n+1 where n=[0-1] for OC-192; (not applicable for OC-48)	
<i>timeslot</i>	Timeslot: This is the timeslot number for which the attribute is set.	■ 1 ... 24 for OC-48 ■ 1 ... 96 for OC-192	

OUTPUT FORMAT

If there are no conditions to report, the following report is output:

```
IP ctag
<
    sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command. Additional parameters that specifically apply to this command response are defined in the table below. The parameter values are included/

repeated as applicable to the condition reported in each of the lines in the body of the response message.

EXAMPLE INPUT/OUTPUT

The following example sets the non-preemptible unprotected traffic attribute of a 2F BLSR protection group's *timeslot* 12:

```
ED-PROTN-ACC:LT-DMX:main-1:123456::2F:nutatr=PROT,nutrate=STS1,  
timeslot=12;
```

```
LT-DMX 02-01-22 08:00:00  
M 123456 COMPLD  
;
```

Beginning in Release 6.0, the previous example is replaced by the following one, reflecting the fact that the line pair *aid* is no longer supported as a BLSR protection group *aid*.

```
ED-PROTN-ACC:LT-DMX:main-1-1:123456::2F:nutatr=PROT,nutrate=STS1,  
timeslot=12;
```

```
LT-DMX 02-01-22 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the error responses in **RTRV-HDR**. The error response listed there may also apply.

If the system receives an **ED-PROTN-ACC** command in which one or more of the input parameter values does not belong to the set of allowable parameter values for that specific parameter, the command is denied and the following error response is returned.

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid */  
;
```

If the system receives an **ED-PROTN-ACC** command in which the specified **aid** is not the aid of a BLSR protection group, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, Not a 2F protection group */
;
```

Beginning in Release 5.1 the previous error response is replace with the following one.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, not a 2F protection group */
;
```

If the system receives an **ED-PROTN-ACC** command in which the **aid** is missing or invalid, the command shall be denied and the following error response shall be returned.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is wrong or missing */
;
```

Beginning in Release 3.1, the following validation and error response is discontinued.

If the system receives an otherwise valid **ED-PROTN-ACC** command to change the *nutatr* of a *timeslot* which is used in an existing cross-connection, the command shall be denied and the following error response shall be returned.

```
sid date time
M  ctag DENY
   SNVS
/* Status, Not in Valid State, timeslot is cross-connected
*/
;
```

Beginning in Release 3.1, if the system receives an otherwise valid **ED-PROTN-ACC** command to change the *nutatr* of a timeslot and one or more of the following conditions exists at the local node,

1. the specified timeslot or its associated protection timeslot is used in a multipoint cross-connection
2. the specified timeslot or its associated protection timeslot is used in an unswitched cross-connection
3. the provisioning change would result in inconsistent NUT provisioning across the timeslots of an existing cross-connection, where consistent NUT provisioning implies that one of the following conditions is met,
 - a. *nutatr*=PROT for all timeslots
 - b. *nutatr*=NOTPR OR TNOPT for all timeslots
 - c. *nutatr*=PREE for all timeslots
 - d. *nutatr*=NPREE OR TNPRES for all timeslots

the command shall be denied and the following error response shall be returned.

```
sid date time
M  ctag DENY
   SNVS
/* Status, Not in Valid State, timeslot is cross-connected
*/
;
```


Beginning in Release 4.0, the previous error response is replaced with the following one.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, NUT provisioning not
   consistent with existing cross-connections */
;
```

If the system receives an otherwise valid **ED-PROTN-ACC** command to change the *nutatr* of a *timeslot* and there is an existing BLSR protection switch, the command shall be denied and the following error response shall be returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, existing BLSR protection
   switch */
;
```

In an NE supporting operational NUT, if the NE receives a valid **ED-PROTN-ACC** command but NUT provisioning cannot be distributed via the operational NUT because the ring topology is incomplete for one of the following reasons,

1. ring communications failure
2. nodes with duplicate TIDs or NSAPs
3. more than 16 nodes in the ring
4. ring circuit map incomplete

the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, ring circuit topology
   incomplete */
;
```

In an NE supporting operational NUT, if the NE receives a valid **ED-PROTN-ACC** command, and the operational NUT is in the process of being initialized or updated, the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
/* Status, Not in Valid State, operational NUT
initialization or update in progress */
;
```

RELATED TL1 MESSAGES

RTRV-PROTN-ACC

NAME

ED-PROTN-GRP: Modify Protection Group

The **ED-PROTN-GRP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-PROTN-GRP: *tid*: [*aid*]: *ctag*: :*prototype*[, *rid*]: *spec_block*;

DESCRIPTION

The **ED-PROTN-GRP** command modifies the wait-to-restore attribute, and when supported, the ring ID of the 2F BLSR protection group. The command permits the user to address a BLSR protection group using the BLSR protection group AID, or the (non-NULL) ring ID.

Beginning in Release 3.0, **ED-PROTN-GRP** can be used to enable/disable automatic ring discovery in a 2F BLSR protection group.

Beginning in Release 3.1, **ED-PROTN-GRP** can be used to enable/disable ring circuit audits and automatic squelch map generation in a 2F BLSR protection group.

Beginning in Release 4.0, **ED-PROTN-GRP** can be used to set the reporting level for the Inconsistent VT BLSR Access condition of 2F BLSR protection group.

Beginning in Release 5.2, **ED-PROTN-GRP** can be used to enable or disable revertive operation for **1+1** and **1+1_BIDIR** protection groups, and provision the associated wait-to-restore attribute when reversion is enabled.

Beginning in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

In response to the **ED-PROTN-GRP** command, the NE issues a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-98. ED - PROTN - GRP Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. <i>aid</i> specifies a protection group. Only aids for the protection group types indicated by the <i>prototype</i> parameter are supported. See Appendix A - AID Tables. Beginning in Release 6.0, a line-pair aid will no longer be accepted as the identifier of a linear protection group. Instead the aid of the line in slot 1 becomes the identifier. For a BLSR protection group, either the <i>aid</i> or <i>rid</i>, but not both, must be specified. For a 1+1 or 1+1_BIDIR protection group <i>aid</i> is a required parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>prototype</i>	Protection Type. Values: ■ 2F Beginning in Release 5.2, the following values are also supported. ■ 1+1 ■ 1+1_BIDIR
<i>rid</i>	Ring Identification name. Ring Identification name. Storage and retrieval of the <i>rid</i> is case sensitive, but actual use of the <i>rid</i> to determine the corresponding protection group is case insensitive. Value: The ring ID parameter is a quoted text string of up to 15 characters consisting of 7-bit hex values of [20 to 7E], such as, printable (ASCII) characters found in the English language, with the following exceptions: ; (semicolon) is not allowed, and " (double quote) and \ (backslash) must be preceded by a backslash. If this parameter is specified, then the command will operate on the protection group associated with that <i>rid</i>. Beginning in Release 3.1, the " (double quote) and \ (backslash) characters are not allowed within the quoted text string.

Table 2-98. ED-PROTN-GRP Input Parameters (cont 2 of 2)

Parameter Name	Description
	For a BLSR protection group either the <i>rid</i> or the <i>aid</i>, but not both, must be specified. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F For a 1+1 or 1+1_BIDIR protection group <i>rid</i> is not supported and must be omitted.
<i>spec_block</i>	The following are the <i>spec_block</i> parameters.

Table 2-99. ED-PROTN-GRP Input *spec_block* Parameters (cont 1 of 5)

Parameter	Description	Value
<i>ard</i>	Automatic Ring Discovery. If <i>ard</i> is enabled, the automatic ring discovery algorithm will assign NodeID values to each node in the ring and construct the necessary ring map information. All nodes in the ring must be Lucent or Alcatel-Lucent nodes. If disabled, the user will assign the NodeID value and supply the ring map information to each node on the ring for the BLSR protocol to operate. (See ED-MAP-RING and SET-MAP-RING.) This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F Beginning in Release 3.0, when a BLSR protection group is created, <i>ard</i> is enabled by default. Setting <i>ard=DISABLE</i> disables ring circuit audits (see <i>rcae</i>) and automatic squelch map generation (see <i>rcmode</i>) regardless of the provisioned <i>rcae</i> and <i>rcmode</i> values.	ENABLE, DISABLE

Table 2-99. ED - PROTN - GRP Input *spec_block* Parameters (cont 2 of 5)

Parameter	Description	Value
<i>ivtbaalmvl</i>	Inconsistent VT BLSR Access Alarm Level: <i>ivtbaalmvl</i> sets the alarm reporting level of the Inconsistent VT BLSR Access alarm (condition). When the reporting level is set to NA, this alarm is treated as a standing condition. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F	The format of following entries is VALUE (description) NA (Not Alarmed) (Default) NR (Not Reported)
<i>newrid</i>	New Ring Identification name. Storage and retrieval of the RID is case sensitive, but actual use of the RID to determine the corresponding protection group is case insensitive. Value(s): The ring ID parameter is a quoted text string of up to 15 characters consisting of 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language), with the following exceptions: ; (semicolon) is not allowed, and " (double quote) and \ (backslash) must be preceded by a backslash, e.g. "new\\rid" and "new\\rid". The value assigned to <i>newrid</i> replaces the protection group's previous ring ID. The protection group to which <i>newrid</i> is assigned is the protection group specified by either <i>aid</i> or <i>rid</i>. Beginning in Release 3.1, the " (double quote) and \ (backslash) characters are not allowed within the quoted text string. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F	If the value is omitted, the current value is not modified.

Table 2-99. ED - PROTN - GRP Input *spec_block* Parameters (cont 3 of 5)

Parameter	Description	Value
<i>rcae</i>	Ring Circuit Audit Enable. <i>rcae</i> enables/disables ring circuit audits for all cross-connections to the specified BLSR protection group. By default ring circuit audits are enabled when a BLSR protection group is created. When <i>rcmode</i>=AUTO, <i>rcae</i> has no effect on ring circuit auditing. However, provisioning of <i>rcae</i> under this condition is still supported. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F When automatic ring discovery is disabled (<i>ard</i>=DISABLE), ring circuit audits are disabled, regardless of the provisioned <i>rcae</i> value.	ENABLE, DISABLE
<i>rcamode</i>	Ring Circuit Alarm Mode. <i>rcamode</i> enables/disables the reporting of ring circuit audit alarms for all cross-connections to the specified BLSR protection group. Note, ring circuit audit alarms are not reported if <i>rcae</i> is disabled. By default ring circuit alarm reporting is enabled when a BLSR protection group is created. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F	ENABLE, DISABLE

Table 2-99. ED - PROTN - GRP Input *spec_block* Parameters (cont 4 of 5)

Parameter	Description	Value
<i>rcmode</i>	Ring Circuit Mode. <i>rcmode</i> enables/disables automatic squelch map generation for all cross-connections to the specified BLSR protection group. Setting <i>rcmode</i>=AUTO enables automatic squelch map generation. Setting <i>rcmode</i>=MANUAL disables automatic squelch map generation. When disabled, squelch map information (<i>loca</i> and <i>locz</i>) must be entered manually as part of the ENT-CRS-rr command. By default automatic squelch map generation is enabled when a BLSR protection group is created. This parameter is applicable to the following protection group types as specified by the <i>protype</i> parameter. ■ 2F When automatic ring discovery is disabled (<i>ard</i>=DISABLE), automatic squelch map generation is disabled, regardless of the provisioned <i>rcmode</i> value.	AUTO, MANUAL
<i>rme</i>	Revertive Mode Enable. <i>rme</i> enables or disables revertive operation for the specified protection group. This parameter is applicable to the following protection group types as specified by the <i>protype</i> parameter. ■ 1+1 By default, revertive operation is disabled when a 1+1 protection group is created. ■ 1+1_BIDIR By default, revertive operation is disabled when a 1+1_BIDIR protection group is created.	ENABLE, DISABLE ENABLE, DISABLE

Table 2-99. ED - PROTN - GRP Input *spec_block* Parameters (cont 5 of 5)

Parameter	Description	Value
wtr	Wait To Restore. This parameter is applicable to the following protection group types as specified by the protype parameter. A request to modify the wtr value of a protection group in the wait-to-restore state is accepted, but it does not affect the currently running wait-to-restore timer; instead it will affect that group the next time it starts a WTR timer. ■ 2F ■ 1+1 For a 1+1 protection group, wtr is only provisionable if revertive mode is enabled. When revertive mode is disabled, wtr is reset to its default value. ■ 1+1_BIDIR For a 1+1_BIDIR protection group, wtr is only provisionable if revertive mode is enabled. When revertive mode is disabled, wtr is reset to its default value.	The units of wtr are minutes. 5 is the initial value. 0 to 12, and 99 (which represents infinity, i.e. non-revertive). 0 to 12 0 to 12

OUTPUT FORMAT

If the network element fully complies with the **ED - PROTN - GRP** command, then the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters in the normal completion response are specified in the **OUTPUT PARAMETERS** section of the **RTRV - HDR** command.

EXAMPLE INPUT/OUTPUT

The following example assigns a wait-to-restore time of 10 minutes to the 2-fiber protection groups that are identified by ring id denver21. It also renames the ring id to dallas3:

```
ED-PROTN-GRP:TID-123::123456::2F,"denver21":newrid="dallas3",  
wtr=10;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example assigns a wait-to-restore time of 8 minutes to the 2-fiber protection group that is identified by the protection group AID.

```
ED-PROTN-GRP:TID-123:main-1:123456::2F:wtr=8;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

Beginning in Release 6.0, the linear protection group identified by a line-pair aid in the previous example is identified by a slot 1 line aid as shown below.

```
ED-PROTN-GRP:TID-123:main-1-1:123456::2F:wtr=8;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example enables automatic ring discovery on the 2-fiber protection group that is identified by the protection group AID.

```
ED-PROTN-GRP:TID-123:main-1:123456::2F:ard=ENABLE;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

Beginning in Release 6.0, the linear protection group identified by a line-pair aid in the previous example is identified by a slot 1 line aid as shown below.

```
ED-PROTN-GRP:TID-123:main-1-1:123456::2F:ard=ENABLE;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example enables ring circuit audits on the 2-fiber protection group that is identified by the protection group AID.

```
ED-PROTN-GRP:TID-123:main-1:123456::2F:rcae=ENABLE;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

Beginning in Release 6.0, the linear protection group identified by a line-pair aid in the previous example is identified by a slot 1 line aid as shown below.

```
ED-PROTN-GRP:TID-123:main-1-1:123456::2F:rcae=ENABLE;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example sets the Invalid VT BLSR Access alarm level to Not Reported on the 2-fiber protection group that is identified by the protection group AID.

```
ED-PROTN-GRP:TID-123:main-1:123456::2F:ivtbaalmlvl=NR;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

Beginning in Release 6.0, the linear protection group identified by a line-pair aid in the previous example is identified by a slot 1 line aid as shown below.

```
ED-PROTN-GRP:TID-123:main-1-1:123456::2F:ivtbaalmvl=NR;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example sets the *rme* and *wtr* parameters for a 1+1_BIDIR protection group.

```
ED-PROTN-GRP:TID-123:main-1-1:123456::1+1_BIDIR:rme=ENABLE,wtr=10;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

Beginning in Release 6.0, the linear protection group identified by a line-pair aid in the previous example is identified by a slot 1 line aid as shown below.

```
ED-PROTN-GRP:TID-123:main-1-1:123456::1+1_BIDIR:rme=ENABLE,wtr=10;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the error responses in **RTRV-HDR**. The error responses listed there may also apply.

If the system receives an **ED-PROTN-GRP** command in which one or more of the input parameter values does not belong to the set of allowable parameter values

for that specific parameter, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid */
;
```

If the system receives an **ED-PROTN-GRP** command containing a non-numeric or out of range value of the **wtr** parameter, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid wtr value */
;
```

If the system receives an **ED-PROTN-GRP** command in which **prototype=2F** and the specified **aid** is not the aid of a BLSR protection group, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, Not a 2FBLSR protection group */
;
```

Beginning in Release 5.1, the previous error response is replaced by the following one.

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, not a 2F protection group */
;
```

If the system receives an **ED-PROTN-GRP** command in which **prototype=1+1** or **1+1_BIDIR** and the specified **aid** is not the aid of an existing protection group of

the specified type, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, aid not consistent with prototype */
;
```

Note, 1+1 and 1+1_BIDIR protection groups are only created when the following conditions are met.

- The application has been provisioned
- The packs have been equipped in both slots of the group

If the system receives an **ED-PROTN-GRP** command in which the specified **tid** is invalid, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IITA
/* Input, Invalid TID, unallowed characters or too long */
;
```

If the system receives an **ED-PROTN-GRP** command with **prototype=2F** and both the **aid** and **rid** are specified, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, both aid and rid are specified */
;
```

If the system receives an **ED-PROTN-GRP** command, with **prototype=2F**, and the command contains a parameter or parameter value that is not applicable to a 2F

BLSR protection group, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, parameters not valid for BLSR */
;
```

If the system receives an **ED-PROTN-GRP** command, in which the value of the **prototype** parameter is other than **2F**, and the command contains a parameter or parameter value that is applicable only to a 2F BLSR protection group, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, parameters not valid for non-BLSR */
;
```

Beginning in Release 6.0, the previous error check is superseded by the following one.

If the system receives an **ED-PROTN-GRP** command that contains a parameter or parameter value that is not applicable to the protection group type specified in the **prototype** parameter, the command is denied and the following error response is returned, unless a more specific error response is applicable.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, parameters not valid for prototype */
;
```

If the system receives an **ED-PROTN-GRP** command in which the specified **newrid** is too long, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, newrid is too long */
;
```

If the system receives an **ED-PROTN-GRP** command to modify the ring ID of a BLSR protection group, and the value of the **newrid** parameter is identical to the **rid** value of a different BLSR protection group in the same NE, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, duplicate rid */
;
```

If the system receives an **ED-PROTN-GRP** command in which the specified **rid** or **newrid** is not enclosed in quotes, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, rid is not quoted */
;
```

If the system receives an **ED-PROTN-GRP** command in which the **aid** is missing, wrong or inconsistent with the modifier, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access Identifier, AID is missing, wrong or inconsistent
with modifier */
;
```


Beginning in Release 6.0, the previous error check is replaced by the following one.

If the system receives an **ED-PROTN-GRP** command in which the **aid** is missing or invalid, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess Identifier, AID is wrong or missing */
;
```

If the system receives an **ED-PROTN-GRP** command containing an invalid value of the **ivtbaalmvl** parameter, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid */
;
```

If the system receives an **ED-PROTN-GRP** command to provision the **wtr** parameter of a **1+1** or **1+1_BIDIR** protection group and revertive mode for that protection group is not enabled (see **rme**), the command is denied and the following error response is returned. Note **wtr** may be provisioned in the same command that provisions **rme=ENABLE**.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, wtr not provisionable when rme=DISABLE */
;
```

If the system receives an **ED-PROTN-GRP** command to modify the **rme** parameter of a 1+1 protection group that is operating as a subshelf interface (on a main shelf

or a subshelf), the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/*Status, Not inValidState, rmenotprovisionableonsubshelfinterface*/
;
```

RELATED TL1 MESSAGES

ED-MAP-RING

ENT-rr

REPT-DBCHG

SET-MAP-RING

RTRV-PROTN-GRP

NAME

ED-RPR: Edit Resilient Packet Ring (RPR)

The **ED-RPR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-RPR:*tid:aid:ctag:::spec_block;*

DESCRIPTION

The **ED-RPR** command is used to modify (edit) the RPR-specific properties of a port. An RPR instance consists of an Interface (IF) containing the common part, and two directional Spans.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-RPR** command generates a **REPT DBCHG** message.

This command applies to the following packs:

- LNW78

INPUT PARAMETERS

Table 2-100. ED-RPR Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of an RPR-capable Span port. When this is also an RPR IF, both Span and IF parameters are accessible. Refer to the AID Table in Appendix A for valid AIDs.

Table 2-100. ED-RPR Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Block. The <i>spec_block</i> parameters are defined in the following table. All parameters are RPR IF unless indicated as RPR Span.

Table 2-101. ED-RPR Input *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description
<i>enh_brdgmd</i>	Enhanced Bridging Mode. When enabled, the RPR bridge learns RPR node addresses to obtain spatial reuse. When disabled, 802.17 "basic" bridging is used. Values: ■ ENABLE (initial value) ■ DISABLE Changing the value of <i>enh_brdgmd</i> causes the MAC table to be cleared.
<i>atd_tmr</i>	Attribute Discovery (ATD) Timer. The period between ATD messages. Value: an integer in the range 1 - 200, representing 50 millisecond units. Initial value is 20 (for 1 second).
<i>prot_wtr</i>	RPR Protection Wait-to-Restore. The protected state is maintained for the duration of this timer after a fault clears. Value: an integer in the range 0 - 1440, representing seconds. Initial value is 0.
<i>prot_fasttmr</i>	RPR Protection Fast Timer. The interval between fast Topology and Protection messages. Value: an integer in the range 1 - 20, representing milliseconds. Initial value is 10.
<i>prot_slowtmr</i>	RPR Protection Slow Timer. The interval between slow Topology and Protection messages.

Table 2-101. ED-RPR Input *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description
	Value: an integer in the range 1 - 200, representing 50 millisecond units. Initial value is 20 (for 1 second).
<i>prot_hotmr</i>	RPR Protection Holdoff Timer. The delay after an external defect occurs, to allow a lower layer to protect, before RPR protection is invoked. Note that to hold off for defects severe enough to cause keep-alive timeout, <i>prot_katmr</i> should be set to the same value or higher. Value: an integer in the range 0 - 250, representing milliseconds. Initial value is 0.
<i>prot_katmr</i>	RPR Protection Keep AliveTimer. The time after which a span is declared failed if no Single-Choke Fairness message is received. Value: an integer in the range 2 - 50, representing milliseconds. Initial value is 3. Starting in Release 7.0: Value: an integer in the range 2 - 250, representing milliseconds.
<i>ptqsize</i>	Primary Transit Queue Size. Value: an integer in the range 2000 - 51200, in number of bytes. Initial value is 5000.
<i>stqsize</i>	Secondary Transit Queue Size. Value: an integer in the range 2000 - 4194304, in number of bytes. Initial value is 1800000.
<i>stqfullthr</i>	Secondary Transit Queue Full Threshold. The STQ occupancy above which secondary transit traffic has priority over any add traffic. Value: an integer in the range 2000 - 4194304, in number of bytes. Initial value is 1795000.
<i>tstab_tmr</i>	Topology Stability Timer. The period for determining topology stabilization. Value: an integer in the range 10 - 100, representing milliseconds. Initial value is 40.
<i>fair_ramp</i>	Fairness Ramp Coefficient. The coefficient for ramping up an allowed rate. Value: an integer in the range 4 - 9, representing the logarithm of the actual coefficient. Initial value is 6.
<i>fair_lp</i>	Fairness Low Pass Coefficient. The relative weight of low-pass filter rate counters in successive aging intervals.

Table 2-101. ED-RPR Input *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description
	Value: an integer in the range 4 - 11, representing the logarithm of the actual coefficient. Initial value is 6.
<i>fair_advert</i>	Fairness Advertisement Ratio. The ratio between bandwidth for fairness control messages and total link capacity. Value: an integer in the range 1 - 40 , in units of 0.00025. Initial value is 5.
<i>fair_stqhi</i>	Fairness STQ High Threshold. Maximum STQ occupancy above which fairness-eligible add frames are no longer admitted to the ring. Value: an integer in the range 0 - 1000, representing tenths of percent of <i>stqfullthr</i> . Initial value is 250.
<i>fair_stqlo</i>	Fairness STQ Low Threshold. STQ occupancy above which congestion on the outbound link is imminent. Value: an integer in the range 0 - 1000, representing tenths of percent of <i>fair_stqhi</i> . Initial value is 500.
<i>fair_maxrate</i>	Fairness Maximum Add Rate. The maximum rate that fairness-eligible (best-effort) traffic can be added to each ringlet. This is an RPR Span parameter. Value: an integer in the range 0 - 1200, in units of Mb/s. Values over the line rate are interpreted as line rate. Initial value is 1200.
<i>fair_agec</i>	Fairness Aging Coefficient. Controls the amount of history kept in a rate estimator. Value: an integer in the range 0 - 4, representing the logarithm of the actual coefficient. Initial value is 2.
<i>rsv_a</i>	Reserved Class A Add Rate. The maximum rate that Class A traffic is allowed to be added to each ringlet. It controls the Class A shaper. This is an RPR Span parameter. Value: an integer in the range 0 - 1200, in units of Mb/s. Initial value is 0.
<i>rsv_b</i>	Reserved Class B Add Rate. The maximum rate that Class B traffic is allowed to be added to each ringlet. It controls the Class B shaper. This is an RPR Span parameter. Value: an integer in the range 0 - 1200, in units of Mb/s. Initial value is 0.

OUTPUT FORMAT

If the NE fully complies with the **ED-RPR** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
ED-RPR:TID123:d1-v2:123456:::rsv_a=10;

TID123 00-01-01 08:00:00
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the user enters an AID that is not valid for circuit pack, including a non-RPR VCG, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong, or
   inconsistent with the circuit pack type or mode */
;
```

If the user attempts to access an RPR IF parameter on a non-IF RPR Span VCG, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, RPR IF parameter not accessible on this
  VCG */
;
```

The following is an example of an out-of-range input error, other parameters have similar error responses.

If the user enters a value for **atd_tmr** that is not in the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, ATD_TMR out of range */
;
```

If the user enters a value for **stqfullthr** or **stqsize** such that **stqfullthr** would be greater than **stqsize**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, STQFULLTHR cannot exceed STQSIZE */
;
```

RELATED TL1 MESSAGES

RTRV-RPR, ED-VCG-RPR, RTRV-VCG-RPR

NAME

ED-SNMP-ADDR: Edit SNMP Target Address Table Entry

The **ED-SNMP-ADDR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ED-SNMP-ADDR: *tid:targ_name:ctag[:::spec_block]*;

DESCRIPTION

The **ED-SNMP-ADDR** command is used by an appropriate administrator to edit an entry in the SNMPv3 snmpTargetAddrTable.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-SNMP-ADDR** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-102. ED-SNMP-ADDR Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>targ_name</i>	Target Address Name. This parameter identifies an entry in the SNMPv3 snmpTargetAddrTable. Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>targ_name</i> .
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-103. ED-SNMP-ADDR Input *spec_block* Parameters

Parameter Name	Description
<i>tipadr</i>	Target transport IP address. This is a 32-bit IP address consisting of four dot-separated decimal numbers 0-255.
<i>tag_lst</i>	List of usmTargetTag, snmpCommunityTransportTag, snmpNotifyTag identifiers used to select a set of entries in the snmpTargetAddr Table for source address checking. Quoted text string with tags separated by either a space character or a tab character.
<i>domain</i>	Network type. Values: UDP
<i>timeout</i>	Expected maximum round trip time in hundredths of seconds for communicating with the target address. Range: TBD.
<i>retrycnt</i>	Number of retries. Range: 0..255
<i>parm_id</i>	The snmpTargetParamsName. Identifies an entry in the snmpTargetParamsTable that contains SNMP parameters to be used when generating messages to be sent to this transport address. <i>parm_id</i> is a case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>parm_id</i> .
<i>mask</i>	IP subnet mask for <i>tipadr</i> . 32-bit IP subnet mask consisting of 4 dot separated decimal numbers 0-255
<i>maxmsgsz</i>	Maximal message size in bytes that can be transmitted. Range 484..65535 . A value of 0 indicates that the maximum message size is unknown.

OUTPUT FORMAT

If the network element fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command also.

EXAMPLE INPUT/OUTPUT

```
ED-SNMP-ADDR:LT-TID123:Admin3:123456:::tipadr=135.107.32.5,  
tag_lst="Admin-1 Admin-2",timeout=2000,retrycnt=5,parm_id=v3admin1,  
mask=255.255.255.255,maxmsgsz=4096;
```

```
IP 123456  
<  
    LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to this command also.

If the NE receives an **ED-SNMP-ADDR** command with an invalid **targ_name** value or a value of **targ_name** that doesn't exist in the SNMPv3 snmpTargetAddrTable, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid TARG_NAME */  
;
```

If the NE receives an **ED-SNMP-ADDR** command with an invalid value of **tipadr**, **tag_lst**, **domain**, **timeout**, **retrycnt**, **parm_id**, **mask** or **maxmsgsz**, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid parameter */  
;
```

If the NE receives an **ED-SNMP-ADDR** command with a *targ_name* value that identifies the snmpTargetAddrTable entry for the SNMPv1/v2 legacy users, the following error response is returned:

```
sid date time
M  ctag DENY
SDNC
/* Status, Data Not Consistent, entry for legacy users cannot be
changed with this command */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERGP

ED-SNMP-USERGP

DLT-SNMP-USERGP

RTRV-SNMP-USERGP

ENT-SNMP-GROUP

ED-SNMP-GROUP

DLT-SNMP-GROUP

RTRV-SNMP-GROUP

ENT-SNMP-MIBGP

ED-SNMP-MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

ED-SNMP-ADDR
TL1 Message Details

ED-SNMP-ADDR
Alcatel-Lucent 1665 DMX, R9.0

NAME

ED-SNMP-GROUP: Edit SNMP Group

The **ED-SNMP-GROUP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ED-SNMP-GROUP: *tid:groupid:ctag:::spec_block*;

DESCRIPTION

The **ED-SNMP-GROUP** command is used by an appropriate administrator to edit an entry in the SNMPv3 vacmAccessTable.

There are four indices in the vacmAccessTable, specified by **groupid**, **sec_model**, **sec_level** and **prefix**. The values of these four parameters taken together must uniquely identify an entry in this table. Note that a **NULL** value is allowed for **prefix**. Thus, if **prefix** is **NULL**, the values of **groupid**, **sec_model**, **sec_level** along with the **NULL** value for **prefix** must uniquely identify a table entry.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-SNMP-GROUP** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-104. ED-SNMP-GROUP Input Parameters (cont 1 of 2)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
groupid	The vacmGroupName group identifier for an entry in the SNMPv3 vacmAccessTable. groupid is a case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in groupid .

Table 2-104. ED-SNMP-GROUP Input Parameters (cont 2 of 2)

Parameter Name	Description
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
spec_block	The spec_block parameters are listed and described in the following table.

Table 2-105. ED-SNMP-GROUP Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
sec_model	Security model value for the vacmAccessSecurityModel object. Values: SNMPV1 SNMPv1 security model. SNMPV2C SNMPv2c security model. USM SNMPv3 USM security model. sec_model is a required parameter and a value must be specified
sec_level	Security level value for the vacmAccessSecurityLevel object. Values: NOAUTHNOPRIV No authorization security and no privacy security. AUTHNOPRIV Authorization security but no privacy security. AUTHPRIV Authorization security and privacy security. sec_level is a required parameter and a value must be specified
prefix	Context prefix value for the vacmAccessContextPrefix object. A NULL value is the only allowed value. Note: when specifying a parameter, if the parameter name is specified but a value isn't specified, e.g., "prefix", then the previous value of the parameter is not changed. To change a previously provisioned parameter value to a NULL value, "NULL" must be explicitly specified, e.g., "prefix=NULL".
readmibs	Read access MIB groups name for the vacmAccessReadViewName object. Case sensitive alphanumeric string of maximal 6-20 characters. "-" is an allowed character. A NULL value is allowed, and if specified, will clear any previously entered value of readmibs.

Table 2-105. ED-SNMP-GROUP Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description				
<i>writemibs</i>	Write access MIB groups name for the vacmAccessWriteViewName object. Case sensitive alphanumeric string of maximal 6-20 characters. "-" is an allowed character. A NULL value is allowed, and if specified, will clear any previously entered value of <i>writemibs</i> .				
<i>notifmibs</i>	Notification MIB groups name for the vacmAccessNotifyViewName object. Case sensitive alphanumeric string of maximal 6-20 characters. "-" is an allowed character. A NULL value is allowed, and if specified, will clear any previously entered value of <i>notifmibs</i> .				
<i>match</i>	Context match value for the vacmAccessContextMatch object. This parameter specifies how the context of a request must match. Values: <table> <tr> <td>EXACT</td><td>Exact context match</td></tr> <tr> <td>PREFIX</td><td>Only prefix context match</td></tr> </table>	EXACT	Exact context match	PREFIX	Only prefix context match
EXACT	Exact context match				
PREFIX	Only prefix context match				

OUTPUT FORMAT

If the network element fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command also.

EXAMPLE INPUT/OUTPUT

```
ED-SNMP-GROUP:LT-TID123:Admin-1:123456:::sec_model=usm,  
sec_level=authpriv,prefix=,readmibs=all,notifmibs=all;  
  
IP 123456  
<  
    LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to this command also.

If the NE receives an **ED-SNMP-GROUP** command with an invalid **groupid** value or without a value of **groupid**, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid GROUPID */  
;
```

If the NE receives an **ED-SNMP-GROUP** command with a value of **sec_model** other than **SNMPV1**, **SNMPV2C** or **USM** or without a value of **sec_model**, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid parameter */  
;
```

If the NE receives an **ED-SNMP-GROUP** command with a **sec_level** value other than **NOAUTHNOPRIV**, **AUTHNOPRIV** or **AUTHPRIV** or without a value of

sec_level, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ED-SNMP-GROUP** command with an invalid **readmibs** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ED-SNMP-GROUP** command with an invalid **writemibs** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ED-SNMP-GROUP** command with an invalid **notifmibs** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ED-SNMP-GROUP** command with an invalid **prefix** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ED-SNMP-GROUP** command with a *match* value other than **EXACT** or **PREFIX**, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ED-SNMP-GROUP** command with a *groupid* value that identifies a vacmAccessTable entry for an SNMPv1/v2 legacy user that was created when **ENT-SNMP-USER:snmp_ver=V1-2** created a legacy user, the following error response is returned:

```
sid date time
M  ctag DENY
   SDNC
   /* Status, Data Not Consistent, reserved entry, cannot be modified or
   deleted */
;
```

If the NE receives a **ED-SNMP-GROUP** command with values of *groupid*, *sec_model*, *sec_level* and *prefix* which together do not identify an existing entry in the SNMPv3 vacmAccessTable, the following error response is returned:

```
sid date time
M  ctag DENY
   PIUI
   /* Privilege, Illegal User Identity, invalid MIB table entry */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT - SNMP - ADDR

RTRV - SNMP - ADDR

ENT - SNMP - USERGP

ED - SNMP - USERGP

DLT - SNMP - USERGP

RTRV - SNMP - USERGP

ENT - SNMP - GROUP

DLT - SNMP - GROUP

RTRV - SNMP - GROUP

ENT - SNMP - MIBGP

ED - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

ED-SNMP-MIBGP: Edit VACM View Tree Family Table Entry

The **ED-SNMP-MIBGP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ED-SNMP-MIBGP: *tid:mibgrpid:ctag::subtree[:spec_block];*

DESCRIPTION

The **ED-SNMP-MIBGP** command is used by an appropriate administrator to edit an entry in the SNMPv3 View Tree Family table (vacmViewTreeFamilyTable).

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-SNMP-MIBGP** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-106. ED-SNMP-MIBGP Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>mibgrpid</i>	MIB Group ID. Identifies an entry in the SNMPv3 View Tree Family table (vacmViewTreeFamilyTable). Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>mibgrpid</i> .
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-106. ED-SNMP-MIBGP Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>subtree</i>	MIB subtree object identification (OID) of the vacmViewTreeFamilySubtree. <i>subtree</i> is a character string of 1 to 255 characters that may be specified as either a subtree name, e.g., SysPmInfo , or as a OID string, e.g., 1.3.6.1.4.1.1751.2.88.10.2 . <i>subtree</i> is a required parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-107. ED-SNMP-MIBGP Input *spec_block* Parameters

Parameter Name	Description
<i>mask</i>	The OID bit mask which, in combination with the corresponding instance of <i>subtree</i> , defines a family of view subtrees. <i>mask</i> is a quoted OctetString of up to 16 characters represented as a sequence of hexadecimal numbers separated by colons. Each octet is within the range 0x00 through 0xff. Note that surrounding quotes are needed since the separating colon is a TL1 command delimiter. For example " FF:FF ".
<i>type</i>	Included or excluded the specified subtree from the MIB view. Values: INCLUDE Include the specified subtree. EXCLUDE Exclude the specified subtree.

OUTPUT FORMAT

If the network element fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```


OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command also.

EXAMPLE INPUT/OUTPUT

```
ED-SNMP-MIBGP:LT-TID123:SysPMInfo:123456::SysPMInfo:mask="ff:ff",
type=include;

IP 123456
<
    LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to this command also.

If the NE receives an **ED-SNMP-MIBGP** command with a missing or invalid **mibgrpid** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid MIBGRPID */
;
```

If the NE receives an **ED-SNMP-MIBGP** command with a missing or invalid **subtree** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SUBTREE */
;
```

If the NE receives an **ED-SNMP-MIBGP** command with *mibgrpid* and *subtree* values that together are not the same as the *mibgrpid* and *subtree* values of an existing vacmViewTreeFamilyTable entry, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, view tree entry doesn't exist */
;
```

If the NE receives an **ED-SNMP-MIBGP** command with an invalid value of *mask* or *type*, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ED-SNMP-MIBGP** command to edit the mibgp of a legacy user (SNMPv1 or SNMPv2), the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, entries for legacy users cannot be
changed with this command */
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV - SNMP - ADDR

ENT - SNMP - USERGP

ED - SNMP - USERGP

DLT - SNMP - USERGP

RTRV - SNMP - USERGP

ENT - SNMP - GROUP

DLT - SNMP - GROUP

RTRV - SNMP - GROUP

ENT - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

ED-SNMP-NOTIF: Edit SNMP Notify Table Entry

The **ED-SNMP-NOTIF** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ED-SNMP-NOTIF: *tid:notif_id:ctag[:::spec_block]*;

DESCRIPTION

The **ED-SNMP-NOTIF** command is used by an appropriate administrator to edit an entry in the SNMPv3 snmpNotifyTable.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-SNMP-NOTIF** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-108. ED-SNMP-NOTIF Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>notif_id</i>	Notification Name. Identifies an entry in the SNMPv3 snmpNotifyTable. Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>notif_id</i> .
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-109. ED-SNMP-NOTIF Input *spec_block* Parameters

Parameter Name	Description
<i>tag_id</i>	<i>tag_id</i> is a single tag value which is used to select entries in the snmpTargetAddrTable. <i>tag_id</i> is a case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>tag_id</i> .
<i>notify_type</i>	Notification type. Values: TRAP Trap notifications. No acknowledgement of the notification sent is expected. INFORM Inform notification. Acknowledgement of sent notification is expected.

OUTPUT FORMAT

If the network element fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command also.

EXAMPLE INPUT/OUTPUT

```
ED-SNMP-NOTIF:LT-TID123:admin-3:123456:::tag_id=admin-3,
notify_type=trap;
;

IP 123456
<
LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to this command also.

If the NE receives an **ED-SNMP-NOTIF** command with an invalid **notif_id** value or a value of **notif_id** that doesn't exist in the SNMPv3 snmpNotifyTable, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid NOTIF_ID */
;
```

If the NE receives an **ED-SNMP-NOTIF** command with an invalid value of **tag_id** or **notify_type**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ED-SNMP-NOTIF** command with a **notif_id** value that identifies a snmpNotifyTable entry for an SNMPv1/v2 legacy user that was created when **ENT-SNMP-USER:snmp_ver=V1-2** created a legacy user, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, reserved entry, cannot be modified or
deleted */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT - SNMP - ADDR

ED - SNMP - ADDR

DLT - SNMP - ADDR

RTRV - SNMP - ADDR

ENT - SNMP - USERGP

ED - SNMP - USERGP

DLT - SNMP - USERGP

RTRV - SNMP - USERGP

ENT - SNMP - GROUP

DLT - SNMP - GROUP

RTRV - SNMP - GROUP

ENT - SNMP - MIBGP

ED - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

ED-SNMP-PARAM: Edit SNMP Target Parameter Table Entry

The **ED-SNMP-PARAM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ED-SNMP-PARAM: *tid:parm_id:ctag[:::spec_block];*

DESCRIPTION

The **ED-SNMP-PARAM** command is used by an appropriate administrator to edit an entry in the SNMPv3 Target Parameter Table (snmpTargetParamsTable).

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-SNMP-PARAM** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-110. ED-SNMP-PARAM Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>parm_id</i>	Target parameter entry name. Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>parm_id</i> .
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-111. ED-SNMP-PARAM Input *spec_block* Parameters

Parameter Name	Description
<i>sec_model</i>	Security model value for the vacmAccessSecurityModel object. Values: SNMPV1 SNMPv1 security model. SNMPV2C SNMPv2c security model. USM SNMPv3 USM security model.
<i>sec_uid</i>	Security Name. The Principal (i.e., user ID) on whose behalf SNMP messages will be generated using this entry. <i>sec_uid</i> is a case-sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>sec_uid</i> .
<i>sec_level</i>	Security level value for the vacmAccessSecurityLevel object. Values: NOAUTHNOPRIV No authorization security and no privacy security. AUTHNOPRIV Authorization security but no privacy security. AUTHPRIV Authorization security and privacy security.

OUTPUT FORMAT

If the network element fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command also.

EXAMPLE INPUT/OUTPUT

```
ED-SNMP-PARAM:LT-TID123:v3admin:123456:::sec_model=usm,  
sec_uid=v3admin1,sec_level=authnopriv;  
  
IP 123456  
<  
    LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to this command also.

If the NE receives an **ED-SNMP-PARAM** command with an invalid *parm_id* value or a value of *parm_id* that doesn't exist, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid PARM_ID */  
;
```

If the NE receives an **ENT-SNMP-PARAM** command with an invalid value of *sec_model*, *sec_uid* or *sec_level*, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid parameter */  
;
```

If the NE receives an **ENT-SNMP-PARAM** command with a value of **sec_level** equal to **AUTHNOPRIV** or **AUTHPRIV** and **sec_model** does not equal **USM**, , the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, SEC_LEVEL and SEC_MODEL inconsistent
*/
;
```

If the NE receives an **ED-SNMP-PARAM** command with a **parm_id** value that identifies a vacmAccessTable entry for an SNMPv1/v2 legacy user that was created when **ENT-SNMP-USER:snmp_ver=V1-2** created a legacy user, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, entries for legacy users cannot be
changed with this command */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERGP

ED-SNMP-USERGP

DLT-SNMP-USERGP

RTRV - SNMP - USERGP

ENT - SNMP - GROUP

DLT - SNMP - GROUP

RTRV - SNMP - GROUP

ENT - SNMP - MIBGP

ED - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

ED-SNMP-USER: Edit SNMP User

The **ED-SNMP-USER** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 3.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ED-SNMP-USER: *tid:ucomid:ctag::uipadr:spec_block;*

Starting in Release 9.0, when **snmp_ver=V1-2**, the input format is:

ED-SNMP-USER: *tid:uid:ctag::uipadr:spec_block;*

Starting in Release 9.0, when **snmp_ver=V3**, the input format is:

ENT-SNMP-USER:*tid:uid:ctag:::spec_block;*

DESCRIPTION

The **ED-SNMP-USER** command is used by an appropriate administrator to edit the parameters associated with an SNMP User. Following execution of the command, the user must restart the NE for the changes to take affect.

An SNMP User is defined by the pair of parameters “SNMP Community” (i.e., **ucomid**) and source IP address (i.e., **uipadr**). SNMP will respond only to SNMP PDUs for which the Community field matches the SNMP Community and the source IP address for one of the SNMP Users created by the ENT-SNMP-USER command. Both parameters need to be specified in this command to identify a specific SNMP User.

This command may be used to enable or disable an SNMP User for receiving traps and for responding to request functionality (i.e., GetRequest, GetNextRequest, GetBulkRequest). There can be a maximum of 10 SNMP Users enabled for request functionality and a maximum of up to 10 SNMP Users enabled for receiving traps.

This command is used to modify set of MIB modules that apply to the SNMP User. SNMP will allow the retrieval of data for only those MIB modules specified for the SNMP User and will send to the SNMP User only those traps that are defined in the MIB modules specified for the SNMP User.

Starting in Release 9.0, **ED-SNMP-USER** is used to edit the user parameters associated for both SNMPv1/v2 and SNMPv3 applications.

The applicability and use of the command parameters is determined by the value of the **snmp_ver spec_block** parameter. When **snmp_ver=V1-2**, or when a value of this parameter is not specified in the input, the SNMPv1/v2 parameters and parameter definitions apply. The applicable parameters are **uid** (renamed from **ucomid**), **uipadr**, **reqfnct**, and **trapfnct**. If values are specified for any of the other parameters, the command will be denied. Since an SNMPv1/v2 user is defined by the unique combination of the user ID/community and the user's IP address, **uid** and **uipadr** are both required and must be specified.

The name of the **ucomid** is changed to **uid** to better represent its use for both SNMPv1/v2 and for SNMPv3. Since this is a positional parameter, the parameter name isn't directly used in the input command line and thus when **snmp_ver=V1-2**, there is no actual change to the input format.

When **snmp_ver=V3**, the SNMPv3 parameters and parameter definitions apply. The applicable parameters are **uid**, **tagid**, **authprotocol**, **privprotocol**, **authpid** and **privpid**. If a value is specified for **uipadr**, **reqfnct** or **trapfnct**, the command will be denied.

In SNMPv3, a user is uniquely identified by the user ID in the user table. The IP address is associated with the target address table and is not directly associated with the user. Thus, for SNMPv3, an IP address is entered via the **tipadr** parameter in the **ENT/ED-SNMP-ADDR** commands. Therefore, when **snmp_ver=V3** is specified in **ED-SNMP-USER**, **uid** is required and must be specified, but if a value of **uipadr** is specified, the command will be denied.

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-SNMP-USER** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-112. ED-SNMP-USER Input Parameters (cont 1 of 2)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-112. ED - SNMP - USER Input Parameters (cont 2 of 2)

Parameter Name	Description
ucomid	This is the SNMP Community Identifier for the SNMP user. The valid values are a case-sensitive alphanumeric string of 6 to 20 characters. This is a required parameter, there is no default value.
uid	Starting in Release 9.0, the name of the parameter ucomid is changed to uid to better represent its meaning and use. When snmp_ver=V1-2 , either entered explicitly or as the default, uid is the SNMPv2 Community identifier for the SNMP user. When snmp_ver=V3 , uid is the SNMPv3 user identifier for the SNMP user. Starting in Release 9.0, uid is a case-sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in uid .
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter. This is included in the command by the user and is repeated by the network element in the response to allow the user to associate the command and response messages.
uipadr	User source IP address. This is a 32-bit IP address consisting of four dot-separated decimal numbers 0-255. This is a required parameter, there is no default value. Starting in Release 9.0, uipadr is required if snmp_ver=V1-2 . uipadr is not applicable when snmp_ver=V3 and the command will be denied if a value of uipadr is specified.
spec_block	The spec_block parameters are listed and described in the following table.

Table 2-113. ED - SNMP - USER Input spec_block Parameters (cont 1 of 2)

Parameter Name	Description
reqfnct	Request Function. Enable or disable request functionality (i.e., GetRequest, GetNextRequest, GetBulkRequest). Values are ENABLED and DISABLED . Starting in Release 9.0, reqfnct applies only when snmp_ver=V1-2 .
trapfnct	Trap Function. Enable or disable the SNMP User for receiving traps. Values are ENABLED and DISABLED . Starting in Release 9.0, trapfnct applies only when snmp_ver=V1-2 .

Table 2-113. ED-SNMP-USER Input spec_block Parameters (cont 2 of 2)

Parameter Name	Description
snmp_ver	SNMP version. This parameter specifies the applicability and usage of the com_block and spec_block parameters. Values: V1-2 SNMPv2 applicability. This is the initial value. V3 SNMPv3 applicability.
tagid	Tag identifier that is used to select a set of entries in the snmpTargetAddr Table for source address checking. Case sensitive alphanumeric string. "-" is an allowed character in tagid . A NULL value means no source checking. tagid applies only for snmp_ver=V3 .
authprotocol	Authentication protocol. Applies only if snmp_ver=V3 . Values: NOAUTH No authentication protocol. MD5 Specifies the HMAC-MD5-96 Digest Authentication Protocol I (uses the MD5 hash-function). SHA Specifies the HMAC-SHA-96 Digest Authentication Protocol (uses the SHA hash-function).
privprotocol	Privacy protocol. Applies only for snmp_ver=V3 . Values: NOPRIV No privacy protocol. DES CBC-DES Symmetric Data Encryption Standard privacy protocol. 3DES CBC-3DES Symmetric Data Encryption Standard privacy protocol. AES128 128-bit Advanced Encryption Standard privacy protocol. AES192 192-bit Advanced Encryption Standard privacy protocol. AES256 256-bit Advanced Encryption Standard privacy protocol.
authpid	Authentication password. Case sensitive alphanumeric string of 6-20 characters. Not applicable if authprotocol=NOAUTH , but required for other values of authprotocol . Applies only for snmp_ver=V3 .
privpid	Privacy password. Case sensitive alphanumeric string of 6-20 characters. Not applicable if privprotocol=NOPRIV , but required for other values of privprotocol . Applies only for snmp_ver=V3 .

OUTPUT FORMAT

If the network element fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command also.

EXAMPLE INPUT/OUTPUT

The following example disables the SNMP User for receiving traps:

```
ed-snmpp-user:LT-123:snmpu1:123456::135.107.32.7:trapfnct=disabled;

IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```

Starting in Release 9.0, the following is an example of changing the authentication and privacy of an SNMPv3 user to no authentication and no privacy:

```
ED-SNMP-USER:LT-TID123:snmpu1:123456:::snmp_ver=v3,
authprotocol=noauth,privprotocol=nopriv;

IP 123456
<

LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to this command also.

If the NE receives an **ED-SNMP-USER** command with a nonexisting or invalid **ucomid** (SNMP Community Identifier) value, the following error response is returned:

```
sid date time
M  ctag DENY
   PIUI
   /* Privilege, Illegal User Identity, invalid UCOMID */
;
```

Starting in Release 9.0, the previous error response is replaced with the following error response:

If the NE receives an **ED-SNMP-USER** command with an invalid **uid** value, the following error response is returned:

```
sid date time
M  ctag DENY
   PIUI
   /* Privilege, Illegal User Identity, invalid UID */
;
```

If the NE receives a **ED-SNMP-USER** command with a nonexisting or invalid **uipadr** value, the following error response is returned:

```
sid date time
M  ctag DENY
   PIUI
   /* Privilege, Illegal User Identity, invalid UIPADR */
;
```

Starting in Release 9.0, the previous error response doesn't apply when **snmp_ver=V3**.

Starting in Release 9.0, If the NE receives an **ED-SNMP-USER** command with a specified value of **uipadr** and with **snmp_ver=V3**, the following error response is returned:.

```
sid date time
M  ctag DENY
   IPNC
   /* Input, Parameter Not Consistent, UIPADR and SNMP_VER inconsistent */
;
```

If the NE receives a **ED-SNMP-USER** command with values of **ucomid** (SNMP Community Identifier) and **uipadr** which together do not identify an existing SNMP User, the following error response is returned:

```
sid date time
M  ctag DENY
   PIUI
   /* Privilege, Illegal User Identity, invalid SNMP User */
;
```

Starting in Release 9.0, the parameter name **ucomid** is changed to **uid** and the previous error response applies if **uid** and **uipadr** together duplicate the values of an existing SNMP User.

Starting in Release 9.0, the previous error response doesn't apply when **snmp_ver=V3**.

If the NE receives an **ED-SNMP-USER** command with a value of **reqfnct** or **trapfnct** other than **ENABLED** or **DISABLED**, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, value must be either "enabled" or
   "disabled"*/
;
```

Starting in Release 9.0, the previous error response doesn't apply when **snmp_ver=V3**.

If the NE receives an **ED-SNMP-USER** command for an SNMP User with request functionality enabled and if there are already 10 SNMP Users defined with functionality enabled, the following error response is returned:

```
sid date time
M  ctag DENY
   SDNC
   /* Status, Data Not Consistent, exceeds maximum number of SNMP Users
   with request functionality */
;
```

Starting in Release 9.0, the previous error response doesn't apply when **snmp_ver=V3**.

If the NE receives an **ED-SNMP-USER** command for an SNMP User with trap functionality enabled and if there are already 10 SNMP Users defined with trap enabled, the following error response is returned:

```
sid date time
M  ctag DENY
   SDNC
   /* Status, Data Not Consistent, exceeds maximum number of SNMP Users
   with trap functionality enabled */
;
```

Starting in Release 9.0, the previous error response doesn't apply when **snmp_ver=V3**.

Starting in Release \$RLS, if the NE receives an **ED-SNMP-USER** command with an invalid value of **snmp_ver**, **tagid**, **authprotocol**, **privprotocol**, **authpid** or **privpid**, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ED-SNMP-USER** command with a value of **authpid** or **privpid** when the current value of **authprotocol** or **privprotocol** is **NOAUTH** or **NOPRIV** respectively, the following error response is returned:

```
sid date time
M  ctag DENY
   SDNC
   /* Status, Data Not Consistent, pid applies only when a protocol is
   specified */
;
```

If the NE receives an **ED-SNMP-USER** command to change the value of **authprotocol** or **privprotocol** from **NOAUTH** or **NOPRIV** to a protocol value

respectively, and a value of **authpid** or **privpid** respectively is not specified, the following error response is returned:

```
sid date time
M  ctag DENY
SDNC
/* Status, Data Not Consistent, pid required when a protocol is
specified */
;
```

If the NE receives an **ED-SNMP-USER** command with a value for **tagid**, **authprotocol**, **privprotocol**, **authpid** or **privpid** when the value of **snmp_ver** is not **V3**, the following error response is returned:

```
sid date time
M  ctag DENY
SDNC
/* Status, Data Not Consistent, specified parameters not consistent
with value of SNMP_VER */
;
```

If the NE receives an **ED-SNMP-USER** command with a value for **reqfnct** or **trapfnct** when the value of **snmp_ver** is **V3**, the following error response is returned:

```
sid date time
M  ctag DENY
SDNC
/* Status, Data Not Consistent, specified parameters not consistent
with value of SNMP_VER */
;
```

RELATED TL1 MESSAGES

DLT-SNMP-USER

ENT-SNMP-USER

RTRV-SNMP-USER

ENT - SNMP - ADDR

ED - SNMP - ADDR

DLT - SNMP - ADDR

RTRV - SNMP - ADDR

ENT - SNMP - USERGP

ED - SNMP - USERGP

DLT - SNMP - USERGP

RTRV - SNMP - USERGP

ENT - SNMP - GROUP

ED - SNMP - GROUP

DLT - SNMP - GROUP

RTRV - SNMP - GROUP

ENT - SNMP - MIBGP

ED - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

EDV - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

ED-SNMP-USERGP: Edit VACM Security to Group Table Entry

The **ED-SNMP-USERGP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ED-SNMP-USERGP: *tid:sec_uid:ctag::sec_model[:spec_block];*

DESCRIPTION

The **ED-SNMP-USERGP** command is used by an appropriate administrator to edit an entry in the SNMPv3 Security to Group table (vacmSecurityToGroupTable).

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-SNMP-USERGP** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-114. ED-SNMP-USERGP Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>sec_uid</i>	User security name. Identifies an entry in the SNMPv3 Security to Group table (vacmSecurityToGroupTable). Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>sec_uid</i> .
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>sec_model</i>	Security model. Values: SNMPV1 SNMPv1 security model

Table 2-114. ED -SNMP -USERGP Input Parameters (cont 2 of 2)

Parameter Name	Description
	SNMPV2C SNMPv2 security model USM SNMPv3 User Security Model
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-115. ED -SNMP -USERGP Input *spec_block* Parameters

Parameter Name	Description
<i>groupid</i>	vacmAccessTable ID. Identifies an entry in the SNMPv3 vacmAccessTable. Case sensitive alphanumeric string of 6 to 20 characters or NULL. "-" is an allowed character in <i>groupid</i> .

OUTPUT FORMAT

If the network element fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV -HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command also.

EXAMPLE INPUT/OUTPUT

```
ED-SNMP-USERGP:LT-TID123:Admin3:123456::usm:groupid=v3admin1;  
  
IP 123456  
<  
    LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there apply to this command also.

If the NE receives an **ED-SNMP-USERGP** command without a **sec_uid** value or with an invalid **sec_uid** value, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid SEC_UID */  
;
```

If the NE receives an **ED-SNMP-USERGP** command without a **sec_model** value or with an invalid **sec_model** value, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid SEC_MODEL */  
;
```

If the NE receives an **ED-SNMP-USERGP** command with values of **sec_uid** and **sec_model** that together do not identify an existing vacmSecurityToGroupTable entry, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid SEC_ID and SEC_MODEL */  
;
```

If the NE receives an **ED-SNMP-USERGP** command with an invalid value of **groupid**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ED-SNMP-USERGP** command with values of **sec_uid** and **sec_model** that together identifies the vacmSecurityToGroupTable entry for an SNMPv1/v2 legacy user that was created when **ENT-SNMP-USER:snmp_ver=V1-2** created a legacy user, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, reserved entry, cannot be modified or
deleted */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERGP

DLT-SNMP-USERGP

RTRV-SNMP-USERGP

ENT-SNMP-GROUP

ED - SNMP - GROUP

DLT - SNMP - GROUP

RTRV - SNMP - GROUP

ENT - SNMP - MIBGP

ED - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

ED-STGRP: Edit Spanning Tree Group

The **ED-STGRP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-STGRP:*tid::ctag::stgrpid:spec_block;*

Beginning in release 3.0, the input format is:

ED-STGRP:*tid:aid:ctag::stgrpid:spec_block;*

DESCRIPTION

The **ED-STGRP** command is used to modify (edit) a Spanning Tree Group (STGRP).

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-STGRP** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV-EQPT** *prot_state* = PROT, the **ED-STGRP** command generates a **REPT DBCHG** message for the addressed slot and its companion.

INPUT PARAMETERS

Table 2-116. ED-STGRP Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-116. ED-STGRP Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access identifier. This is the address of a slot equipped with an Ethernet circuit pack. Refer to the AID Table for valid AIDs.
<i>ctag</i>	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>stgrpid</i>	Spanning tree group ID. Value: An integer in the range 1 - 4095.
<i>spec_block</i>	Specific block. The <i>spec_block</i> parameters are defined in the following table.

Table 2-117. ED-STGRP Input *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description
<i>autolock</i>	Automatic lock. Values: ■ ENABLE ■ DISABLE (initial value) When ENABLE, any port in the Spanning Tree Group experiencing a TCA on its STPSTATE counter (see RTRV-EPM) is moved to the <i>DISF</i> state (see RTRV-STGRP) preventing traffic flow until released by <i>autolock=DISABLE</i> or disabling <i>admin</i>, <i>epss</i> or <i>vss</i> (see ED-EPORT or ED-VCG), as appropriate. Note that when a LAG port is autolocked, the link partner may report LAG alarms. This parameter applies to the following packs: ■ LNW70 (starting in release 8.0)
<i>strp</i>	Spanning tree root priority. The root priority is the relative priority of the bridge (lower value means higher priority). Values: 0 to 65535. The initial value is 32768.
<i>stmaxage</i>	Spanning tree maximum age timer. The maximum age timer determines the maximum age of received protocol information before it is discarded. Value: 6 to 255 seconds. The initial value is 20 seconds. Starting in release 3.0 the initial value is 255 seconds.

Table 2-117. ED-STGRP Input *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description
<i>stfdtm</i>	Spanning tree forward delay timer. The forward delay timer determines the time a port can stay in the Learning/Listening State before moving to the Forwarding State. Value: 4 to 255 seconds. The initial value is 15 seconds.
<i>addvcglist</i>	Add VCG AID list. Values: An ampersand-separated list of VCG AIDs. Refer to the AID Table for valid VCG AIDs. A spanning tree group can include 1 to 4 VCG AIDs. Since an existing spanning tree group must have at least one assigned VCG, at most, three VCGs can be added with this command. For the LNW70, at most 32 VCGs can be added with this command. All VCG(s) addressed by an ED-STGRP command must be in the same FN or growth unit. This command cannot be used to both add and delete VCGs in the same instance of the command.
<i>delvcglist</i>	Delete VCG AID list. Values: An ampersand-separated list of VCG AIDs. Refer to the AID Table for valid VCG AIDs. Since a spanning tree group must have at least one VCG, this command cannot delete all VCGs. This command cannot be used to both add and delete VCGs in the same instance of the command.
<i>addeplst</i>	Add Ethernet Port AID list. Values: An ampersand-separated list of Ethernet Port AIDs. Refer to the AID Table for valid Ethernet Port AIDs. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG. This parameter applies to the following packs: ■ LNW70 (starting in release 6.0) For the LNW70, at most 8 Ethernet Ports can be added with this command. All Ethernet or VCG Ports addressed by an ED-STGRP command must be in the same FN or growth unit. This command cannot be used to both add and delete ports in the same instance of the command.

Table 2-117. ED-STGRP Input *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description
<i>deleplst</i>	Delete Ethernet Port AID list. Values: An ampersand-separated list of Ethernet Port AIDs. Refer to the AID Table for valid Ethernet Port AIDs. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port which is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG. This parameter applies to the following packs: ■ LNW70 (starting in release 6.0) Because a spanning tree group must have at least one Ethernet Port or VCG, this command cannot delete all Ethernet Ports and VCGs. This command cannot be used to both add and delete ports in the same instance of the command.

OUTPUT FORMAT

If the network element (NE) fully complies with the **ED-STGRP** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
ENT-STGRP:TID123::123456::123:vcglst=a-v1&a-v2&a-v3;

TID123 00-01-01 08:00:00
M 123456 COMPLD
;
```

```
ED-STGRP:TID123:<aid>:123456::123:vcglst=d-v1&d-v2&d-v3;  
  
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the list of VCG AIDs are not all part of the same circuit pack, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid VCG list */  
;
```

If the specified spanning tree group doesn't exist, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, stgrpid doesn't exist */  
;
```

If the number of VCGs to be added exceeds the amount allowable by the circuit pack, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid VCG list */  
;
```

If any of the specified VCGs to be added are not members of the same virtual switch as the Spanning Tree Group Identifier (**stgrpid**), the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, port is not a member of stgrpid
virtual switch */
;
```

Starting in release 6.0, for applicable packs, if any of the specified ports to be added are not members of the same virtual switch as the Spanning Tree Group Identifier (**stgrpid**), the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, port is not a member of stgrpid
virtual switch */
;
```

If a port is a member of a Link Aggregation Group, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, one or more ports are members of a
LAG */
;
```

Starting in Release 9.0, if a port in **addeplst** or **addvcglst** is a member of an ERP instance, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, one or more ports are members of a ERP */
;
```

If the user enters a **stgrp**id that is not within the 1 to 4095 range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, STGRPID out of range */
;
```

If the user enters a Spanning Tree Root Priority (**strp**) that is not within the 0 to 65535 range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, STRP out of range */
;
```

If the user enters a Spanning Tree Maximum Age Timer (**stmaxage**) value that is not within the 6 - 40 range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, STMAXAGE out of range */
;
```

Starting in Release 3.0, if the user enters a Spanning Tree Maximum Age Timer (**stmaxage**) value that is not within the 6 to 255 range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, STMAXAGE out of range */
;
```

If the user enters a Spanning Tree Forward Delay Timer (*stfdtm*) value that is not within the 4 - 30 range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, STFDTM out of range */
;
```

If any of the specified VCGs to be deleted are not members of the specified spanning tree group, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
/* Status, Data Not Consistent, port is not a member of this spanning
tree group */
;
```

Starting in release 6.0, for applicable packs, if any of the specified VCGs or Ethernet Ports to be deleted are not members of the specified spanning tree group, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
/* Status, Data Not Consistent, port is not a member of this spanning
tree group */
;
```

If executing this command to delete VCGs will result in no VCGs being assigned to the Spanning Tree Group, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
/* Status, Data Not Consistent, Spanning Tree Group must have at least
one VCG */
;
```

Starting in release 6.0, for applicable packs, the above is replaced by the following. If executing this command to delete VCGs or Ethernet ports will result in

no ports being assigned to the Spanning Tree Group, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, Spanning Tree Group must have at least
one port */
;
```

If this command is used to both add and delete VCGs in the same instance of the command, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, cannot add and delete VCGs at the same
time */
;
```

Starting in release 6.0, for applicable packs, the above is replaced by the following. If this command is used to both add and delete ports in the same instance of the command, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, cannot add and delete ports at the
same time */
;
```

If the user enters a value for either **stgrp**, **stmaxage** or **stfdtm**, and also enters a value for **addvcglist** or **delvcglist** (Add or Delete VCG List), the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, cannot provision both STP parameters and
VCG ports in the same command instance */
;
```

Starting in release 6.0, for applicable packs, the above is replaced by the following. If the user enters a value for either **stgrp**, **stmaxage** or **stfdtm**, and also

enters a value for ***addvcglst***, ***addeplst***, ***delvcglst***, or ***deleplst*** the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, cannot provision both STP parameters and
ports in the same command instance */
;
```

If the list of VCG AIDs are not part of the same circuit pack specified by the AID, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, VCG list not consistent with AID */
;
```

If the list of Ethernet Port AIDs are not part of the same circuit pack specified by the AID, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Ethernet Port list not consistent with AID
*/
;
```

If the user enters an ***autolock*** value that is not within its range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, AUTOLOCK out of range */
;
```

RELATED TL1 MESSAGES

DLT-STGRP

ENT-STGRP

ED-STGRP
TL1 Message Details

ED-STGRP
Alcatel-Lucent 1665 DMX, R9.0

RTRV - STGRP

NAME

ED-SUBSHELF: Edit Subshelf

The **ED-SUBSHELF** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-SUBSHELF:*tid::ctag::[subshelfnum]:spec_block;*

DESCRIPTION

ED-SUBSHELF is used to modify the subshelf attributes in a multi-shelf configuration. To modify the subshelf attributes on a main shelf, the command must be executed on the main shelf. To modify a subshelf, the command must be executed directly on the subshelf. Modifications on the main shelf do not affect the parameters provisioned on a subshelf. Similarly, modifications on a subshelf do not affect the parameters provisioned on the main shelf. Thus modifications to an existing provisioned configuration may require changes on the main shelf and the subshelf.

When executed on the main shelf, the user can modify only the subshelf MAC address (to support system controller replacement on the subshelf) and the assigned 1+1 OC-n interface to the subshelf. To modify any other subshelf parameters, the user must delete and reprovision the subshelf on the main shelf.

When executed on a subshelf, the command permits the user to modify any subshelf parameters. Upon successful completion of the command on a subshelf, the SYCTL on the subshelf automatically restarts.

A stand-alone shelf is a shelf that has no provisioned subshelves and is not provisioned to operate as a subshelf.

A main shelf is a shelf in a multi-shelf configuration that has provisioned subshelves.

A subshelf is a shelf in a multi-shelf configuration that is provisioned to operate as a subshelf.

Execution of this command, whether successful or denied, is recorded in the Security log.

Following the successful completion of the command, the NE issues a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-118. ED - SUBSHELF Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter. Note, when executing the command on an existing subshelf, <i>tid</i> must match the currently provisioned <i>main_tid</i> of the subshelf.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax, and a description of this parameter.
<i>subshelfnum</i>	Subshelf Number. For a main shelf, <i>subshelfnum</i> is a required parameter. For a subshelf, <i>subshelfnum</i> is optional. Values ■ [2-14] (integer values only)
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-119. ED-SUBSHELF Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>mainintfc_aid</i>	Main Shelf Interface AID. <i>mainintfc_aid</i> specifies the AID of the optical interface on the main shelf to which the subshelf is connected. <i>mainintfc_aid</i> is provisionable on a main shelf and on a subshelf. Values: Refer to "Appendix A - AID Tables" ■ 1+1 Protection Group AID
<i>main_tid</i>	Main Shelf Target Identifier. <i>main_tid</i> specifies the <i>tid</i> of the main shelf in a multi-shelf configuration. The user must provision each subshelf in a multi-shelf configuration with the same TID as the main shelf. Refer to the RTRV-HDR command for the input parameter syntax and description of the <i>tid</i> parameter. <i>main_tid</i> is provisionable only on a subshelf.
<i>newshe lfnum</i>	New Subshelf Number. <i>newshe lfnum</i> is an integer that specifies the new subshelf number. <i>newshe lfnum</i> is provisionable only on a subshelf. Values ■ [2-14]
<i>subshelfmac</i>	Subshelf MAC Address. <i>subshelfmac</i> is the MAC address that is stored (burned) on the subshelf SYSCTL's EEPROM by the factory and it is unique. This is the MAC address that is always used as the NE's unique system ID field within the NE's OSI NSAP address (see ENT-ULSDCC-L3:l3sys). The 6 bytes of the MAC address are formatted as 12 hexadecimal digits. <i>subshelfmac</i> is provisionable only on a main shelf. The MAC address value to be provisioned is retrievable on a stand-alone shelf (target subshelf) via the following commands: - RTRV-MAP-NEI: bytes 14-19 of the local NE's NSAP - RTRV-SYS: <i>macaddress2</i> - RTRV-ULSDCC-L3: <i>l3sys</i> and is retrievable on an existing subshelf via the following commands: - RTRV-SUBSHELF: <i>subshelfmac</i> - RTRV-GENERIC: <i>subshelfmac</i> - RTRV-MAP-NEI: bytes 14-19 of the local NE's NSAP

Table 2-119. ED-SUBSHELF Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
<i>subshelftype</i>	Subshelf Type. <i>subshelftype</i> is provisionable only on a subshelf. Values ■ DS1 ■ DS3

OUTPUT FORMAT

If the **ED-SUBSHELF** is accepted, the following normal completion response is returned.

```

sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example modifies the subshelf MAC address of subshelf 2 on a main shelf.

```

ED-SUBSHELF:TID1::123456::2:subshelfmac=08006A112345;

IP 123456
<
TID1 10-11-26 16:42:11
M 123456 COMPLD
;
```


ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **ED-SUBSHELF** command with an invalid or unexpected parameter value, then the command is denied and the following error response is returned, where <parameter_name> identifies the parameter with the invalid or unexpected value.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid <parameter_name> value */
;
```

If the main shelf receives an **ED-SUBSHELF** command and **subshelfnum** is not included, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, missing required input parameter(s) */
;
```

If the NE receives an **ED-SUBSHELF** command and any of the following conditions exists,

- the specified **subshelfnum** does not exist
- the NE is a stand-alone shelf

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, subshelf does not exist */
;
```

If a main shelf receives an **ED-SUBSHELF** command and the interface specified by **mainintfc_aid** does not exist, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, mainintfc_aid does not exist */
;
```

If a main shelf receives an **ED-SUBSHELF** command and any of the following conditions exists for the interface specified by **mainintfc_aid**,

- the line rate and protection application are not consistent with the **subshelftype**
- either or both of the associated ports are configured as a line timing interface
- the associated ports are EDGE or ENNI ports

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, mainintfc_aid is not a valid
  subshelf interface */
;
```

If a main shelf receives an **ED-SUBSHELF** command and either **mainintfc_aid** or **subshelfmac**, if specified, is associated with an existing subshelf with a different **subshelfnum**, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, parameter value used on another
  subshelf */
;
```

If a main shelf receives an **ED-SUBSHELF** command to modify the **mainintfc_aid** and any of the following conditions exist

- there is an existing cross-connection or test access connection on any tributary of the specified **mainintfc_aid**

- there is an existing cross-connection or test access connection on any tributary of the target subshelf

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cross-connect exists */
;
```

RELATED TL1 MESSAGES

DLT - SUBSHELF

ENT - SUBSHELF

RTRV - SUBSHELF

NAME

ED-USER-SECU: Edit User Security

The **ED-USER-SECU** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

Starting in Release 4.0, this command is available to users with Privileged and Administration access.

INPUT FORMAT

ED-USER-

SECU: *tid:uid:ctag::[new_uid],[new_pid],,[uap][:spec_block];*

DESCRIPTION

The **ED-USER-SECU** command is used by an appropriate administrator to edit the security parameters associated with a user.

This command enables a privileged user to edit:

- login ID, password, user access privileges, and password aging of any non-privileged user.
- login ID and/or password of the other privileged user.

The characters allowed in a password are as follows:

ASCII character	Description	Notes
A.. Z	Upper case letters	alphabetic characters
a.. z	Lower case letters	alphabetic characters
0.. 9	Digits	numeric characters
'	Apostrophe	special character
-	Hyphen	special character
(	Left parenthesis	special character
)	Right parenthesis	special character

Table 8. Characters Allowed in a Password (cont 1 of 2)

ASCII character	Description	Notes
.	Period (full stop)	special character
/	Slash (Solidus)	special character
+	Plus sign	special character
[	Left square bracket	special character
]	Right square bracket	special character
^	Caret	special character
'	Grave accent	special character
{	Left curly brace	special character
	Vertical bar	special character
}	Right curly brace	special character
<	Less than	special character
>	Greater than	special character
~	Tilde	special character
%	Percent sign	special character
#	Number sign	special character
&	Ampersand	special character
\$	Dollar sign	special character
_	horizontal bar (underscore)	special character

Table 8. Characters Allowed in a Password (cont 2 of 2)

The characters not allowed in a password are as follows:

ASCII character	Description	Notes
	Space	
@	Commercial at	Special TL1 meaning
,	Comma	Special TL1 meaning
:	Colon	Special TL1 meaning
=	Equals sign	Special TL1 meaning

Table 9. Characters Not Allowed in a Password (cont 1 of 2)

ASCII character	Description	Notes
"	Quotation mark	Special TL1 meaning
;	Semicolon	Special TL1 meaning
*	Asterisk	Special TL1 meaning
!	Exclamation mark	Special character
?	Question mark	Context sensitive help
\	Back slash	Special TL1 meaning

Table 9. Characters Not Allowed in a Password (cont 2 of 2)

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-USER-SECU** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-120. ED-USER-SECU Input Parameters (cont 1 of 3)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>uid</i>	User Identifier. Its valid values are a case-sensitive alphanumeric string of 5 to 10 characters. Only a single <i>uid</i> is supported in the command.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>new_uid</i>	New user identifier. Its valid values are a case-sensitive alphanumeric string of 5 to 10 characters. If omitted, this parameter is not changed.
<i>new_pid</i>	New password ID. The valid values are a case-sensitive alphanumeric string of 6 to 10 alphabetic, numeric and symbolic characters where at least two characters are non-alphabetic and at least one is symbolic (white space is ignored). Starting in Release 5.0, the new password must contain at least one alphabetic and at least three non-alphabetic characters. Of the three non-alphabetic characters, at least one must be a numeric character and at least one must be a symbolic character. The third non-alphabetic character can be either a numeric or a symbolic character. Starting in Release 9.0, the previous rules for the password composition apply if the maximum password length, as provisioned by ED-NE-SECU:pwmax, is less than or equal to 10 characters. If the provisioned maximum password length is greater than 10 characters, the following composition rules apply: • The password shall contain a mix of upper-case alphabetic characters, lower-case alphabetic characters, numeric characters, and special characters, including at least two of each type. • The password shall not contain the consecutive identical characters. • The password shall not contain the user login.
<i>uap</i>	User access privilege. It takes one of the values below. If omitted, this parameter is not changed. PRIVILEGED This indicates that the user has PRIVILEGED access privileges. A user with PRIVILEGED access privileges may execute all TL1 commands. This value of <i>uap</i> is available starting in Release 3.1.

Table 2-120. ED-USER-SECU Input Parameters (cont 2 of 3)

Parameter Name	Description
	ADMINISTRATION This indicates that the user has Administration access privileges. A user with ADMINISTRATION access privileges may execute the reserved security-related TL1 commands. This user may also execute the ACT-USER, ED-PID, RTRV-HDR, ALW-MSG and INH-MSG commands. This value of uap is available starting in Release 4.0. GENERAL This indicates that the user has general access privileges. A user with GENERAL access privileges may execute all TL1 commands except those that relate to user security, system initialization and software installation functions, and those that are used to set up or modify external communications parameters. This user may also execute the ACT-USER and ED-PID commands. MAINTENANCE This indicates that the user has maintenance access privileges. A user with MAINTENANCE access privileges may execute only those commands that extract reports and commands that are used to set-up or modify maintenance parameters and run maintenance functions. This user may also execute the ACT-USER and ED-PID commands. REPORTS-ONLY This indicates that the user has a reports only access privileges. A user with REPORTS-ONLY privileges may execute all RTRV TL1 commands, except RTRV-USER-SECU) and may execute the ACT-USER, ED-PID and OPR-ACO TL1 commands. A total of 150 users are allowed. Of these 150 users, 147 can be distributed among any of the users in the classes of GENERAL, MAINTENANCE and/or REPORTS-ONLY users. There are three default users with PRIVILEGED access. These three default users cannot be deleted nor can their User Access Privilege (uap) be changed. Starting in Release 3.1, the 147 non-default users can be distributed among any of the users in the classes of PRIVILEGED, GENERAL, MAINTENANCE and/or REPORTS-ONLY users.

Table 2-120. ED-USER-SECU Input Parameters (cont 3 of 3)

Parameter Name	Description
	Starting in Release 4.0, the 147 non-default users can be distributed among any of the users in the classes of PRIVILEGED , ADMINISTRATION , GENERAL , MAINTENANCE and/or REPORTS-ONLY users.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-121. ED-USER-SECU Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>page</i>	Password Aging Interval. This parameter specifies the period in days after which the user has to change the password of his or her login. Password Aging applies to all user IDs (<i>uid</i>), including the three default user IDs. It can have a value between 7 and 999 or 0. A value of 0 disables the password aging. The default value is 60 days. Starting in release 3.1, the default value is 60 days for all users except for the three default users. The default value is 0 days for the three default users. Except for the value of 0, which disables the password aging, the value of <i>page</i> has to be greater than the minimum waiting period before changing a password, as provisioned in ED-NE-SECU:pidwpd.

Table 2-121. ED-USER-SECU Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tmout</i>	Inactivity Time-out Period. This parameter is available starting in Release 3.1. If there are no messages between the user and the NE over the Time-out Period, the session is logged off. A value of 0 disables the time-out function. The initial value is 30 minutes. If the parameter is not specified, it retains its current value. Values: 0-999 minutes. If the value of <i>tmout</i> is changed for a user with one or more active login sessions, the new value will take effect for each of the user's login sessions when the next command response is sent to the user that login session. The new value of <i>tmout</i> applies to all of the user's active logins. Inactivity Timeout applies to all user IDs (<i>uid</i>), including the three default user IDs. Starting in 3.1, the serial port time-out (ENT - CID - SECU:tmout) and the fixed 60 minute TCP/IP LAN port time-out are obsolete.
<i>alw_login</i>	Allow Login. This parameter is available starting in Release 4.0. This parameter allows an administrator to enable or disable a User ID. Values: ENABLED: User ID is enabled and DISABLED: User ID is disabled. When a User ID is manually disabled, any active sessions for that login will be terminated. This parameter is also used to enable logins that have been autonomously disabled as a result of User ID Aging (ED-NE-SECU:usrage). The three default logins cannot be disabled. A user with PRIVILEGED or ADMINISTRATION access, who is not one of the three default users, is not prevented from disabling thier own User ID. A login may be disabled either by using this parameter, or as a result of a User ID aging. A User Id that is locked out due to the number of failed login attempts exceeding the lockout threshold cannot be unlocked using this parameter. That is, the <i>alw-login</i> state of a User ID and the User ID lockout state are independent.

Table 2-121. ED-USER-SECU Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>lockout_status</i>	Lockout Status. This parameter, which is available starting in Release 4.0, has a single value of ENABLE_LOGIN . When a user's failed login attempts exceed the threshold specified by ED-NE-SECU: thrshld , the user is blocked from logging in until the lockout interval expires (specified by ED-NE-SECU: intrvl) or until a Systems Administrator enables logging in for the uid by executing this command, specifying lockout_status=ENABLE_LOGIN . If lockout_status=ENABLE_LOGIN is specified for a uid that is not currently locked out, the command will return a normal completion response, subject to other specified parameters.

OUTPUT FORMAT

If the NE fully complies with the command request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the **ED-USER-SECU** command does not alter existing user security parameters, the NE provides a normal completion response. An example of this is when the **uap** of the **uid** is **GENERAL** and an **ED-USER-SECU** command is received which sets the **uap** to **GENERAL**.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example changes the current **uid**, **kjlee**, to a **new_uid**, **ilf123**, and assigns **ilf123** a **new_pid** and a **uap**.

```
ed-user-secu:LT-TID123:kjlee:123456::ilf123,pass12#,,general;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there may apply to this command also.

If the Network Element receives an **ED-USER-SECU** command with an invalid **uid** (user identifier) value, the following error response is returned:

```
sid date time  
M ctag DENY  
PIUI  
/* Privilege, Illegal User Identity, invalid UID */  
;
```

If the NE receives an **ED-USER-SECU** command with a **new_uid** (new user identifier) that matches an existing **uid** (user identifier), other than the one specified in the **uid** field, the following error response is returned:

```
sid date time  
M ctag DENY  
PIUI  
/* Privilege, Illegal User Identity, duplicate NEW_UID */  
;
```

If the network element receives an **ED-USER-SECU** command with an invalid **new_uid** (new user identifier) value, the following error response is returned:

```
sid date time  
M ctag DENY  
PIUI  
/* Privilege, Illegal User Identity, invalid NEW_UID */  
;
```

If the network element receives an **ED-USER-SECU** command with an invalid **new_pid** (password) value, the following error response is returned:

```
sid date time
M ctag DENY
PIUI
/* Privilege, Illegal User Identity, invalid NEW_PID */
;
```

Starting in Release 5.1, the previous error response is replaced by the following two error responses:

If the NE receives an **ED-USER-SECU** command with a **new_pid** that does not meet the character syntax requirements of a valid user login identifier password, the following error response is returned:

```
sid date time
M ctag DENY
PIUI
/* Privilege, Illegal User Identity, invalid NEW_PID, syntax error */
;
```

If the NE receives an **ED-USER-SECU** command with a **new_pid** that contains a character that is not allowed in a valid user login identifier password, the following error response is returned:

```
sid date time
M ctag DENY
PIUI
/* Privilege, Illegal User Identity, invalid NEW_PID, illegal character
*/
;
```

If the network element receives an **ED-USER-SECU** command with an invalid **page** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid Password Age */
;
```

If the network element receives an **ED-USER-SECU** command with a **spec_block** with with a non-zero value of **page** that is less than or equal to the minimum

waiting period before changing a password, provisioned in **ED-NE-SECU:pidwpd**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid Password Age */
;
```

Starting in Release 5.0, the preceding error response is replaced by the following error response:

If the network element receives an **ENT-USER-SECU** command with a **spec_block** with a non-zero value of **page** that is less than or equal to the minimum waiting period before changing a password, provisioned in **ED-NE-SECU:pidwpd**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Password Age Interval must be greater than
the Password Change Minimum Waiting Period */
;
```

If the NE receives an **ED-USER-SECU** command with specifying the **uid** (user id) of one of the three original default users and a **uap** (user access privilege) value other than **PRIVILEGED**, the following error response is returned:

```
sid date time
M ctag DENY
PIUC
/* Privilege, Illegal User Code, invalid UAP */
;
```

If the NE receives an **ED-USER-SECU** command from a user that does not have **PRIVILEGED** access, the following error response is returned:

```
sid date time
M ctag DENY
PICC
/* Privilege, Illegal Command Code, restricted to privileged
users */
;
```

Starting in Release 4.0, the previous error response is replaced by the following: If the NE receives an **ED-USER-SECU** command from a user that does not have

PRIVILEGED or **ADMINISTRATION** access, the following error response is returned:

```
sid date time
M ctag DENY
  PICC
  /* Privilege, Illegal Command Code, restricted to users with
  PRIVILEGED or ADMINISTRATION access */
;
```

If the Network Element receives an **ED-USER-SECU** command with a **uap** (user access privilege) value other than **PRIVILEGED**, **GENERAL**, **MAINTENANCE** or **REPORTS-ONLY**, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
  /* Privilege, Illegal User Code, invalid UAP */
;
```

Starting in Release 4.0, the previous error response is replaced by the following: If the Network Element receives an **ED-USER-SECU** command with a **uap** (user access privilege) value other than **PRIVILEGED**, **ADMINISTRATION**, **GENERAL**, **MAINTENANCE** or **REPORTS-ONLY**, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
  /* Privilege, Illegal User Code, invalid UAP */
;
```

Starting in Release 3.1, if the NE receives an **ED-USER-SECU** command with an Inactivity Time-out Period (**tmout**) value that is not in the range of 0 to 999, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid Inactivity Timeout Period */
;
```


Starting in Release 4.0, if the NE receives an **ED-USER-SECU** command with an **alw_login** value that is not either **ENABLED** or **DISABLED**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid ALW_LOGIN */
;
```

Starting in Release 4.0, if the NE receives an **ED-USER-SECU** command with an **alw_login** value of **DISABLED** and a **uid** value that is the User ID of one of the three default logins, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, cannot disable a default User ID*/
;
```

Starting in Release 4.0, if the NE receives an **ED-USER-SECU** command with an **lockout_status** value that is not **ENABLE_LOGIN**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid LOCKOUT_STATUS */
;
```

Starting in Release 9.0, if the NE receives an **ED-USER-SECU** command with a **new_pid** that the maximum password length as provisioned by **ED-NE-SECU: pwmax** is greater than 10 characters and the password contains the user login, the following error response is returned:

```
sid date time
M ctag DENY
PIUI
/* Privilege, Illegal User Identity, invalid NEW_PID, NEW_UID contained
in NEW_PID */
;
```

RELATED TL1 MESSAGES

DLT-USER-SECU

ED-USER-SECU
TL1 Message Details

ED-USER-SECU
Alcatel-Lucent 1665 DMX, R9.0

ED - PID

ENT - USER - SECU

RTRV - USER - SECU

ED - NE - SECU

RTRV - NE - SECU

NAME

ED-VCG: Edit Virtual Concatenation Group

The **ED-VCG** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-VCG:*tid:aid:ctag:::spec_block;*

DESCRIPTION

The **ED-VCG** command is used to modify (edit) the properties of a virtual concatenation group (VCG).

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-VCG** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV-EQPT** *prot_state* = PROT, the **ED-VCG** command generates a **REPT DBCHG** message for the addressed VCG and its companion.

This command is not supported on the LNW73 circuit pack; please use **ED-VCG-DATA**.

This command is not supported on the LNW73C circuit pack; please use **ED-VCG-DATA**.

This command only applies to ports with **RTRV-OTPE**:*signaltype* of 1GE for the LNW705 circuit pack. For attributes related to data VCGs associated with the *signaltypes* of FC100, FC200, FC400, FICON, FICON_EXP, please use **ED-VCG-DATA**.

This command is not used to configure RPR VCGs on the LNW78 circuit pack; use **ED-VCG-RPR** for RPR VCGs.

Starting in Release 7.0, this command is supported on the LNW78 circuit pack for configuring Ethernet over SONET (EoS) VCGs.

INPUT PARAMETERS

Table 2-122. ED-VCG Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of a VCG AID. Refer to the AID Table in Appendix A for valid AIDs. For an RPR pack the only valid AIDs are Ethernet over SONET VCGs. For RPR VCGs see ED-VCG-RPR .
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Block. The spec_block parameters are defined in the following table.

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 1 of 22)

Parameter Name	Description
<i>porttype</i>	Port Type indicates whether the port is at the boundary of the DiffServ domain or is a port interior to the DiffServ domain. It has the following values: ■ BOUNDARY ■ INTERIOR Initial value for LNW70. Port cannot have a default VLAN ID or porttag. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT). This parameter applies to the following packs: ■ LNW70 ■ LNW78 The only allowed value is BOUNDARY.
<i>portrole</i>	Port Role controls how tags are added/removed/processed. In typical applications, "boundary" ports are "customer" ports and "interior" ports are "network" ports. This parameter has the following values:

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 2 of 22)

Parameter Name	Description
	■ CUSTOMER (initial and only allowed value for LNW78) ■ NETWORK Initial value for LNW70. Port must not have a default VLAN ID or porttag. This parameter applies only if the port is part of a virtual switch when <i>vlangmd</i> is SWITCHED (see RTRV-EQPT). This parameter applies to the following packs: ■ LNW70 ■ LNW78
stpp	Spanning Tree Port Priority. The port priority is the relative priority for the port on this bridge (lower value means higher priority). Values: ■ An integer in the range 0 to 255. ■ The initial value is 128. This parameter is not valid if the board tag mode is set to NOTAG (i.e., <i>vlangmd</i> is RTRV-EQPT). Note: The stpp parameter does not pertain to LNW71. Note: The stpp parameter does not pertain to LNW74. Note: The stpp parameter does not pertain to LNW78. Note: The stpp parameter does not pertain to LNW63. Note: The stpp parameter does not pertain to LNW64. Note: The stpp parameter does not pertain to LNW87. Note: The stpp parameter does not pertain to LNW705.
stpcost	Spanning Tree Path Cost. The contribution of the path through this port to the total cost of the path to the root for this bridge. Values: An integer in the range 1 to 65535. ■ Initial value is 10. This parameter is not valid if the Board Tag Mode is set to NOTAG. Note: The stpcost parameter does not pertain to LNW71. Note: The stpcost parameter does not pertain to LNW74.

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 3 of 22)

Parameter Name	Description
	Note: The <i>stpcost</i> parameter does not pertain to LNW63. Note: The <i>stpcost</i> parameter does not pertain to LNW64. Note: The <i>stpcost</i> parameter does not pertain to LNW87. Note: The <i>stpcost</i> parameter does not pertain to LNW705.
<i>sthellotm</i>	Spanning Tree Hello Timer. The hello timer determines the time interval between the transmission of Configuration BPDUs. Values: ■ 1 to 10 seconds. ■ Initial value is 2 seconds. This parameter is not valid if the board tag mode (i.e., RTRV-EQPT: <i>vlantagmd</i>) is set to NOTAG. Note: The <i>sthellotm</i> parameter does not pertain to LNW71. Note: The <i>sthellotm</i> parameter does not pertain to LNW74. Note: The <i>sthellotm</i> parameter does not pertain to LNW63. Note: The <i>sthellotm</i> parameter does not pertain to LNW64. Note: The <i>sthellotm</i> parameter does not pertain to LNW87. Note: The <i>sthellotm</i> parameter does not pertain to LNW705.
<i>stvid</i>	Spanning Tree VLAN ID. Values: ■ An integer in the range 0 to 4095. The value 0 means no VLAN tag. ■ The initial value is 4095. This parameter applies to the following packs: ■ LNW70
<i>vss</i>	VCG Spanning tree Status. Values: ■ ENABLE: Enable VCG port for spanning tree ■ DISA: Disable VCG port for spanning tree (Disabled - Administration) The default value is ENABLE.

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 4 of 22)

Parameter Name	Description
	When enabling the VCG port for spanning tree, the retrieved spanning tree status could be BLOCKED, DISCARDING or some other status value, depending on the state of the spanning tree; ENABLED is not a retrieved value. This parameter is not valid if the Board Tag Mode is set to NOTAG (RTRV-EQPT:vlantagmd). Note: The vss parameter does not pertain to LNW71. Note: The vss parameter does not pertain to LNW74. Note: The vss parameter does not pertain to LNW78 and LNW63. Note: The vss parameter does not pertain to LNW64. Note: The vss parameter does not pertain to LNW87. Note: The vss parameter does not pertain to LNW705.
vmode	VCG Monitoring Mode. When a port is provisioned in the AUTO state, it will automatically transition to the in-service (IS) state upon detection on the port of a valid input. Starting in Release 7.1, when RTRV-EQPT prot_state=PROT, vmode will automatically transition to the in-service (IS) state upon detection of a valid input on either of the companion ports. Values: ■ AUTO (initial value) ■ NMON - Not Monitored
dftpri	Default Priority. This is the (default) provisioned Class of Service (CoS). This is the CoS as it is encoded in the first 2 bits in the user_priority field of the VLAN tag. A value in the range 0-3 or NA. dftpri value 3 is the highest priority and 0 (initial value) the lowest. For the LNW78 the value is an integer in the range 1-3 or NA (initial value is 1). dftpri value 3 is the highest priority. This parameter applies only to BOUNDARY ports (see porttype) and only on the following circuit packs: ■ LNW70

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 5 of 22)

Parameter Name	Description
	■ LNW78 <i>dftpri</i> is the provisioned default CoS on the LNW78, having effect only if <i>trafmgmtmd</i> is PORT or COSPORT. The allowed values for <i>dftpri</i> are integers in the range 1 to 3. Initial value is 1. <i>dftpri</i> value 3 is the highest priority (Class A) and 1 (Class C) the lowest. When <i>trafmgmtmd</i> is PORT, changing <i>dftpri</i> is only possible when all QoS services created on this port (using ENT-ERATE) have been deleted (using DLT-ERATE). Note that in this scenario traffic will not be interrupted, but will be unmetered until a new QoS service has been created for the (new) <i>dftpri</i>.
<i>dftvlan</i>	Default VLAN ID. Value: An integer in the range 1 to 4093, or "0" (default). A "0" means that the user does not want a default value to be set. Note: This parameter is removed beginning in Release 2.0.
<i>dftporttag</i>	Default Port Tag ID. Value: An integer in the range 1 to 4093, or "0" (default). A "0" means that the user does not want a default value to be set. Note: This parameter is only valid when <i>vlantagmd</i> (see RTRV-EQPT) is set to TRANS, and it has already been assigned as a member of a Virtual Switch (VRTSW). This parameter is also valid when <i>vlantagmd</i> is set to SWITCHED (see RTRV-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to TRANS (see RTRV-VRTSW). Note: This parameter is added beginning in Release 2.0. Note: The <i>dftporttag</i> parameter does not pertain to LNW71. Note: The <i>dftporttag</i> parameter does not pertain to LNW74. Note: The <i>dftporttag</i> parameter does not pertain to LNW63. Note: The <i>dftporttag</i> parameter does not pertain to LNW64. Note: The <i>dftporttag</i> parameter does not pertain to LNW705. Note: The <i>dftporttag</i> parameter does not pertain to LNW87. The <i>dftporttag</i> parameter cannot be on or be provisioned in the active composite list of Port Tag identifiers by the <i>addporttag</i>. The <i>dftporttag</i> value must not be provisioned in another virtual switch. The above restriction does not apply to the following circuit packs, i.e. <i>dftporttag</i> values can be provisioned in another virtual switch.

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 6 of 22)

Parameter Name	Description
	■ LNW70 ■ LNW78 A default porttag cannot be entered if porttype is INTERIOR or if portrole is NETWORK. To be able to modify a default port tag, MAC+dftporttag address provisioning must be removed first from the port.
addvlan	Add VLAN. Composite list of VLAN identifiers to be added. Values: An ampersand-separated list of VLAN identifiers, where each VLAN identifier is an integer in the range 1 to 511. Up to 70 VLAN identifiers can be provisioned in a single command. A range of 1 to 511 VLAN identifiers can be added or deleted. (This can be done, through eight iterations of the same command; 7 of 70 VLAN values each, and one for the 21 VLAN values). The initial status of this list is empty. Either the addvlan or delvlan parameters can be provisioned with this command, but not both. They have to be provisioned in separate command instances. This parameter is removed beginning in Release 2.0.
addporttag	Add Port Tag. A composite list of Port Tag identifiers to be added. Values: An ampersand-separated list of Port Tag identifiers, where each Port Tag identifier is an integer in the range 1-4093. Up to 55 Port Tag identifiers can be provisioned in a single command. A range of 1 to 4093 Port Tag identifiers can be added or deleted. (This can be done, through 75 iterations of the same command, 74 of 55 Port Tag values each, and one for the 23 Port Tag values). The initial status of this list is empty. Either the addporttag or delporttag parameters can be provisioned by this command, but not both. They must be provisioned in separate command instances. This parameter is valid only when vlantagmd is set to TRANS (see RTRV-EQPT). This parameter is also valid when vlantagmd is set to SWITCHED (see RTRV-EQPT) and the port belongs to a virtual switch with tagmd set to TRANS (see RTRV-VRTSW). This parameter is added beginning in Release 2.0.

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 7 of 22)

Parameter Name	Description
	Note: The <i>addporttag</i> parameter does not pertain to LNW71. Note: The <i>addporttag</i> parameter does not pertain to LNW74. Note: The <i>addporttag</i> parameter does not pertain to LNW63. Note: The <i>addporttag</i> parameter does not pertain to LNW64. Note: The <i>addporttag</i> parameter does not pertain to LNW705. Note: The <i>addporttag</i> parameter does not pertain to LNW87. A tag identifier's value cannot be on or have previously been provisioned by the <i>dftporttag</i> parameter. The <i>addporttag</i> parameter must not have been previously provisioned in another virtual switch (VRTSW). The above restriction does not apply to the following circuit packs, i.e. <i>addporttag</i> values can be provisioned in another virtual switch. ■ LNW70 ■ LNW78
<i>delvlan</i>	Delete VLAN. This is a composite list of VLAN values to be deleted. Values: An ampersand-separated list of VLAN identifiers, where each VLAN identifier is an integer in the range 1-511. Up to 70 VLAN values can be provisioned in a single command. The initial status of this list is "empty". Either the <i>addvlan</i> or <i>delvlan</i> parameters can be provisioned by this command, but not both. They must be provisioned in separate command instances. This parameter is removed beginning in Release 2.0.
<i>delporttag</i>	Delete Port Tag. Composite list of Port Tag values to be deleted. Values: An ampersand-separated list of Port Tag identifiers, where each Port Tag identifier is an integer in the range 1 to 4093. Up to 55 Port Tag values can be provisioned in a single command. The initial status of this list is empty. Either the <i>addporttag</i> or <i>delporttag</i> parameters can be provisioned by this command, but not both. They must be provisioned in separate command instances.

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 8 of 22)

Parameter Name	Description
	This parameter is valid only when <i>vlantagmd</i> is set to TRANS (see RTRV-EQPT). This parameter is also valid when <i>vlantagmd</i> is set to SWITCHED (see RTRV-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to TRANS (see RTRV-VRTSW). This parameter is added beginning in Release 2.0. Note: The <i>delporttag</i> parameter does not pertain to LNW71. Note: The <i>delporttag</i> parameter does not pertain to LNW74. Note: The <i>delporttag</i> parameter does not pertain to LNW63. Note: The <i>delporttag</i> parameter does not pertain to LNW64. Note: The <i>delporttag</i> parameter does not pertain to LNW705. Note: The <i>delporttag</i> parameter does not pertain to LNW87. The <i>delporttag</i> parameter shall always be able to delete the tag even if the same tag exists on a different virtual switch (VRTSW). To be able to delete a port tag, MAC+tag address provisioning must be removed first from the port.
<i>psctl</i>	Pause Control. Provides flow control on the VCG (WAN). Values include: ■ TRANSPARENT Allow Customer Equipment controlled end-to-end flow-control to be transmitted on the WAN (used for SONET full rate private line). Flow control <i>fcmd</i> (RTRV-EPORT) must also be enabled on the LAN port. ■ LOCAL (default) Network-element controlled (local) flow-control; allow a VCG to flow control a LAN port (used for SONET sub-rate private line or any SONET rate switched service). Flow control <i>fcmd</i> (RTRV-EPORT) must also be enabled on the LAN port. ■ NONE Disable Network-element controlled (local) flow-control generation and drop Customer Equipment controlled end-to-end flow-control. Note: The <i>psctl</i> parameter does not pertain to the following circuit packs, refer to <i>fcmd</i> in ED-EPORT:

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 9 of 22)

Parameter Name	Description
	■ LNW71 ■ LNW70 ■ LNW74 ■ LNW78 ■ LNW63 ■ LNW64 ■ LNW87 ■ LNW705
<i>almvl</i>	Alarm Level. This parameter sets the alarm level for an incoming signal Failure and may have one of the following values: This parameter is removed beginning in Release 6.0. See ENT-ASAP-ASGNMT. ■ CR (Critical Alarm, initial value) ■ MJ (Major Alarm) ■ MN (Minor Alarm) ■ NA (No Alarm)
<i>vpm</i>	VCG Performance Monitoring (PM). This parameter controls when performance monitoring is enabled for the specified VCG. Values for <i>vpm</i> include: ■ ENABLE ■ DISABLE (initial value) starting in Release 4.0 ■ ENABLE (initial value) ■ DISABLE
<i>tagfilter</i>	Tag Filter. This parameter is used to enable and disable VLAN/Port Tag filtering. It does not prevent creating, modifying, or deleting VLANs. Values: ■ ENABLE (Tag filtering enabled) (Initial Value)

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 10 of 22)

Parameter Name	Description
	■ DISABLE (Tag filtering disabled) (This effectively enables all VLANs/Port Tags on the port.) Note: The <i>tagfilter</i> parameter does not pertain to LNW74. Note: The <i>tagfilter</i> parameter does not pertain to LNW71. Note: The <i>tagfilter</i> parameter does not pertain to LNW63. Note: The <i>tagfilter</i> parameter does not pertain to LNW64. Note: The <i>tagfilter</i> parameter does not pertain to LNW87. Note: The <i>tagfilter</i> parameter does not pertain to LNW705.
<i>tcamd</i>	TCA Monitoring Mode. This parameter specifies whether performance monitoring Threshold Crossing Alert reporting is enabled or disabled for the port, addressed by the <i>aid</i>. ■ ENABLE TCA reporting is enabled. ■ DISABLE (Initial default) TCA reporting is disabled. TCA reporting will not begin until <i>tcamd</i> is enabled and port monitoring mode is enabled (<i>vpm=ENABLE</i>), and the port is in service (<i>vmode=IS</i>). <i>tcamd</i> does not apply to the following packs: ■ LNW78
<i>mtu_size</i>	MTU size (in bytes). This parameter specifies the MTU (Maximum Transmission Unit) size supported on the port, addressed by the <i>aid</i>. This is the size of the payload in the Ethernet frame, excluding Source and Destination Address, Type and CRC field, and standard VLAN tag, but including any nested VLAN tags. Starting in Release 6.0, this is the size of the payload in the Ethernet frame, excluding Source and Destination Address, Type and CRC field, but including all VLAN tags. Note: When upgrading from a previous release, the value is incremented by 4 to preserve the effect. No REPT DBCHG message is generated. The <i>mtu_size</i> parameter only pertains to the following circuit packs: ■ LNW70 ■ LNW78 Value: An integer in the range 42 to 10218. The initial value is 1500.

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 11 of 22)

Parameter Name	Description
	Starting in Release 6.0: Value: An integer in the range 46 to 10222. The initial value is 1508. The <i>mtu_size</i> cannot be set for a Private Line VCG (i.e. <i>vlantagmd</i> is NOTAG). For Private Line, the <i>mtu_size</i> is set on the Ethernet port (see ED-EPORT).
emsdt	Exceeded MTU size drop threshold. This parameter specifies the point at which an alarm is generate when the ratio (Exceeded MTU size drop count / Total frame received count) surpasses the set threshold. Value: an integer in the range 0 (feature disabled) to 1000 (100%), in steps of 1 (0.1%). The initial value is 0 (feature is disabled). Note: "feature disabled" indicates that the "exceeded MTU size drop" (emsd) alarm is NOT generated when the threshold is surpassed. Starting in Release 9.0, the parameter applies to the LNW70/170
ethertype	Ethernet Type field (TPID). This parameter is used to interwork with other vendors' equipment using stacked VLAN. This parameter is valid only when <i>vlantagmd</i> is set to TRANS transparent mode (see RTRV-EQPT). Value: A string in the range 0601 to FFFF. The default value is FFFF (hexadecimal). This parameter is also valid when <i>vlantagmd</i> is set to SWITCHED mode (see RTRV-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to TRANS (see RTRV-VRTSW).
gfp_fcs	GFP FCS (Frame Check Sequence). This parameter controls the handling of the GFP FCS field for the specified VCG. When interworking with DMX NEs, <i>gfp_fcs</i> should be set to DISABLE. When interworking with equipment that supports the GFP FCS, <i>gfp_fcs</i> should be set to ENABLE. Values for <i>gfp_fcs</i> are: ■ ENABLE ■ DISABLE (initial value) Note: The <i>gfp_fcs</i> parameter applies to the following circuit packs: ■ LNW74 ■ LNW70 ■ LNW78

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 12 of 22)

Parameter Name	Description
	■ LNW63 ■ LNW64 ■ LNW87 ■ LNW705 On the following circuit packs, the <i>gfp_fcs</i> parameter only controls the transmit of the GFP FCS. The GFP FCS on receipt will be handled depending on the presence or not of the GFP FCS field as indicated by the received PFI bit. If GFP FCS is present it will always be checked. ■ LNW74 ■ LNW63 ■ LNW705 On the following circuit packs, the <i>gfp_fcs</i> parameter controls both the transmit and receive of the GFP FCS. On receipt, the GFP FCS field will be checked for (and should be present) when <i>gfp_fcs</i> is ENABLED, and the GFP FCS will NOT be checked for (and should NOT be present) when <i>gfp_fcs</i> is DISABLED. ■ LNW70 ■ LNW78 ■ LNW64 ■ LNW87
<i>lcasmd</i>	LCAS Mode. This parameter controls whether LCAS (Link Capacity Adjustment Scheme) is enabled for the specified VCG. When enabled, the LCAS protocol allows for hitless changes to the provisioned size of the VCG. Values for LCAS Mode are: ■ ENABLE (initial value) ■ DISABLE Note: The <i>lcasmd</i> parameter applies to the following circuit packs: ■ LNW70 ■ LNW74 ■ LNW78

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 13 of 22)

Parameter Name	Description
	■ LNW63 ■ LNW64
	■ LNW87
<i>htmr</i>	Hold-Off Timer. This parameter, only in effect if <i>lcsmd</i> = ENABLE, specifies the delay between when a tributary is detected faulty and when it is automatically removed from the VCG. It allows underlying protection, if any, to react first. It applies to all tributaries in the specified VCG. Values: ■ 0 to 10,000 ms (10 sec), 100 millisecond steps. ■ 99,999 ms (representing infinity) Initial value: 200 milliseconds When <i>vlantagmd</i> is changed to SWITCHED on the LNW70, <i>htmr</i> values for all VCGs will be set to the initial value of 99,999. Note: The <i>htmr</i> parameter pertains only to the following circuit packs: ■ LNW70 ■ LNW74 ■ LNW78 ■ LNW63 ■ LNW64
	■ LNW87
<i>wtr</i>	Wait-to-Restore. This parameter, only in effect if <i>lcsmd</i> = ENABLE, specifies the delay between when a tributary, previously removed from the VCG because of fault, is detected to be normal and when it is automatically returned to the VCG. It applies to all tributaries in the specified VCG. Values: ■ 0 to 3600 seconds, 1 second steps (initial value = 5) Note: The <i>wtr</i> parameter pertains only to the following circuit packs: ■ LNW70 ■ LNW74 ■ LNW78

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 14 of 22)

Parameter Name	Description
	■ LNW63 ■ LNW64
	■ LNW87
<i>vcat</i>	Virtual Concatenation Mode. This parameter controls whether vcat overhead information is inserted/monitored for the specified VCG. It is valid only when a single tributary is cross-connected to the VCG, to allow interworking with non-VCAT equipment. Values for Virtual Concatenation Mode include: ■ ENABLE (initial value) ■ DISABLE Starting in Release 5.1, <i>vcat</i> cannot be set to DISABLE if more than one tributary cross connection exists on the VCG. Note: The <i>vcat</i> parameter applies only to the following circuit packs: ■ LNW70 ■ LNW74 ■ LNW78 ■ LNW63 ■ LNW64
	■ LNW87
<i>qwt_ntwkAF</i>	This parameter is used on the LNW70 to specify the weighting factor used by the queue service algorithm for the AF queue for packets coming from network ports. A port is a "network" port if it is a VCG port without a Default VLAN/Tag. <i>qwt_ntwkAF</i> must be an integer in the range of 1 to 100 with a value of 100 being the highest weight. The default value of <i>qwt_ntwkAF</i> is 64. This parameter applies only if the port is part of a virtual switch when <i>vlntagmd</i> is SWITCHED (see ED-EQPT).
<i>qwt_custAF</i>	This parameter is used on the LNW70 to specify the weighting factor used by the queue service algorithm for the AF queue for packets coming from customer ports. A port is a "customer" port if it is an Ethernet port, or if it is a VCG port with a Default VLAN/Tag.

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 15 of 22)

Parameter Name	Description
	qwt_custAF must be an integer in the range of 1 to 100 with a value of 100 being the highest weight. The default value of qwt_custAF is 36. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT).
qsz	This parameter is used on the LNW70 to specify the total queue size for the port. This includes the EF and AF queues as well as the management queues. For the LNW78 this parameter specifies the sizes of the individual queues for the port (same size for each). qsz must be in the range 0 to 256. The initial value of qsz is 256. It represents the queue size in Kbytes. In order for qsz to be effective it needs to be greater than the maximum supported frame size (see also <i>mtu_size</i>). This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT).
qminthldy	This parameter is used to specify the minimum dropping threshold for yellow packets used by the drop algorithm. It is expressed as a percentage of the queue size qsz. It is an integer in the range 0 to 100. qminthldy must be less than or equal to qmaxthldy. Starting in Release 7.0, qminthldy is an integer value in the range 0 to 99 and must be less than qmaxthldy. The initial value for qminthldy is 33. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT).
qmaxthldy	This parameter is used to specify the maximum dropping threshold for yellow packets used by the drop algorithm. It is expressed as a percentage of the queue size qsz. It is an integer in the range 0 to 100. qmaxthldy must be greater than or equal to qminthldy and less than or equal to qminthldg. Starting in Release 7.0, qmaxthldy must be greater than qminthldy. The initial value for qmaxthldy is 50.

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 16 of 22)

Parameter Name	Description
	This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT).
<i>qminthldg</i>	This parameter is used to specify the minimum dropping threshold for green packets used by the drop algorithm. It is expressed as a percentage of the queue size <i>qsz</i>. It is an integer in the range 0 to 100. <i>qminthldg</i> must be greater than or equal to <i>qmaxthldy</i>. The initial value for <i>qminthldy</i> is 90. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT).
<i>qdropwt0</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 0 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). <i>qdropwt0</i> must be >= <i>qdropwt1</i> >= <i>qdropwt2</i> >= <i>qdropwt3</i> The initial value for <i>qdropwt0</i> is 100. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT). This parameter does not apply to the LNW78.
<i>qdropwt1</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 1 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). <i>qdropwt0</i> must be >= <i>qdropwt1</i> >= <i>qdropwt2</i> >= <i>qdropwt3</i> The initial value for <i>qdropwt1</i> is 100. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT).
<i>qdropwt2</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 2 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). <i>qdropwt0</i> must be >= <i>qdropwt1</i> >= <i>qdropwt2</i> >= <i>qdropwt3</i> The initial value for <i>qdropwt2</i> is 100. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT).

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 17 of 22)

Parameter Name	Description
qdropwt3	This parameter is used to specify the (maximum) drop probability mark for CoS 3 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). qdropwt0 must be $\geq$ qdropwt1 $\geq$ qdropwt2 $\geq$ qdropwt3 The initial value for qdropwt3 is 50. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT).
trafmgmtmd	Traffic management mode. This specifies how the packets will be divided into traffic flows and the services that can be provided at the port. Starting in Release 5.1, this parameter applies to VCGs on the LNW70 when they are part of a virtual switch. Starting in Release 7.0, this parameter applies to EoS VCGs on the LNW78 when they are part of a virtual switch. Value: trafmgmtmd can take on the following values: ■ NOTC This mode is valid for BOUNDARY ports only in TRANS and 802.1Q <i>tagmd</i> (see RTRV-VRTSW). It is also valid for Private Line ports. There is no traffic conditioning of packets that are received at the port. This mode emulates behavior of the LNW66/67/68: User_priority values 0,1,2 and 3 are mapped to CoS 0 and user_priority values 4,5,6 and 7 are mapped to CoS 3; The p-bits of the user frames are not changed. Starting in Release 5.1, this mode is supported for the LNW70. This is the initial value for the LNW70. ■ PORT This mode is valid for BOUNDARY ports only (see <i>porttype</i>) in TRANS and 802.1Q <i>tagmd</i> (see RTRV-VRTSW). All traffic received at the port is processed by a single traffic conditioner. The <i>user_priority</i> bits are remarked with the <i>dftpri</i> and the drop precedence determined from the traffic conditioner according to the provisioned mapping (see RTRV-ERATE). Starting in Release 7.0, this mode is supported for the LNW70 and LNW78. This is the initial value for the LNW78

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 18 of 22)

Parameter Name	Description
	■ TAGPORT This mode is valid for BOUNDARY ports only (see <i>porttype</i>) in 802.1Q <i>tagmd</i> (see ENT-VRTSW). All traffic received at the port that is tagged with the same VLANid is processed by a single traffic conditioner. The <i>user_priority</i> bits are remarked with the <i>dftpri2cos</i> (see RTRV-ERATE) and the drop precedence determined from the traffic conditioner according to the provisioned mapping (see RTRV-ERATE). Starting in Release 7.0, this mode is supported for the LNW70.

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 19 of 22)

Parameter Name	Description
	■ COSPORT This mode is valid for BOUNDARY ports only (see <i>porttype</i>) in 802.1Q <i>tagmd</i> (see RTRV-VRTSW). All traffic received at the port that is tagged with the same 802.1p <i>user_priority</i> is processed by a single traffic conditioner for the CoS that is provisioned for that <i>user_priority</i> (see <i>userpri2cos</i> in RTRV-ERATE). There can be one service for each provisioned CoS at the port. The <i>user_priority</i> bits are remarked with the original CoS and the drop precedence, which was determined from the traffic conditioner, according to the provisioned <i>user_priority</i> mapping (see RTRV-ERATE). This mode is also valid for ports with <i>porttype</i> BOUNDARY in TRANS <i>tagmd</i> (see RTRV-VRTSW). All traffic received at the port that is tagged with the same customer 802.1p <i>user_priority</i> is processed by a single traffic conditioner for the CoS that is provisioned for that <i>user_priority</i> (see <i>userpri2cos</i> in RTRV-ERATE). The CoS level for untagged traffic is set to the default priority (<i>dftpri</i>) or 0 if <i>dftpri</i> is NA. There can be one service for each provisioned CoS at the port. The added stacked/outmost TAG <i>user_priority</i> bits are marked with the CoS and the drop precedence, which was determined from the traffic conditioner, according to the customer <i>user_priority</i> mapping (see RTRV-ERATE). But the customer VLAN TAG <i>user_priority</i> bits are untouched and preserved. Starting in Release 7.0, this mode is supported for the LNW70 and the LNW78. The COSPORT traffic management mode in TRANS <i>tagmd</i> applies only to the LNW70 circuit pack.

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 20 of 22)

Parameter Name	Description
	■ COSTAGPORT This mode is valid for BOUNDARY ports only (see <i>porttype</i>) in 802.1Q <i>tagmd</i> (see RTRV-VRTSW). All traffic received at the port that is tagged with the same VLANid and the same CoS is processed by a single traffic conditioner for the VLANid and that CoS. There can be one service for each provisioned CoS (up to 4) on each provisioned VLANid at the port. The <i>user_priority</i> bits are remarked with the original CoS and the drop precedence, which was determined from the traffic conditioner, according to the provisioned <i>user_priority</i> mapping (see RTRV-ERATE). Starting in Release 7.0, this mode is supported for the LNW70. Notes: Changing <i>trafmgmtmd</i> is allowed only when all QoS services created on this port (using ENT-ERATE) have been deleted (using DLT-ERATE). Note that in this situation traffic will not be interrupted, but will be unmetered until new QoS services have been created in the (new) <i>trafmgmtmd</i>. Setting <i>trafmgmtmd</i> to TAGPORT or COSTAGPORT is not allowed when <i>tagfilter</i> is DISABLE. For the same reason, it is not allowed to set <i>tagfilter</i> to DISABLE when <i>trafmgmtmd</i> is TAGPORT or COSTAGPORT.
<i>hlayercos</i>	Higher layer Class of Service (CoS) This determines whether the packets will be classified by a higher layer protocol such as DiffServ Code Point (<i>DSCP</i>) in the IP header. Higher layer classification is only supported when <i>trafmgmtmd</i> is set to PORT. <i>hlayercos</i> is ignored in other <i>trafmgmtmd</i> modes Value: ■ NONE Higher layer not used for classification. (initial value) ■ DSCP Use the <i>DSCP</i> bits in the IP header for classification. Starting in Release 7.0 this parameter applies to the LNW70 circuit pack.

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 21 of 22)

Parameter Name	Description
<i>bcratelimit</i>	Broadcast and Multicast rate limit. This is the data rate limit for incoming packets whose destination address is the broadcast address (FF-FF-FF-FF-FF-FF). It also includes all multicast addresses (XO-XX-XX-XX-XX-XX where "O" is an odd hexadecimal digit) including Bridge Filtered MAC group addresses used by PAUSE frames, BPDUs, Link Aggregation, etc. It also includes incoming packets whose destination address has not been learned (and therefore are broadcasted). This limit applies to the aggregate of all traffic at a port. Setting the limit greater than or equal to the port speed has the effect of no rate limiting. Value: an integer between 0 and 1000 representing Mbps. A value of 0 filters all broadcast/multicast packets. Initial value: 1000 Starting in Release 6.0 the previous paragraph is replaced by: Value: an integer between 0 and 1000000, representing Kbps. A value of 0 disables broadcast rate limiting. Initial value: 0 Starting in Release 5.1, this parameter applies to the LNW70 circuit pack only when the port is part of a virtual switch. Starting in Release 7.0, this parameter applies to EoS VCGs of the LNW78 circuit pack only when the port is part of a virtual switch.
<i>ethfcs</i>	Ethernet FCS mode. Controls whether to drop errored frames due to FCS or let them pass. Regardless of this setting, errored frames are always counted in the EFCRC counter. Values: ■ ENABLE: Drop errored frames (Initial Value) ■ DISABLE: Pass errored frames This parameter applies to the following packs: ■ LNW63 ■ LNW705
<i>locked_sa</i>	Locked Source Address. This parameter controls whether the virtual switch restricts admission of packets, with source addresses matching RTRV-MAC entries with <i>type</i>=PERSISTENT, to this port, and only this port; and discards all others on this port. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT). It can be enabled only if there are no RTRV-MAC entries with <i>type</i>=FILTERED. Values:

Table 2-123. ED-VCG Input *spec_block* Parameters (cont 22 of 22)

Parameter Name	Description
	■ ENABLE (source addresses locked) ■ DISABLE (initial value) This parameter applies to the following packs: ■ LNW70

Ethernet Alarm, PM, and TCA reporting shall be as follows:

When *tcamd* is **DISABLE**, TCA reporting is disabled.

When *tcamd* is **ENABLE**, TCA reporting is enabled or disabled per the following table:

Table 2-124. Resulting Alarms/pm/tca Reporting

<i>vpm</i>	<i>vmode & tcamd = ENABLE</i>		
	IS	AUTO	NMON
ENABLE	Yes Alarm reporting Yes PM reporting Yes TCA reporting	No Alarm reporting No PM reporting No TCA reporting	No Alarm reporting No PM reporting No TCA reporting
DISABLE	Yes Alarm reporting No PM reporting No TCA reporting	No Alarm reporting No PM reporting No TCA reporting	No Alarm reporting No PM reporting No TCA reporting

OUTPUT FORMAT

If the NE fully complies with the **ED-VCG** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the **ED-VCG** request is submitted with a VLAN identifier that was already added or deleted, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

Beginning in Release 3.0, the previous output example is not valid for the LNW71 Fast Ethernet circuit pack because no VLAN parameters are used on the LNW71.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there may also apply to this command.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number is included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

```
ED-VCG:TID123:d-v1:123456:::vmode=NMON;

TID123 00-01-01 08:00:00
M 123456 COMPLD
;
```

The following is an example for the LNW78:

```
ED-VCG:TID123:d1-v17:123456:::vmode=NMON;

TID123 00-01-01 08:00:00
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the **RTRV-EQPT:vlantagmd** is set to NOTAG (LNW67 and LNW68 only) and the VCG port is either 2 or 4, the following IENE error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, aid not valid in NOTAG mode */
;
```

Starting in Release 3.1, if **ED-EQPT** was used to set *eccmode* to STS3c, ports 17-24 are not valid for the LNW71 circuit pack. If the user enters a VCG AID numbered between 17 and 24, the following IENE error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, aid not valid for STS3c ECCMODE mode */
;
```

If the user enters a VLAN identifier (ID) that is not within the 1 to 511 range, the following IDNV error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, VLAN ID out of range */
;
```

Beginning in Release 2.0, the previous error response is not valid.

If the user enters a Port Tag ID that is not within the range 1 to 4093, the following IDNV error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, Port Tag ID out of range */
;
```

If the user enters a Spanning Tree Port Priority (**stpp**) that is not within the 0 to 255 range, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, STPP out of range */
;
```

If the user enters a Spanning Tree Hello Timer (**sthellotm**) that is not within the 1 to 10 range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, STHELLOTM out of range */
;
```

If the user enters a Spanning Tree VLAN ID (**stvid**) that is not within the 0 to 4095 range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, STVID out of range */
;
```

If the user enters a **dftporttag**, **addporttag** or **delpporttag** value, and the **vlantagmd** (provisioned by **ED-EQPT**) is not set to TRANS (Transparent Tag Mode), the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, VLANTAGMD is not set to TRANS */
;
```

Starting in Release 5.1, the above is replaced with: If the user enters a **dftporttag**, **addporttag** or **delpporttag** value, and the **vlantagmd** (provisioned by **ED-EQPT**) is not set to TRANS (Transparent Tag Mode), or the **vlantagmd** is not set to SWITCHED and the port belongs to a virtual switch whose **RTRV-VRTSW:tagmd** is not set to TRANS, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, VLANTAGMD is not set to TRANS */
;
```

If the user enters values for both **addporttag** and **delpporttag**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Port Tags cannot be added and deleted in
the same command */
;
```

If the user enters a **dftporttag** or **addporttag** value, but the VCG/WAN port specified in the **aid** has not been assigned as a member of a VRTSW (Virtual Switch ID), the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, VCG/WAN port is not a member of a Virtual
Switch */
;
```

If the user enters a **stpp**, **vss**, **sthellotm** or **stpcost** value and the **RTRV - EQPT:vlantagmd** is set to NOTAG, the following IENE error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, spanning tree not supported */
;
```

Starting in Release 9.0, if the user enters a value for **stpp**, **stpcost**, **sthellotm**, or **vss** for a port that is configured as an ERP port, the following error response is returned:.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, one or more input parameters not valid for
  this ERP port */
;
```

If the user enters a **stpp**, **stpcost**, **sthellotm**, **vss**, **dftporttag**, **addporttag**, or **delpporttag** value, and the circuit pack is a LN71 (FE-PL), the following IENE error response is returned:

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, spanning tree and Port Tags not supported
  */
;
```

The previous error response also applies to the LN74.

The previous error response also applies to private line circuit packs and packs with **RTRV-EQPT:vlantagmd** set to NOTAG.

If the user enters an **lcasmd**, **htmr**, or **wtr** value and the circuit pack does not support LCAS, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, LCAS not supported */
;
```

Starting in Release 9.0, if the user enters an **htmr** value and the port is an ERP port, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, LCAS protection not supported on ERP
ports */
```

If the user enters an **aid** that is not valid for circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, AID is missing, wrong, or
inconsistent with the circuit pack type or mode */
;
```

If the user tries to set **tagfilter** to **DISABLE** while **RTRV-EQPT:vlantagmd** is set to NOTAG (No Tag mode), the following error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, VLANTAGMD is set to NOTAG */
;
```

If the user tries to set **tagfilter** to **DISABLE** and two or more Virtual Switches exist on the circuit pack, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, TAGFILTER not disabled - more than one
virtual switch exists on pack */
;
```

The above restriction does not apply to the LNW70 circuit pack because every virtual switch has its own independent and complete VLAN space.

If the user tries to set **tagfilter** to **DISABLE** and the VCG/WAN port previously specified in the **aid** has not been assigned as a member of the only VRTSW (Virtual Switch ID) on the pack, the following IDNV error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, VCG/WAN port is not a member of a Virtual
Switch */
;
```

Starting in Release 4.0, if the **RTRV-EQPT:vlantagmd** is set to 802.1Q or NOTAG and the **ethertype** is being modified, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
/* Status, Data Not Consistent, tag mode is not set to TRANS, changing
ethertype is not allowed */
;
```

Starting in Release 5.1, if the **RTRV-EQPT:vlantagmd** is set to SWITCHED and the port belongs to a virtual switch whose **RTRV-VRTSW:tagmd** is not set to TRANS, and the **ethertype** is being modified, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
/* Status, Data Not Consistent, tag mode is not set to TRANS, changing
ethertype is not allowed */
;
```

Starting in Release 4.0, if the specified **ethertype** value is not in the correct range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, ethertype value is not valid */
;
```


Starting in Release 4.0, if the port with the tag specified in **delporttag** or **dftporttag** has a MAC+tag address provisioned, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, a MAC+tag address exist on the port */
;
```

If the user enters a value for any of the following parameters, and the VCG port specified in the **aid** is not on an LNW70 circuit pack...

dftpri	mtu_size	qwt_ntwkAF	qwt_custAF	qs
qmaxthldy	qminthldy	qminthldg	qdropwt0	qdropwt1
qdropwt2	qdropwt3	trafmgmtmd	bcratelimit	porttype

...the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

Beginning in Release 7.0, if the user enters a value for any of the following parameters, and the port specified in the **aid** is neither a VCG on an LNW70 circuit pack nor and EoS VCS on an LNW78 circuit pack...

				qs
qmaxthldy	qminthldy	qminthldg		qdropwt1
qdropwt2	qdropwt3	trafmgmtmd	bcratelimit	porttype

or if the user enters a value for any of the following parameters, and the port specified in the AID is not a VCG on an LNW70 circuit pack...

qwt_ntwkAF	qwt_custAF
qdropwt0	

...the following error response is returned:

```
.
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid
   with specified circuit pack */
;
```

If the user enters a value for any of the following parameters, and the VCG port specified in the **aid** is not on an LNW70 or an LNW74 circuit pack...

lcasmd **htmr** **wtr** **vcat**

...the following error response is returned:

```
.
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid
   with specified circuit pack */
;
```

The previous error response also applies to the LNW78 and LNW63.

The previous error response also applies to the LNW64.

The previous error response also applies to the LNW87.

If the user enters a value for any parameter other than one of the following parameters, and the VCG port specified in the **aid** is an LNW705....

vmode **vpm** **tcamd** **gfp_fcs** **ethfcs**

the following error response is returned:

```

sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid
   with specified circuit pack */
;

```

If more than one tributary cross connection exists and the user attempts to enter **vcac=DISABLE** the following error response is returned:

```

sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, can't disable vcac when more than one
   tributary is cross connected on the VCG */
;

```

If the user enters a value for any of the following parameters, and the VCG port specified in the AID is a private line (the LNW70 is in **NOTAG vlantagmd**)...

porttype	dftpri	qwt_ntwkAF	qwt_custAF	qsz
qmaxthldy	qminthldy	qminthldg	qdropwt0	qdropwt1
qdropwt2	qdropwt3	mtu_size	bcratelimit	
stpp	stpcost	sthellotm	vss	

...the following error response is returned:

```

sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid
   with specified circuit pack */
;

```

If the user enters a value for **stvid** for a pack on which it is not valid, or for one in which *vlantagmd* in **RTRV-EQPT** is NOTAG, the following error response is returned:

```
.  
  
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, one or more input parameters not valid  
with specified circuit pack */  
;
```

If the user enters a value for **locked_sa** for a pack on which it is not valid, or for one in which *vlantagmd* in **RTRV-EQPT** is NOTAG, the following error response is returned:

```
.  
  
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, one or more input parameters not valid  
with specified circuit pack */  
;
```

If the VCG port specified in the is not a port with **porttype BOUNDARY** on an LN70 circuit pack, and the user enters a value for any of the following parameters ...

- **trafmgmtmd**
- **dftpri**
- **dftporttag**

...the following error response is returned:

```
.  
  
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, one or more input parameters not valid for  
the port type (BOUNDARY/INTERIOR) */  
;
```

If the user attempts to provision an unsupported combination of **porttype**, **portrole**, and default **vlanid** (when **vlangtagmd** is **802.1** for the virtual switch), the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, specified combination of porttype,
   portrole, and default vlanid is not supported */
;
```

If the user attempts to provision an unsupported combination of **porttype**, **portrole**, and **dftporttag** (when **vlangtagmd** is **TRANS** for the virtual switch), the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, specified combination of porttype,
   portrole and dftporttag is not supported */
;
```

Beginning in Release 9.0, if the user modifies the **portrole** for an ERP port, the following error response is returned:

```
sid date time
M  ctag DENY
   SDNC
   /* Status, Data Not Consistent, modifying portrole not allowed on ERP
   ports */
;
```

Beginning in Release 9.0, if the user attempts to provision a VLANID (using **dftporttag** or **addporttag**) the following error response is returned if this VLANID is already in use for ERP on this port:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, VLANID already in use for ERP */
;
```

Note that it is allowed to provision a VLANID that is in use for ERP on any port that is not a port for the ERP instance.

If the user enters a value for either ***qminthldy***, ***qmaxthldy***, ***qminthldg*** and they do not meet the following relationship

qminthldy <= ***qmaxthldy*** <= ***qminthldg***

then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, the values of QMINTHLDY, QMAXTHLDY, and QMINTHLDG
must meet the following relationship QMINTHLDY <= QMAXTHLDY <= QMINTHLDG */
;
```

The values of ***qminthldy***, ***qmaxthldy***, and ***qminthldg*** that are used are the user input values if entered at the same time or the current stored values if these are not entered at the same time.

Starting in Release 7.0, if the user enters a value for either ***qminthldy***, ***qmaxthldy***, or ***qminthldg*** and they do not meet the following relationship

qminthldy < ***qmaxthldy*** <= ***qminthldg*** then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, the values of QMINTHLDY, QMAXTHLDY, and QMINTHLDG
must meet the following relationship: QMINTHLDY < QMAXTHLDY <= QMINTHLDG */
;
```

The values of ***qminthldy***, ***qmaxthldy***, and ***qminthldg*** that are used are the user input values if entered at the same time or the current stored values if these are not entered at the same time.

For the LNW70, if the user enters a value for either ***qdropwt0***, ***qdropwt1***, ***qdropwt2***, or ***qdropwt3*** and they do not meet the following relationship

qdropwt3 <= ***qdropwt2*** <= ***qdropwt1*** <= ***qdropwt0***

then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, the values of QDROPWT0, QDROPWT1, QDROPWT2, AND
QDROPWT3 must meet the following relationship QDROPWT3 <= QDRPWT2 <= QDROPWT1
<= QDROPWT0 */
;
```

The values of **qdropwt0**, **qdropwt1**, **qdropwt2**, and **qdropwt3** that are used are the user input values if entered at the same time or the current stored values if these are not entered at the same time.

For the LN78, if the user enters a value for any of **qdropwt1**, **qdropwt2**, or **qdropwt3** and they do not meet the following relationship

qdropwt3 <= qdropwt2 <= qdropwt1

then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, the values of QDROPWT1, QDROPWT2, and QDROPWT3
must meet the following relationship QDROPWT3 <= QDRPWT2 <= QDROPWT1 */
;
```

The values of **qdropwt1**, **qdropwt2**, and **qdropwt3** that are used are the user input values if entered at the same time or the current stored values if these are not entered at the same time.

If the user enters an invalid **trafmgmtmd** value, then the following IDNV error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, TRAFMGMTMD value not valid */
;
```

If a Port Tag is specified on both an add or delete porttag membership list and an add or delete default Port Tag, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, Port Tag cannot be on both Port Tag
membership list and default Port Tag */
;
```

If a Port Tag is specified on an add Port Tag membership list and it has previously been provisioned as a default Port Tag, or if a Port Tag is specified on a Port Tag default and it has previously been provisioned as a Port Tag membership list, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, Port Tag cannot be on both Port Tag member
list and default Port Tag */
;
```

If the **dfporttag** exists on a different virtual switch, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, default Port Tag exists in a different
virtual switch */
;
```

If one or more **addporttag** values exist on a different virtual switch, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, Port Tag exists in a different virtual
switch */
;
```


The above two restrictions do not apply to the LNW70 circuit pack because every virtual switch has its own independent and complete VLAN space.

The above two restrictions do not apply to the LNW78 circuit pack because every virtual switch has its own independent and complete VLAN space.

If the user enters a **psctl** value that is not valid, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, PSCTL value incorrect */
;
```

If the user attempts to set **locked_sa** and the VCG port specified in the **aid** previously has not been assigned as a member of a VRTSW (Virtual Switch ID), the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Ethernet port is not a member of a Virtual
Switch */
;
```

If the user attempts to set **locked_sa** to **ENABLE** and there is a static MAC entry of **type=FILTERED** (see **RTRV-MAC**) on the port, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, MAC addresses of type FILTERED must
be deleted on port */
;
```

If the user enters a value for the **ethfcs** parameter, and the VCG port specified in the **aid** is on an LNW64 circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

If the user enters a value for the **ethfcs** parameter, and the VCG port specified in the **aid** is on an LNW87 circuit pack, the previous error response is returned:

Beginning in Release 9.0, if the user enters an **emsdt** value on a circuit pack that is not an LNW70/170, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

Beginning in Release 9.0, if the user enters an exceeded MTU size drop threshold (**emsdt**) value that is not an integer within the 0 to 1,000 range, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

RELATED TL1 MESSAGES

RTRV-VCG, ED-EQPT, ED-ERATE, RTRV-VCGTRIB

NAME

ED-VCG-DATA: Edit Virtual Concatenation Group Data

The **ED-VCG-DATA** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 5.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-VCG-DATA:*tid:aid:ctag:::spec_block;*

DESCRIPTION

The **ED-VCG-DATA** command is used to modify (edit) the properties of a virtual concatenation group (VCG) associated with a data ports (e.g. ESCON, FC, FICON type client services).

For the LNW73 and LNW73C, data VCGs are associated with all port types.

For the LNW705, data VCGs are associated with client interfaces with *signaltypes* set to FC100, FC200, FC400, FICON, or FICON_EXP (see RTRV-OPTE).

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-VCG-DATA** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-125. ED-VCG-DATA Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of the VCG AID associated with the data port. Refer to the AID Table in Appendix A for valid AIDs.

Table 2-125. ED-VCG-DATA Input Parameters (cont 2 of 2)

Parameter Name	Description
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
spec_block	Specific Block. The spec_block parameters are defined in the following table.

Table 2-126. ED-VCG-DATA Input **spec_block** Parameters (cont 1 of 3)

Parameter Name	Description
vmode	VCG Monitoring Mode. When a port is provisioned in the AUTO state, it will automatically transition to the in-service (IS) state upon detection on the port of a valid input. Values: ■ AUTO (initial value) ■ NMON - Not Monitored
almlvl	This parameter is removed beginning in Release 6.0. See ED-ASAP-PROF . Alarm Level. This parameter sets the alarm level for an incoming signal Failure and may have one of the following values: ■ CR (Critical Alarm, initial value) ■ MJ (Major Alarm) ■ MN (Minor Alarm) ■ NA (No Alarm)
vpm	VCG Performance Monitoring (PM). This parameter controls when performance monitoring is enabled for the specified VCG. Values for vpm include: ■ ENABLE (initial value) ■ DISABLE

Table 2-126. ED-VCG-DATA Input *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description
<i>lcsmd</i>	LCAS Mode. This parameter controls whether LCAS (Link Capacity Adjustment Scheme) is enabled for the specified VCG. When enabled, the LCAS protocol allows for hitless changes to the provisioned size of the VCG. Values for LCAS Mode include: ■ ENABLE (initial value) ■ DISABLE Starting in Release 6.0 ■ DISABLE (initial value) ■ ENABLE valid only when <i>gfptype</i> (in RTRV-DPORT) is ASYNCF-FC This parameter does not apply to the LNW705 circuit pack.
<i>htmr</i>	Hold-Off Timer. This parameter, only in effect if <i>lcsmd</i> = ENABLE, specifies the delay between when a tributary is detected faulty and when it is automatically removed from the VCG. It allows underlying protection, if any, to react first. It applies to all tributaries in the specified VCG. Values: ■ 0 to 10,000 ms (10 sec), 100 millisecond steps. ■ 99,999 ms (representing infinity) Initial value: 200 milliseconds This parameter does not apply to the LNW705 circuit pack.
<i>wtr</i>	Wait-to-Restore. This parameter, only in effect if <i>lcsmd</i> = ENABLE, specifies the delay between when a tributary, previously removed from the VCG because of fault, is detected to be normal and when it is automatically returned to the VCG. It applies to all tributaries in the specified VCG. Values: ■ 0 to 3600 seconds, 1 second steps (initial value = 5) This parameter does not apply to the LNW705 circuit pack.

Table 2-126. ED-VCG-DATA Input *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description
<i>vcat</i>	Virtual Concatenation Mode. This parameter controls whether vcat overhead information is inserted/monitored for the specified VCG. It is valid only when a single tributary is cross-connected to the VCG, to allow interworking with non-VCAT equipment. Values for Virtual Concatenation Mode include: ■ ENABLE (initial value) ■ DISABLE <i>vcat</i> cannot be set to DISABLE if more than one tributary cross connection exists on the VCG.

Ethernet Alarm and PM reporting shall be as follows:

Table 2-127. RESULTING ALARMS/PM/TCA REPORTING

<i>vpm</i>	<i>vmode = ENABLE</i>		
	IS	AUTO	NMON
ENABLE	Yes Alarm reporting Yes PM reporting	No Alarm reporting No PM reporting	No Alarm reporting No PM reporting
DISABLE	Yes Alarm reporting No PM reporting	No Alarm reporting No PM reporting	No Alarm reporting No PM reporting

OUTPUT FORMAT

If the NE fully complies with the **ED-VCG-DATA** request, the following normal completion response is returned:

```

sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
ED-VCG-DATA:TID123:d-v1:123456:::vmode=NMON;  
  
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the user enters an AID that is not valid for the circuit pack, the following error response is returned:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier, AID is missing, wrong, or  
inconsistent with the circuit pack type or mode */  
;
```

If more than one tributary cross connection exists and the user attempts to enter **vcat=DISABLE** the following error response is returned:

```
sid date time  
M ctag DENY  
SNVS  
/* Status, Not in Valid State, can't disable vcat when more than one  
tributary is cross connected on the VCG */  
;
```

If the user attempt to change **lcasmd** to **ENABLE** when the **gfptype** (in **RTRV-DPORT**) is not **ASYNCF**, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, GFPTYPE is not ASYNC-FC */
;
```

RELATED TL1 MESSAGES

RTRV - VCG - DATA

NAME

ED-VCG-RPR: Edit Virtual Concatenation Group (VCG) - Resilient Packet Ring (RPR)

The **ED-VCG-RPR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-VCG-RPR:*tid:aid:ctag:::spec_block;*

DESCRIPTION

The **ED-VCG-RPR** command is used to modify (edit) the properties of an RPR-capable virtual concatenation group (VCG).

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-VCG-RPR** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-128. ED-VCG-RPR Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of an RPR-capable Span VCG. When this is also an RPR IF, both Span and IF parameters are accessible. Refer to the AID Table in Appendix A for valid AIDs.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-128. ED-VCG-RPR Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>spec_block</i>	Specific Block. The spec_block parameters are defined in the following table. All parameters are RPR IF unless indicated as RPR Span.

Table 2-129. ED-VCG-RPR Input *spec_block* Parameters (cont 1 of 5)

Parameter Name	Description
<i>vmode</i>	VCG Monitoring Mode. When a port is provisioned in the AUTO state, it will automatically transition to the in-service (IS) state upon detection of a valid input (GFP frame). This is a Span parameter. Values: ■ AUTO (initial value) ■ NMON - Not Monitored
<i>ifmode</i>	RPR IF Monitoring Mode. When an RPR IF is provisioned in the AUTO state, it will automatically transition to the in-service (IS) state upon detection of a valid input (GFP frame) on at least one associated span. Values: ■ AUTO (initial value) ■ NMON - Not Monitored
<i>addporttag</i>	Add Port Tag. A composite list of Port Tag identifiers to be added. Values: An ampersand-separated list of Port Tag identifiers, where each Port Tag identifier is an integer in the range 1 to 4093. Up to 55 Port Tag identifiers can be provisioned in a single command. A range of 1 to 4093 Port Tag identifiers can be added or deleted. (This can be done, through 75 iterations of the same command, 74 of 55 Port Tag values each, and one for the remaining 23 Port Tag values). The initial status of this list is empty. Either the <i>addporttag</i> or <i>delporttag</i> parameters can be provisioned by this command, but not both. They must be provisioned in separate command instances.

Table 2-129. ED-VCG-RPR Input *spec_block* Parameters (cont 2 of 5)

Parameter Name	Description
	This parameter is valid when <i>vtagmd</i> is set to SWITCHED (see ED-EQPT) and the port belongs to a Virtual Switch with <i>tagmd</i> set to TRANS (see ENT-VRTSW).
<i>delporttag</i>	Delete Port Tag. Composite list of Port Tag values to be deleted. Values: An ampersand-separated list of Port Tag identifiers, where each Port Tag identifier is an integer in the range 1 to 4093. Up to 55 Port Tag values can be provisioned in a single command. The initial status of this list is empty. Either the <i>addporttag</i> or <i>delporttag</i> parameters can be provisioned by this command, but not both. They must be provisioned in separate command instances. This parameter is valid when <i>vtagmd</i> is set to SWITCHED (see ED-EQPT) and the port belongs to a Virtual Switch with <i>tagmd</i> set to TRANS (see ENT-VRTSW). To be able to delete a port tag, MAC+tag address provisioning must be removed first from the port (see DLT-MAC) .
<i>vpm</i>	VCG Performance Monitoring (PM). This parameter controls whether performance monitoring is enabled for the specified VCG. It controls the IF and both spans. Values: ■ ENABLE (initial value) ■ DISABLE
<i>tagfilter</i>	Tag Filter. This parameter is used to enable and disable VLAN/Port Tag filtering. It does not prevent creating, modifying, or deleting VLANs. Values: ■ ENABLE (Tag filtering enabled) (Initial Value) ■ DISABLE (Tag filtering disabled) (This effectively enables all VLANs/Port Tags on the port.) For the LNW78, the only valid value is ENABLE. Starting in Release 7.0, DISABLE is also valid.

Table 2-129. ED-VCG-RPR Input *spec_block* Parameters (cont 3 of 5)

Parameter Name	Description
<i>mtu_size</i>	MTU size (in bytes). This parameter specifies the MTU (Maximum Transmission Unit) size supported on the port, addressed by the <i>aid</i>. This is the size of the payload in the Ethernet frame, excluding Source and Destination Address, Type and CRC field, but including all VLAN tags. Value: An integer in the range 46 to 10222. The initial value is 1508.
<i>ethertype</i>	Ethernet Type field (TPID). Used to interwork with other vendors' equipment using stacked VLAN. This parameter is valid only when <i>vlantagmd</i> is set to SWITCHED (see ED-EQPT) and the port belongs to a Virtual Switch with <i>tagmd</i> set to TRANS (see ENT-VRTSW). Value: A hexadecimal string in the range 0601 to FFFF. The initial value is FFFF (hexadecimal).
<i>lcasmd</i>	LCAS Mode. This parameter controls whether LCAS (Link Capacity Adjustment Scheme) is enabled for the specified VCG. When enabled, the LCAS protocol allows for hitless changes to the provisioned size of the VCG. This is a Span parameter. Values: ■ ENABLE (initial value) ■ DISABLE
<i>htmr</i>	Hold-Off Timer. This parameter, only in effect if <i>lcasmd</i> = ENABLE, specifies the delay between when a tributary is detected faulty and when it is automatically removed from the VCG. It allows underlying protection, if any, to react first. It applies to all tributaries in the specified VCG. This is a Span parameter. Values: ■ 0 to 10,000 ms (10 sec), 100 millisecond steps. ■ 99,999 ms (representing infinity) Initial value is 99,999 ms. For the LNW78, the only valid value is 99,999

Table 2-129. ED-VCG-RPR Input *spec_block* Parameters (cont 4 of 5)

Parameter Name	Description
<i>vcat</i>	Virtual Concatenation Mode. This parameter controls whether vcat overhead information is inserted/monitored for the specified VCG. It is valid only when a single tributary is cross-connected to the VCG, to allow interworking with non-VCAT equipment. This is a Span parameter. Values: ■ ENABLE (initial value) ■ DISABLE <i>vcat</i> cannot be set to DISABLE if more than one tributary cross connection exists on the VCG.
<i>qsz</i>	This parameter is used to specify the queue size for the port. This applies to the A, B, and C add queues. Value: An integer in the range 0 to 256, representing Kbytes. Initial value is 256.
<i>qminthldy</i>	This parameter is used to specify the minimum dropping threshold for yellow packets used by the drop algorithm. It is expressed as a percentage of the queue size <i>qsz</i>. It is an integer in the range 0 to 100. <i>qminthldy</i> must be less than or equal to <i>qmaxthldy</i>. Starting in release 7.0, <i>qminthldy</i> is an integer value in the range 0 to 99 and must be less than <i>qmaxthldy</i>. The initial value is 33.
<i>qmaxthldy</i>	This parameter is used to specify the maximum dropping threshold for yellow packets used by the drop algorithm. It is expressed as a percentage of the queue size <i>qsz</i>. It is an integer in the range 0 to 100. <i>qmaxthldy</i> must be greater than or equal to <i>qminthldy</i> and less than or equal to <i>qminthldg</i>. Starting in release 7.0, <i>qmaxthldy</i> must be greater than <i>qminthldy</i>. The initial value is 50.
<i>qminthldg</i>	This parameter is used to specify the minimum dropping threshold for green packets used by the drop algorithm. It is expressed as a percentage of the queue size <i>qsz</i>. It is an integer in the range 0 to 100.

Table 2-129. ED-VCG-RPR Input *spec_block* Parameters (cont 5 of 5)

Parameter Name	Description
	<i>qminthldg</i> must be greater than or equal to <i>qmaxthldy</i>. The initial value is 90.
<i>qdropwt1</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 1 (Class C) packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). <i>qdropwt1</i> must be $\geq$ <i>qdropwt2</i> $\geq$ <i>qdropwt3</i> The initial value is 100.
<i>qdropwt2</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 2 (Class B) packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). <i>qdropwt1</i> must be $\geq$ <i>qdropwt2</i> $\geq$ <i>qdropwt3</i> The default value for <i>qdropwt2</i> is 100.
<i>qdropwt3</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 3 (Class A) packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). <i>qdropwt1</i> must be $\geq$ <i>qdropwt2</i> $\geq$ <i>qdropwt3</i> The initial value is 50.

Ethernet Alarm and PM reporting is as follows:

Table 2-130. RESULTING ALARMS/PM REPORTING

<i>vpm</i>	<i>vmode = ENABLE</i>		
	IS	AUTO	NMON
ENABLE	Yes Alarm reporting Yes PM reporting	No Alarm reporting No PM reporting	No Alarm reporting No PM reporting
DISABLE	Yes Alarm reporting No PM reporting	No Alarm reporting No PM reporting	No Alarm reporting No PM reporting

OUTPUT FORMAT

If the NE fully complies with the **ED-VCG-RPR** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the **ED-VCG-RPR** request is submitted with a VLAN identifier that was already added or deleted; the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
ED-VCG-RPR:TID123:d1-v1:123456:::vmode=NMON;  
  
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the user enters a Port Tag ID that is not within the range 1 to 4093, the following IDNV error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, Port Tag ID out of range */  
;
```

If the user enters an **addporttag** or **delporttag** value, and the **vlantagmd** (provisioned by the **ED-EQPT**) is not set to **SWITCHED** and the port belongs to a Virtual Switch whose **tagmd** is not set to **TRANS**, the following IDNV error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, TAGMD is not set to TRANS */  
;
```


If the user enters values for both **addporttag** and **delporttag**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Port Tags cannot be added and deleted in
the same command */
;
```

If the user enters an **addporttag** value, but the VCG/WAN port specified in the AID has not been assigned as a member of a VRTSW (Virtual Switch ID), the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, VCG/WAN port is not a member of a Virtual
Switch */
;
```

If the user enters an AID that is not valid for the circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access identifier, AID is missing, wrong, or
inconsistent with the circuit pack type or mode */
;
```

If the user attempts to access an RPR IF parameter on a non-IF RPR Span VCG, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, RPR IF parameter not accessible on this
VCG */
;
```

Starting in Release 7.0, if the user tries to set **tagfilter** to **DISABLE** and the VCG/WAN port previously specified in the AID has not been assigned as a member of a VRTSW (Virtual Switch ID) on the pack, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, VCG/WAN port is not a member of a Virtual
Switch */
;
```

If the **vlantagmd** (**ED-EQPT**) is set to **SWITCHED** and the port belongs to a Virtual Switch whose **tagmd** is not set to **TRANS**, and the **ethertype** is being modified, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, tag mode is not set to TRANS, changing
ethertype is not allowed */
;
```

If the specified **ethertype** value is not in the correct range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, ethertype value is not valid */
;
```

If the port with the tag specified in **delporttag** has a MAC+tag address provisioned, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, a MAC+tag address exist on the port */
;
```

If more than one tributary cross connection exists and the user attempts to enter **vcac=DISABLE** the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, can't disable vcat when more than one
tributary is cross connected on the VCG */
;
```

If the user enters a value for either **qminthldy**, **qmaxthldy**, or **qminthldg**, and they do not meet the following relationship

qminthldy <= qmaxthldy <= qminthldg

then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the values of QDMINTHLDY, QDAXTHLDY, and
QMAXTHLDG must meet the following relationship QMINTHLDY <=
QMAXTHLDY <= QMINTHLDG */
;
```

The values of **qminthldy**, **qmaxthldy**, and **qminthldg** that are used are the user input values if entered at the same time or the current stored values if these are not entered at the same time.

Starting in release 7.0, if the user enters a value for either **qminthldy**, **qmaxthldy**, or **qminthldg** and they do not meet the following relationship

qminthldy < qmaxthldy <= qminthldg then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the values of QMINTHLDY, QMAXTHLDY, and QMINTHLDG
must meet the following relationship: QMINTHLDY < QMAXTHLDY <= QMINTHLDG */
;
```

The values of ***qminthldy***, ***qmaxthldy***, and ***qminthldg*** that are used are the user input values if entered at the same time or the current stored values if these are not entered at the same time.

If the user enters a value for either ***qdropwt1***, ***qdropwt2***, or ***qdropwt3*** and they do not meet the following relationship

$$\mathbf{qdropwt3} \leq \mathbf{qdropwt2} \leq \mathbf{qdropwt1}$$

then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
      /* Input, Data Not Valid, the values of QDROPWT1, QDROPWT2, and
      QDROPWT3 must meet the following relationship QDROPWT3 <=
      QDROPWT2 <= QDROPWT1 */
;
```

The values of ***qdropwt1***, ***qdropwt2***, and ***qdropwt3*** that are used are the user input values if entered at the same time or the current stored values if these are not entered at the same time.

If any other specified parameter value is not valid, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
      /* Input, Data Not Valid, one or more parameter values are not valid */
;
```

RELATED TL1 MESSAGES

RTRV-VCG-RPR, ED-EQPT, ED-ERATE, ED-VCGTRIB, ED-RPR

NAME

ED-VCGTRIB: Edit VCG Tributary

The **ED-VCGTRIB** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 5.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-VCGTRIB: *tid:aid:ctag:::spec_block;*

DESCRIPTION

The **ED-VCGTRIB** command modifies the attributes of one or more virtual concatenation group tributaries. It allows provisioning whether a tributary should actively participate in the VCG, independently of cross-connection.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-VCGTRIB** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV-EQPT** *prot_state* = PROT, the **ED-VCGTRIB** command generates a **REPT DBCHG** message for the addressed slot and its companion.

INPUT PARAMETERS

Table 2-131. ED-VCGTRIB Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-131. ED - VCGTRIB Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access identifier. This is the SONET tributary within the Ethernet or Data pack. Refer to the AID Table (Appendix A) for valid AIDs. An "ALL" <i>aid</i> range is supported at the VCG level. A specific tributary <i>aid</i> is not accepted unless a cross-connection is present on the tributary. This parameter applies to the following packs: ■ LNW74 ■ LNW70 ■ LNW73 ■ LNW78 ■ LNW63 ■ LNW64 ■ LNW87
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are defined in the following table.

Table 2-132. ED - VCGTRIB Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>inmbs</i>	Input membership (source). Values: ■ DISABLE (Initial value) ■ ENABLE When enabled the tributary is a member of the VCG in the source direction but when LCAS is enabled (see RTRV-VCG lcasmd) it may not be active (LCAS automatically removes failed members). <i>inmbs</i> cannot be enabled on more than one tributary of a VCG if RTRV-VCG vcat=DISABLE.

Table 2-132. ED-VCGTRIB Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
<i>outmbs</i>	Output membership (sink). Values: ■ DISABLE (Initial value) ■ ENABLE When enabled the tributary is a member of the VCG in the sink direction but when LCAS is enabled (see RTRV-VCG <i>lcsmd</i>) it may not be active (LCAS automatically removes failed members). <i>outmbs</i> cannot be enabled on more than one tributary of a VCG if RTRV-VCG <i>vcst</i>=DISABLE.

OUTPUT FORMAT

```

sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number is included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

```

ED-VCGTRIB:TID123:d1-v1-1:123456:::inmbs=enable;

TID123 98-01-01 08:00:00
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the **aid** value is missing or invalid:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier */
;
```

The NE returns the following error response if no cross-connection to the tributary **aid** exists. The cross-connection sets the rate and creates the tributary.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cross-connection must exist to set
rate */
```

Beginning in release 5.1, if the user sets **inmbs** to **ENABLE**, and by doing so the total “enabled” bandwidth on an LNW70 pack exceeds 9Gb, the following error response is returned:

```
sid date time
M ctag DENY
SARB
/* Status, All Resources Busy, max allowed bandwidth exceeded */
;
```

The total enabled bandwidth is defined as the bandwidth allocated to every LAN port (with **admin** set to **ENABLE** (see **ED-EPORT**)) + the bandwidth allocated to every VCG trib (with **inmbs** set to **ENABLE**).

Beginning in release 7.0, on the LNW78, if the user sets *inmbs* to **ENABLE**, and by doing so the total “enabled” bandwidth for “LAN” ports exceeds 2.5Gb, the following error response is returned:

```
sid date time
M ctag DENY
SARB
/* Status, All Resources Busy, max allowed bandwidth exceeded */
;
```

The total enabled bandwidth for “LAN” ports is defined as the bandwidth allocated to every LAN port (with *admin* set to **ENABLE** (see **ED-EPORT**)) + the bandwidth allocated to every EoS VCG trib (with *inmbs* set to **ENABLE**).

RELATED TL1 MESSAGES

ED-VCG, OPR-VCGTRIB, RTRV-VCG, RTRV-VCGTRIB

NAME

ED-VLAN: Edit Virtual LAN

The **ED-VLAN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-VLAN: *tid:aid:ctag::vlanid:spec_block;*

Starting in release 5.1, the format is as follows:

ED-VLAN: *tid:aid:ctag::vlanid[,vrtswid]:spec_block;*

DESCRIPTION

The **ED-VLAN** command is used to add ports to a VLAN or remove ports from a VLAN.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-VLAN** command generates a REPT DBCHG message.

Starting in Release 7.1, when **RTRV-EQPT** *prot_state* = PROT, the **ED-VLAN** command generates a **REPT DBCHG** message for the addressed slot and its companion.

INPUT PARAMETERS

Table 2-133. ED-VLAN Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-133. ED-VLAN Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access identifier. This is the address of a slot (Slot AID). Refer to the AID Table for valid AIDs.
<i>ctag</i>	Correlation tag. Refer to the RTRV -HDR command for the input parameter syntax and description of this parameter.
<i>vlanid</i>	Virtual LAN ID. Value: An integer in the range 1-4093.
<i>vrtswid</i>	Virtual Switch ID. Value: An integer in the range 1 - 4095. For the LNW70: an integer in the range 1 - 16. This parameter is required for the LNW70. For the LNW78: an integer in the range 1 - 8. This parameter is required for the LNW78.
<i>spec_block</i>	Specific block. The <i>spec_block</i> parameters are defined in the following table.

Table 2-134. ED-VLAN Input *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description
<i>addep</i>	Add Ethernet/LAN port list. List of Ethernet/Lan Ports to add for this VLAN Id for which this VLAN id is on the VLAN membership list for the port. Ports on this list cannot be on the Ethernet/LAN port default VLAN id list. Ports on this list cannot have previously been provisioned as a default Ethernet/LAN port for this VLAN. Values: An ampersand-separated list of Ethernet/Lan port AIDs. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG.
<i>addvcg</i>	Add VCG/WAN port list. List of VCG/WAN Ports to add for this VLAN Id for which this VLAN id is on the VLAN membership list for the port. Ports on this list cannot be on the VCG/WAN port default VLAN id list. Ports on this list cannot have previously been provisioned as a default VCG/WAN port for this VLAN. Values: An ampersand-separated list of VCG AIDs. On an RPR pack, the only RPR VCG AIDs that apply are RPR IF. Starting in Release 7.0, on an RPR pack, EoS VCGs also apply.

Table 2-134. ED-VLAN Input *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description
<i>adddfep</i>	Add default Ethernet/LAN port list. List of Ethernet/Lan Ports to add for this VLAN Id for which this VLAN id is the default VLAN tag for the port. Ports on this list cannot be on the Ethernet/LAN port membership list. Ports on this list cannot have previously been provisioned as Ethernet/LAN ports for this VLAN. Values: An ampersand-separated list of Ethernet/Lan port AIDs. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG. Starting in Release 7.0, a VLAN cannot be added as the default for an Ethernet port if <i>porttype</i>=INTERIOR or if <i>portrole</i>=NETWORK for the port. (See ED-EPORT.)
<i>adddfvcg</i>	Add default VCG/WAN port list. List of VCG/WAN Ports to add for this VLAN Id for which this VLAN ID is the default VLAN tag for the port. Ports on this list cannot have previously been provisioned as VCG/WAN ports for this VLAN. Values: An ampersand-separated list of VCG AIDs. On an RPR pack, the only RPR VCG AIDs that apply are RPR IF. Starting in Release 7.0, on an RPR pack, EoS VCGs also apply. Starting in release 7.0, a VLAN cannot be added as the default for a VCG if <i>porttype</i>=INTERIOR or if <i>portrole</i>=NETWORK for the VCG. (See ED-VCG).
<i>delep</i>	Delete Ethernet/LAN port list. List of Ethernet/LAN member Ports to delete for this VLAN ID. Values: An ampersand-separated list of Ethernet/Lan port AIDs. An "ALL" range is allowed; this will remove all ports from the Ethernet/Lan port member list. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG. To be able to delete a port, MAC+<i>vlanid</i> address provisioning must be removed first from the port.
<i>delvcg</i>	Delete VCG/WAN port list. List of VCG/WAN Ports member Ports to delete for this VLAN ID. Values: An ampersand-separated list of VCG AIDs. An "ALL" range is allowed; this will remove all ports from the VCG/WAN port member list. On an RPR pack, the only RPR VCG AIDs that apply are RPR IF.

Table 2-134. ED-VLAN Input *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description
	Starting in release 7.0, on an RPR pack, EoS VCGs also apply. To be able to delete a port, MAC+<i>vlanid</i> address provisioning must be removed first from the port.
<i>deldfep</i>	Delete default Ethernet/LAN port list. List of Ethernet/LAN default Ports to delete for this VLAN ID. Values: An ampersand-separated list of Ethernet/Lan port AIDs. An "ALL" range is allowed; this will remove all ports from the Ethernet/Lan default port list. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG. To be able to delete a port, MAC+<i>vlanid</i> address provisioning must be removed first from the port.
<i>deldfvcg</i>	Delete default VCG/WAN port list. List of VCG/WAN default Ports to delete for this VLAN ID. Values: An ampersand-separated list of VCG AIDs. An "ALL" range is allowed; this will remove all ports from the VCG/WAN default port list. To be able to delete a port, MAC+<i>vlanid</i> address provisioning must be removed first from the port.

OUTPUT FORMAT

```

sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command in the **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number may be included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

```
ED-VLAN:TID123:<aid>:123456::<vlanid>:addvcg=g-v1;  
  
TID123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there apply to this command.

If the specified slot **aid** does not contain an Ethernet board, or if the Ethernet board is not set to 802.1 tag mode, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, board type or mode does not support VLANs  
*/
```

If an added Ethernet/LAN port or an added VCG/WAN port is not a member of the virtual switch with which the VLAN is associated, the following error response is returned:

```
sid date time  
M ctag DENY  
SDNC  
/* Status, Data Not Consistent, port is not a member of VLAN's virtual  
switch */  
;
```

If a **vrtswid** is not specified and the **aid** refers to a LNW70 circuit pack, then the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, vrtswid must be specified */
;
```

If a **vrtswid** is not specified and the **aid** refers to a LNW78 circuit pack, then the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, vrtswid must be specified */
;
```

Starting in Release 5.1, if the specified virtual switch id (**vrtswid**) is not within the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, vrtswid out of range */
;
```

If the specified virtual switch doesn't exist, the following error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, vrtswid doesn't exist */
;
```

All VLAN-based QoS services on a port must be deleted (using **DLT-ERATE**) before that port can be deleted from a VLAN. If a VLAN-based QoS service exists

at one of the ports in one of the delete lists that requires the specified VLAN, then the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, vlan cannot be deleted until QoS service
is deleted */
;
```

If an added WAN/VCG port is incorrectly specified on an add Ethernet/LAN port list, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, WAN/VCG port listed on Ethernet/LAN
port list */
;
```

If an added Ethernet/LAN port is incorrectly specified on an add WAN/VCG port list, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Ethernet/LAN port listed on WAN/VCG
port list */
;
```

If a port is specified on both an add or delete VLAN membership list and an add or delete default VLAN tag list, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, port cannot be on both VLAN membership list
and default VLAN list */
;
```

If a port is specified on an add VLAN membership list and it has previously been provisioned as a default port for this VLAN or if a port is specified on an add VLAN

default list and it has previously been provisioned as a member port for this VLAN, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, port cannot be on both VLAN member and VLAN
default */
;
```

If “all” is specified as an **aid** on a delete member port list or a delete default port list and the corresponding add member port or add default port list contains one or more entries, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, port cannot be on both VLAN membership list and
default VLAN list */
;
```

If there is not at least one port specified in at least one of the **addep**, **advvcg**, **adddfep** or **adddfvcg** lists, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, VLAN must be assigned to at least one port */
;
```

If the result of executing this command will be to remove all ports from the VLAN, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, cannot delete all ports from the VLAN
*/
;
```

Starting in release 4.0, if the port specified in *delep*, *delvcg*, *deldfep*, or *deldfvcg* has a MAC+VLAN address provisioned, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, a MAC+tag address exist on the port */
;
```

On an RPR pack, if the specified VCG is an RPR Span VCG, not an RPR IF VCG, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, RPR VCG must be RPR IF */
;
```

Starting in Release 7.0, when both RPR IF and EoS VCGs are supported on the LNW78, the above response is replace by the following:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, VLAN provisioning on RPR span VCG
is not supported */
;
```

If a port is a member of a Link Aggregation Group, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, one or more ports are members of a
LAG */
;
```

ED-VLAN
TL1 Message Details

ED-VLAN
Alcatel-Lucent 1665 DMX, R9.0

RELATED TL1 MESSAGES

DLT - VLAN

ENT - VLAN

RTRV - VLAN

NAME

ED-VRTSW: Edit Virtual Switch

The **ED-VRTSW** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ED-VRTSW: *tid:aid:ctag::vrtswid:spec_block;*

DESCRIPTION

The **ED-VRTSW** command modifies a virtual switch.

Starting in Release 2.1, for 802.1TAG and TRANS modes, the **vrtswid**(s) are defaulted to 1. If additional virtual switches are to be created, the ports to be assigned to these additional VRTSWs must first be deleted from **vrtswid** 1.

Starting in Release 3.0, for 802.1TAG and TRANS modes, there is no default **vrtswid**.

When a port is deleted from the virtual switch, all VLAN information associated with the port is removed and the port spanning tree parameters associated with the port are reset to their default values.

When a VCG port is deleted from the virtual switch, the port is also removed from the spanning tree group of which it may be a member. This causes the affected spanning tree to reconfigure the tree across the network. If the VCG port is the only member of the Spanning Tree Group, the Spanning Tree Group is also deleted.

Starting in Release 2.1, when a LAN port or VCG port is removed from a Virtual Switch, all VLAN or Port Tags assigned to that port are deleted and the default VLAN or Port Tag is set to a value of 0 (zero). Except for the VLAN or Port Tag parameters, all other provisionable port parameters (including Spanning Tree port parameters), as provisioned by the **ED-EPORT** or **ED-VCG** commands, are not changed and retain their last provisioned values.

Starting in Release 4.0, when a LAN port or VCG port is removed from a Virtual Switch, provisionable port parameters (including Spanning Tree port parameters), as provisioned by the **ED-EPORT** or **ED-VCG** commands, are not changed and retain their last provisioned values.

Starting in Release 3.0, if by virtue of removing an Ethernet/LAN port or a VCG/WAN port, it was the last port to have a particular port tag or vlan tag, respectively, then when a new port tag or vlan tag is created and assigned the previously used tag, the value of the Peak Information Rate parameter, **pir**, is set to its default value. This applies only to the LNW66, LNW67, and LNW68.

Starting in Release 7.0, for the LNW70 and LNW78, when a LAN port or VCG port is removed from a Virtual Switch, provisionable port parameters (including Spanning Tree port parameters), as provisioned by the **ED-EPORT**, **ED-VCG**, **ED-VCG-RPR**, and **ED-LAGRP** commands, are reset to their default values. MAC table entries made using the **ENT-MAC** command are deleted. A port is also removed from the spanning tree group of which it may be a member. Removing the port from the Spanning Tree Group causes the affected Spanning Tree to be reconfigured across the network. If the port is the only member of the Spanning Tree Group, the Spanning Tree Group is also deleted.

Starting in Release 9.0, for the LNW(1)70, it is not allowed to remove a LAN port or VCG port from a Virtual Switch If the port is a member of an ERP instance.

Starting in Release 3.1 with the introduction of the tag filter (ENABLE/DISABLE) parameter, **tagfilter**, in **ED-EPORT/ED-VCG**, when **tagfilter** on a given port is set to DISABLE, the VLAN/port tags are overridden.

Starting in Release 3.1 with the introduction of the ethertype parameter, **ethertype**, in **ED-VRTSW/ENT-VRTSW**, **ethertype** is only valid in transparent tag mode and all virtual switches must have the same **ethertype** value.

Starting in Release 4.0 **ethertype** is made obsolete in virtual switch commands.

It is not possible to directly change the **tagmd** for a virtual switch. If such a change is desired, the virtual switch (with the old **tagmd**) must be deleted (use **DLT-VRTSW**) and a new virtual switch (with the new **tagmd**) may be created (use **ENT-VRTSW**).

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ED-VRTSW** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV-EQPT prot_state** = PROT, the **ED-VRTSW** command generates a **REPT DBCHG** message for the addressed slot and its companion.

INPUT PARAMETERS

Table 2-135. ED - VRTSW Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of the slot. Refer to the AID Table for valid AIDs.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>vrtswid</i>	Virtual Switch ID. Value: An integer in the range 1-4095. For the LNW70 the virtual switch ID is an integer in the range 1 - 16. For the LNW78 the virtual switch ID is an integer in the range 1 - 8.
<i>spec_block</i>	The <i>spec_block</i> parameters are defined in the following table.

Table 2-136. ED - VRTSW Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>addep</i>	Add Ethernet/LAN port list. Values: An ampersand-separated list of Ethernet/LAN port AIDs. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG.
<i>addvcg</i>	Add VCG/WAN port list. Values: An ampersand-separated list of VCG AIDs. On the LNW78, the only RPR VCG AIDs that apply are RPR IF. Starting in Release 7.0, AIDs for both RPR IF VCG and EoS VCGs apply on the LNW78.
<i>delep</i>	Delete Ethernet/LAN port list. Before an Ethernet/LAN port can be deleted from a virtual switch, the port has to be deleted from any VLANs associated with the virtual switch. Values: An ampersand-separated list of Ethernet/LAN port AIDs.

Table 2-136. ED - VRTSW Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
	Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG.
<i>delvcg</i>	Delete VCG/WAN port list. Before a VCG/WAN port can be deleted from a virtual switch, the port has to be deleted from any VLANs associated with the virtual switch. Values: An ampersand-separated list of VCG AIDs.
<i>ethertype</i>	Ethernet Type field (TPID). Used to interwork with other vendors' equipment using stacked VLAN. This parameter is only valid in Port Tag mode (i.e., TRANSPARENT mode). Value: An string in the range "0601" to "FFFF" except "8100". The default value is "FFFF". This parameter is applicable starting in Release 3.1. Starting in Release 4.0 <i>ethertype</i> is not supported in virtual switch commands, it is supported in (ED-EPORT , RTRV-EPORT , ED-VCG , RTRV-VCG). On upgrade to Release 4.0, any <i>ethertype</i> value previously provisioned by the virtual switch command will be moved for all ports that belong to that virtual switch.

Starting in Release 7.0, for the LNW70 and LNW78, when a LAN port or VCG port is removed from a Virtual Switch, provisionable port parameters (including Spanning Tree port parameters), as provisioned by the **ED-EPORT** or **ED-VCG** commands, are reset to their default values. MAC table entries made using the **ENT-MAC** command are deleted.

When a port is removed from the virtual switch, it is also removed from the spanning tree group of which it may be a member. Removing the port from the Spanning Tree Group will cause the affected Spanning Tree to be reconfigured across the network. If the port is the only member of the Spanning Tree Group, the Spanning Tree Group is also deleted.

OUTPUT FORMAT

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

Starting in Release 6.0, the slot number may be included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

```
ED-VRTSW:TID123:fn-d-1:123456::1:addep=d-1,addvcg=d-v1;

TID123 98-01-01 08:00:00
M 123456 COMPLD
;
```

The **ethertype** parameter is applicable starting in Release 3.1.

```
ED-VRTSW:TID123:fn-d-1:123456::1:addep=d-1,addvcg=d-v1,ethertype=FFFF;

TID123 98-01-01 08:00:00
M 123456 COMPLD
;
```

The **ethertype** parameter is not supported starting in Release 4.0.

ERROR RESPONSES

Refer to the **RTRV - HDR** command **ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the specified slot AID does not contain an Ethernet board, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, board type does not support virtual switches
*/
;
```

Starting in Release 3.0 with the introduction of the LNW71 (FE-PL) circuit pack, the above error response is valid when the AID does not contain an Ethernet board that supports virtual switches. Note that the LNW71 is an Ethernet circuit pack but does not support virtual switches.

Starting in Release 5.1, if the specified virtual switch id (**vrtswid**) is not within the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, vrtswid out of range */
;
```

If the specified virtual switch doesn't exist, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, vrtswid doesn't exist */
;
```

If a specified Ethernet/LAN port or VCG/WAN port being added is a member of another virtual switch, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
/* Status, Data Not Consistent, Ethernet or VCG port is a member of
another virtual switch */
;
```

If a WAN/VCG port is incorrectly specified on an Ethernet/LAN port list, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, WAN/VCG port listed on Ethernet/LAN port list
*/
;
```

If a specified Ethernet/LAN port or a specified VCG/WAN port is being deleted from a virtual switch and that port is not a member of the specified virtual switch, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, the port is not a member of the specified
virtual switch */
;
```

If an Ethernet/LAN port is incorrectly specified on a WAN/VCG port list, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Ethernet/LAN port listed on WAN/VCG port list
*/
;
```

If a port is specified on both an add and a delete eport list or on an add and a delete VCG/WAN port list, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, port cannot be on both add port and delete
port lists */
;
```

If the AIDs inputted for ***eplst*** or ***vcglst*** are not consistent with the specified Slot AID, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, one or more inconsistent AIDs */
;
```

On an RPR pack, if the specified VCG is an RPR Span VCG, not an RPR IF VCG, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, RPR VCG must be RPR IF */
;
```

Starting in Release 7.0, when both RPR IF VCGs and EoS VCGs are supported on the LNW78, if the specified VCG is an RPR Span VCG, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, VLAN/VRTSW provisioning on RPR span
VCG not allowed */
;
```

Starting in Release 7.0, if an AID inputted for ***eplst*** or ***delep*** is a member of a LAG, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, one or more ports are members of a
LAG */
;
```

Starting in Release 9.0, if an AID inputted for **delvcg** or **delep** is a member of an ERP instance, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, one or more ports are members of an ERP
*/
;
```

Starting in Release 3.1, if the **vlantagmd (ED-EQPT)** is set to 802.1Q and the **ethertype** is being modified, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, tag mode set to 802.1TAG, changing
ethertype is not allowed */
;
```

Starting in Release 3.1, if another virtual switch exist with a different **ethertype** value, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, a virtual switch exist with a different
ethertype value, virtual switches must have same ethertype */
;
```

Starting in Release 3.1, if the specified **ethertype** value is not in the correct range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, ethertype value is not valid */
;
```

Starting in Release 4.0 **ethertype** is not supported in virtual switch commands; it is supported in **ED-EPORT**, **RTRV-EPORT**, **ED-VCG**, **RTRV-VCG**. The above errors related to **ethertype** are no longer applicable: instead, if **ethertype** is specified the following error

response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, ethertype is not valid */
;
```

Starting in Release 4.0, if the port specified in **delep**, or **delvcg** has a VLAN/tag address provisioned, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, VLAN/tag provisioned on a port */
;
```

Starting in Release 5.1, if the port specified in **delep**, or **delvcg** has a QoS service provisioned, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, QoS services provisioned on a port */
;
```

RELATED TL1 MESSAGES

DLT - VRTSW

ENT - VRTSW

RTRV - VRTSW

NAME

ENT -ACL : Enter Access Control List

The **ENT -ACL** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged and Administration access.

INPUT FORMAT

ENT -ACL:*tid::ctag:::spec_block;*

DESCRIPTION

The **ENT -ACL** command is used by an appropriate security administrator to add an entry to the Access Control List (ACL). This command adds a single entry to the ACL. Adding multiple entries requires multiple instances of **ENT -ACL**. Up to 50 different entries can be included.

The ACL adds a layer of control in addition to the TL1 user ID and password. When the ACL is enabled (see **ED -NE -SECU**), an IP based OS can login to a remote target NE via a GNE (T-TD) only if the GNE represented by its TID or NSAP is included on the target NE's ACL; an OSI based OS can login to a remote target NE only if the OSI based OS represented by its NSAP is included on the target NE's ACL.

The access control for an IP based OS to login to a GNE or remote NE via IP directly without using GNE (T-TD) is controlled by IPMAP (see **ENT -IPMAP**).

NOTE: Specifying an GNE's NSAP is more secure than specifying an GNE's TID. Since an GNE's TID is provisionable, and since the TIDs throughout the network are generally available, a user attempting unauthorized access to the NE could present a TID that duplicates a TID on the ACL, thereby by passing the security provided by the ACL. Of course, even if the ACL is bypassed, the normal user security would still apply.

The execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT -ACL** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-137. ENT-ACL Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table. Only one parameter listed in the <i>spec_block</i> is allowed to enter for each command instance.

Table 2-138. ENT-ACL Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>acl_tid</i>	Target Identifier of the ACL entry. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter. There is no default value.
<i>acl_nsap</i>	NSAP of the ACL entry. This parameter is the 20 byte (40-digit hexadecimal) NSAP. There is no default value.

OUTPUT FORMAT

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command, also.

EXAMPLE INPUT/OUTPUT

The following example shows an **ENT -ACL** command that adds TID "tid987" to the ACL:

```
ENT-ACL:ALU-TID123::123456:::ac_l_tid=tid987;  
  
IP 123456  
<  
    ALU-TID123 09-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following example shows an **ENT -ACL** command that adds an OSI-based OS to the ACL, using its NSAP address:

```
ENT-ACL:ALU-  
TID123::123456:::ac_l_nsap=39840F800000000000000000000000008006A1121231D;  
  
IP 123456  
<  
    ALU-TID123 09-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV -HDR ERROR RESPONSES** section. The error responses listed there may apply to this command also.

The NE returns the following error response if an **aid** value is entered:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier */  
;
```

If the NE receives an **ENT-ACL** command with an invalid **acl_tid** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid ACL_TID */
;
```

If the NE receives an **ENT-ACL** command with an invalid **acl_nsap** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid ACL_NSAP */
;
```

If the NE receives an **ENT-ACL** command without a value for **acl_tid** or **acl_nsap**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, missing required input parameter(s) */
;
```

If the NE receives an **ENT-ACL** command with both the values of **acl_tid** and **acl_nsap**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter value(s) */
;
```

If the NE receives an **ENT-ACL** command which would exceed the maximum number of entries allowed, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, too many entries in ACL */
;
```

RELATED TL1 MESSAGES

DLT - ACL

RTRV - ACL

ED - NE - SECU

RTRV - NE - SECU

NAME

ENT -ASAP -ASGNMT: Enter ASAP Assignment

The **ENT -ASAP -ASGNMT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT -ASAP -ASGNMT: *tid:aid:ctag::pftype,pfname;*

DESCRIPTION

The **ENT -ASAP -ASGNMT** command is used to assign a specific Alarm Severity Assignment Profile (ASAP) (identified via *pftype* and *pfname*) to an entity of the NE identified by the *aid*.

The NE will not provide for customer pre-provisioning of an ASAP to an entity. A profile may only be assigned to an entity if that entity is considered created. When **ENT -ASAP -ASGNMT** assigns an ASAP to an entity, the alarm severity levels of that profile will be used for reporting subsequent trouble notifications on that entity. Alarm severity levels on any existing alarms will not be affected by this command. Only the alarm severity levels of the probable causes that are applicable to the assigned entity will be applied to that entity. The provisioned ASAP will remain active until modified (for example, by another **ENT -ASAP -ASGNMT** command).

For alarms that may be reported outside the above stated rules for when an entity is created, the default alarm severity level is used.

An STSN ASAP will remain active until modified by another **ENT -ASAP -ASGNMT** command or as long as there are any cross-connections from that source *aid* or within that source *aid*.

For switched cross-connections from any type of 1+1 interface or a path protected cross-connect from a UPSR interface, assignments of an STSN or VT1 ASAP will apply to both sides.

Execution of this command, whether successful or denied, is recorded in the Security log.

The **ENT -ASAP -ASGNMT** command generates a **REPT DBCHG** message.

The **ENT - ASAP - ASGNMT** command, when used to assign an STSN or VT1 ASAP to the source of a switched cross-connect from any type of 1+1 interface or a path protected cross-connect from a UPSR interface, generates two **REPT DBCHG** messages, one for each side. The **aid** is a Ring Channel **aid**.

INPUT PARAMETERS

Table 10. ENT - ASAP - ASGNMT Input Parameters (cont 1 of 4)

Parameter Name	Description
aid	Access Identifier. This is the address of the entity for which the ENT - ASAP - ASGNMT command is intended. The aid is a required parameter and must reference a valid entity of the NE in order to be accepted. For the valid aid, refer to the AID table in Appendix A. ■ Line Protection group aid is used when assigning a 1+1_BIDIR ASAP. ■ Line Protection group aid is used when assigning a 1+1_OPTM ASAP. ■ Line Protection group aid is used when assigning a BLSR ASAP. ■ DATA Port aid is used when assigning a DATA ASAP. ■ DS1 Port aid is used when assigning a DS1 ASAP. ■ DS3 Port aid is used when assigning a DS3 ASAP. ■ E1 Port aid is used when assigning an E1 ASAP. ■ EC1 Port aid is used when assigning an EC1 ASAP. ■ Slot aid is used when assigning an EQPT ASAP. ■ FE Port aid is used when assigning an FELAN ASAP. ■ GE Port aid is used when assigning an GELAN ASAP. ■ LAG aid is used when assigning an LAG ASAP. ■ NVM aid is used when assigning an NVM ASAP. ■ Line aid is used when assigning an OCN ASAP. ■ OCH aid is used when assigning an OCH ASAP. ■ ODU2 Tributary aid is used when assigning an ODUK ASAP. ■ OTU2 Port aid is used when assigning an OTUk ASAP.

Table 10. ENT - ASAP - ASGNMT Input Parameters (cont 2 of 4)

Parameter Name	Description
	■ OTS Port aid is used when assigning an OTS ASAP. ■ Socket aid is used when assigning a SOCKET ASAP. ■ STS-n Ring Channel aid is used when assigning an STSN ASAP. In 1+1 or switched UPSR applications, the Ring Channel aid of either side may be used; otherwise, the Logical Ring Channel aid is used. Assignment of an ASAP against a specific constituent of an STS-nC is not supported. If STS cross-connected, the source aid of the cross-connect is used. If VT1.5 cross-connected, the STS1 aid containing the VT1.5 cross-connect is used. ■ Subshelf aid is used when assigning a SUBSHELF ASAP. ■ Shelf aid is used when assigning a SYSTEM ASAP. ■ External Timing Reference aid is used when assigning a SYNCR ASAP. ■ VC12 Ring Channel aid is used when assigning a VC ASAP. ■ VCG aid is used when assigning a VCG ASAP. ■ VCG STS Ring Channel aid within an Ethernet pack is used when assigning a VCGSTS ASAP. ■ VCG VT Ring Channel aid within an Ethernet pack is used when assigning a VCGVT ASAP. ■ VT Ring Channel aid is used when assigning a VT1 ASAP. In 1+1 or switched UPSR applications, the Ring Channel aid of either side may be used; otherwise, the Logical Ring Channel aid is used. ALL or aids containing all are not allowed in the aid for this command.
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
pftype	Profile type. This parameter indicates the type of ASAP profile. The pftype must be the correct type of profile for the specified aid, or the command will be denied. This parameter may have one of the following values: ■ 1+1_BIDIR Bidirectional 1+1

Table 10. ENT - ASAP - ASGNMT Input Parameters (cont 3 of 4)

Parameter Name	Description
■ 1+1_OPTM	Optimized 1+1
■ BLSR	Bidirectional Line Switched Ring
■ DATA	DATA
■ DS1	DS1
■ DS3	DS3
■ E1	E1
■ EC1	EC1
■ EQPT	Equipment
■ FELAN	FE LAN
■ GELAN	GE LAN
■ LAG	Link Aggregation
■ NVM	NVM
■ OCN	OC-n Lines
■ OCH	OCH Channels
■ ODUK	ODUK Tributary
■ OTS	OTS Port
■ OTUK	OTUK Port
■ SOCKET	Sockets
■ STSN	STSn paths
■ SUBSHELF	Subshelf
■ SYSTEM	System
■ SYNCN	External Timing Reference
■ VC	VC-12 paths
■ VCG	VCG
■ VCGSTS	VCG-STs Trib
■ VCGVT	VCG-VT1.5 Trib
■ VT1	VT1.5

Table 10. ENT - ASAP - ASGNMT Input Parameters (cont 4 of 4)

Parameter Name	Description
<i>pfname</i>	Profile Name. This parameter indicates the name of the ASAP profile. This is an alphanumeric character string (including the hyphen) with a maximum of 24 characters. The first character must be a letter. The characters are case insensitive. The Default <i>pfname</i> is allowed.

OUTPUT FORMAT

If the network element fully complies with the **ENT-ASAP-ASGNMT** command, then the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to the **ENT-ASAP-ASGNMT** command.

EXAMPLE INPUT/OUTPUT

The following example assigns the **OCN** ASAP named BOSTON to main-1-1:

```
ENT-ASAP-ASGNMT:LT-123:main-1-1:123456::OCN,BOSTON;
LT-123 98-01-01 08:00:00
M 123456 COMPLD
;
```

The following example assigns the **DS3** ASAP named BOSTON to DS3 port address “b-1”:

```
ENT-ASAP-ASGNMT:LT-123:b-1:123456::DS3,BOSTON;  
  
LT-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example assigns the **VCGV**T ASAP named BOSTON to VCG VT address “d1-v1-vt1”:

```
ENT-ASAP-ASGNMT:LT-123:d1-v1-vt1:123456::VCGV, BOSTON;  
  
LT-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there also pertain to the **ENT-ASAP-ASGNMT** command.

If the *pfname* parameter specified is invalid for the specified *pftype*, the following error response will be returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid pfname */  
;
```

The following condition will cause an IDNV error response:

- The *pftype* parameter specified is not valid.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid pftype */
;
```

The NE responds with an SNVS error response if the **aid** specifies an entity that does not exist, or is not considered created.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cannot preprovision entities */
;
```

The NE responds with an IIAC error response if the NE receives an **ENT-ASAP-ASGNMT** command with an **aid** value that is invalid for the **pftype** provided or with an **aid** value that is a constituent of an STS-nC cross-connect. The following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID is inconsistent with pftype */
;
```

RELATED TL1 MESSAGES

DLT-ASAP-PROF

ED-ASAP-PROF

ENT-ASAP-PROF

ENT-ASAP-ASGNMT
TL1 Message Details

ENT-ASAP-ASGNMT
Alcatel-Lucent 1665 DMX, R9.0

INIT-ASAP-PROF

RTRV-ASAP-ASGNMT

RTRV-ASAP-PROF

NAME

ENT -ASAP -PROF: Enter Alarm Severity Assignment Profiles

The **ENT -ASAP -PROF** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT -ASAP -PROF: *tid::ctag::pftype,pfname;*

DESCRIPTION

The **ENT -ASAP -PROF** command is used to create an Alarm Severity Assignment Profile (ASAP) of a specific Profile Type.

Profile names are less than or equal to 24 alphanumeric characters. The first character must be a letter. The following characters are permitted in the ASAP name:

- Digits (0...9)
- Hyphens (-)
- Upper case letters (A....Z)

Lower case letters (a...z) may also be entered. However, no distinction will be made between lower case and upper case letters.

When **ENT -ASAP -PROF** creates a new ASAP, the alarm levels for that profile will be the values of the current Default profile.

The maximum number of user creatable ASAPs that may exist at any one time is 127. This does not include ASAPs where *pfname*=DEFAULT.

Execution of this command, whether successful or denied, is recorded in the Security log.

The **ENT -ASAP -PROF** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 11. ENT-ASAP-PROF Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>pftype</i>	Profile Type. This parameter indicates the type of ASAP profile and may have one of the following values: ■ 1+1_BIDIR Bidirectional 1+1 ■ 1+1_OPTM Optimized 1+1 ■ BLSR Bidirectional Line Switched Ring ■ DATA DATA ■ DS1 DS1 ■ DS3 DS3 ■ E1 E1 ■ EC1 EC1 ■ EQPT Equipment ■ FELAN FE LAN ■ GELAN GE LAN ■ LAG Link Aggregation ■ NVM NVM ■ OCN OC-n Lines ■ OCH OCH Channels ■ ODUk ODUk Tributary ■ OTS OTS Port ■ OTUk OTUk Port ■ SOCKET Sockets ■ STSN STSn paths

Table 11. ENT - ASAP - PROF Input Parameters (cont 2 of 2)

Parameter Name	Description
	■ SUBSHELF Subshelf ■ SYSTEM System ■ SYNCN External Timing Reference ■ VC VC-12 paths ■ VCG VCG ■ VCGSTS VCG- STS Trib ■ VCGVT VCG-VT1.5 Trib ■ VT1 VT1.5
<i>pfname</i>	Profile Name. This parameter indicates the name of the ASAP profile. This is an alphanumeric character string (including the hyphen) with a maximum of 24 characters. The first character must be a letter. The characters are case insensitive. The <i>pfname</i> may not be DEFAULT. The <i>pfname</i> may not be a duplicate of another ASAP within the same <i>pftype</i>.

OUTPUT FORMAT

If the network element fully complies with the **ENT - ASAP - PROF** command, then the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR** command **OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to the **ENT - ASAP - PROF** command.

EXAMPLE INPUT/OUTPUT

The following example creates an **OCN** ASAP profile that is named mysonet:

```
ENT-ASAP-PROF:LT-123::123456::OCN,MYSONET;  
LT-123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there also pertain to the **ENT-ASAP-PROF** command.

The following condition will cause an IDNV error response:

- The ***pfname*** parameter specified is not valid.

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid pfname */  
;
```

The following condition will cause an IDNV error response:

- The ***pftype*** parameter specified is not valid or too long.

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid pftype */  
;
```

The following condition will cause an IDNV error response:

- The new **pfname** already exists for the specified **pftype**.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, duplicate pfname */
;
```

The following condition will cause an SSRE error response:

- The maximum number (127) of profiles is exceeded.

```
sid date time
M ctag DENY
SSRE
/* Status, System Resources Exceeded, allowed limit exceeded */
;
```

RELATED TL1 MESSAGES

DLT-ASAP-PROF

ED-ASAP-PROF

ENT-ASAP-ASGNMT

INIT-ASAP-PROF

RTRV-ASAP-ASGNMT

RTRV-ASAP-PROF

NAME

ENT - BANNER: Enter Banner

The **ENT - BANNER** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

Starting in Release 4.0, this command is available to users with Privileged and Administration access.

INPUT FORMAT

ENT - BANNER: *tid::ctag::spec_block;*

DESCRIPTION

The **ENT - BANNER** command can be initiated by privileged users to provision a proprietary notice to enhance system security. The intent is to warn would be intruders against illegal intrusion into the system.

A proprietary notice may consist of a maximum of 11 lines, with no line exceeding 62 characters, including the beginning and ending double quotes. The number of characters include 67 required for a standard TL1 header including the 20 characters for TID, 6 for CTAG. The length of a provisionable notice entered in any one **ENT - BANNER** command may not exceed 180 characters. If it is necessary to have more than 180 characters in the final provisionable notice, multiple **ENT - BANNER** commands may be entered to accomplish this. The length of the provisionable notice can not exceed 360 characters.

The "LINE#" parameter allows a user to enter a line of text that must be surrounded by Double Quotation marks, not exceeding 60 characters, not including the beginning and ending double quotes, where # is any number between 1 and 11. The lines can be entered in any order. If a line needs to be corrected or reentered, the command can be entered with just that line.

Since blank spaces are not allowed, an underscore (_) can be used as a substitute character.

LINE1	"This_is_the_line_1_of_banner"
LINE2	"This_is_the_line_2_of_banner"
LINE3	"This_is_the_line_3_of_banner"

LINE4	"This_is_the_line_4_of_banner"
LINE5	"This_is_the_line_5_of_banner"
LINE6	"This_is_the_line_6_of_banner"
LINE7	"This_is_the_line_7_of_banner"
LINE8	"This_is_the_line_8_of_banner"
LINE9	"This_is_the_line_9_of_banner"
LINE10	"This_is_the_line_10_of_banner"
LINE11	"This_is_the_line_11_of_banner"

Beginning in Release 3.0, spaces are allowed. An underscore (_) can be used, but is not necessary as a substitute character.

LINE1	"This is the line 1 of the banner"
LINE2	"This is the line 2 of the banner"
LINE3	"This is the line 3 of the banner"
LINE4	"This is the line 4 of the banner"
LINE5	"This is the line 5 of the banner"
LINE6	"This is the line 6 of the banner"
LINE7	"This is the line 7 of the banner"
LINE8	"This is the line 8 of the banner"
LINE9	"This is the line 9 of the banner"
LINE10	"This is the line 10 of the banner"
LINE11	"This is the line 11 of the banner"

A blank line can be entered as **LINE#=""** where # is any number between Lines 1 and 11

If line #1 is populated, the banner is displayed anytime an **ACT - USER** command is executed; otherwise no banner is displayed.

If the ***spec_block*** is null, the currently effective attributes at the Network Element prevail.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - BANNER** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-139. ENT - BANNER Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target identifier. This is the name of the NE to which the command is addressed. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation tag. This is included in the command by the user and is repeated by the Network Element in the response to allow the user to associate the command and response messages. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The system level attributes to be modified are specified inside the <i>spec_block</i> . Parameters within <i>spec_block</i> are specified using a <i>name=value, name=value,...</i> type construct with no constraints on the order of parameters. A blank line can be entered as <i>line#=""</i> where # is any number between 1 and 11
	<i>line1</i> This is line 1 of the banner.
	<i>line2</i> This is line 2 of the banner.
	<i>line3</i> This is line 3 of the banner.
	<i>line4</i> This is line 4 of the banner.
	<i>line5</i> This is line 5 of the banner.
	<i>line6</i> This is line 6 of the banner.
	<i>line7</i> This is line 7 of the banner.
	<i>line8</i> This is line 8 of the banner.
	<i>line9</i> This is line 9 of the banner.
	<i>line10</i> This is line 10 of the banner.

Table 2-139. ENT - BANNER Input Parameters (cont 2 of 2)

Parameter Name	Description
	<i>line11</i> This is line 11 of the banner.

OUTPUT FORMAT

If the Network Element fully complies with the **ENT - BANNER** request, the following normal completion response is returned:

```
IP ctag
<

    sid date time
M ctag COMPLD
;
```

If the **ENT - BANNER** command does not alter the existing attributes, the Network Element message will not deny the command. Instead, the system will respond with the completion message (shown above).

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there may also apply to the **ENT - BANNER** command also.

EXAMPLE INPUT/OUTPUT

The following example shows an **ENT - BANNER** command that provisions or modifies the network element's user specified banner:

```
ent-banner:LT-TID123::CTAG:::LINE1="This_is_the_line_1_of_banner"
IP CTAG
<

    LT-TID123 00-10-26 16:42:11
M ctag COMPLD
;
```

Beginning in release 3.0, the following is an example input/output of
ENT - BANNER:

```
ent-banner:LT-TID123::CTAG:::LINE1="This is the line 1 of the banner"
IP CTAG
<

LT-TID123 00-10-26 16:42:11
M ctag COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command also.

If an **ENT - BANNER** command is received with an invalid *LINE#* parameter where *#* is anything other than a number between 1 and 11-both included, the following error response is returned:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid spec_block parameter */
;
```

If an **ENT - BANNER** command is received with a *LINE#* parameter value with more than 62 characters, including the double quotes, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid */
;
```

If an **ENT - BANNER** command is received with a banner that is longer than 360 characters, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, banner longer than 360 characters */
;
```

If an **ENT - BANNER** command is received with a provisionable notice that is greater than 180 characters, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, too many banner characters for one command */
;
```

RELATED TL1 MESSAGES

ACT - USER

RTRV - BANNER

NAME

ENT - CID - SECU : Enter Channel Identifier Security parameters

The **ENT - CID - SECU** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access (except when setting the **state** parameter).

Starting in Release 4.0, this command is available to users with Administration, General, Maintenance and Reports Only access for changing **baudrate** and **echo** only for the serial port on which they're accessing the NE. This command is available only to users with Privileged access to change the **state** parameter or to change the **baudrate** and **echo** for any serial port.

INPUT FORMAT

ENT - CID - SECU :*tid:aid:ctag::[state][:spec_block];*

DESCRIPTION

The **ENT - CID - SECU** command sets several communication parameters for the front serial and rear modem ports.

This command can also be used to "lockout" all TL1 access to the NE, except by privileged users, such as, on the front serial and rear modem ports, the IAO LAN ports, X.25 port, and DCC operations interfaces.

Starting in Release 6.0, X.25 is not supported.

Note that while the AID is used to specify a CIT port, and all parameters except the security state parameter apply to the specified AID, the security state parameter applies to all ports through which a user may access the NE, including the IAO LAN ports and the DCC operations interfaces. When an NE's security state is set to "lockout", only privileged users with a valid user ID and password can establish a new TL1 login session to the NE. Other TL1 users with active login sessions are *not* automatically logged out, but any subsequent attempts by non-privileged users to establish a TL1 login session are denied while the NE is in the "lockout" state.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - CID - SECU** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-140. ENT -CID -SECU Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV -HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The AID identifies a serial port. The AID must be ALL to set the security state (<i>state</i>) parameter. The value cannot be ALL when setting the serial port parameters. Values: CIT-{1,2,ALL} for setting the serial port parameters ALL for setting the security state parameter <i>state</i>
<i>ctag</i>	Correlation tag. Refer to the RTRV -HDR command for the input parameter syntax and description of this parameter.
<i>state</i>	Security State. This is the security state that applies to all TL1 users except privileged users. The value may be IS (no lockout, which is the default) or LO (lockout). Note: Only privileged users are allowed to change the value of this parameter, otherwise the attempt is denied.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-141. ENT -CID -SECU Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>baudrate</i>	Baud rate. This specifies the baudrate at which TL1 messages are received/transmitted on the port specified by the aid. The values for this parameter are 1200, 2400, 4800, 9600 and 19200 . The default value is 9600 . This parameter applies to the front serial and rear modem ports only. Note: Starting in Release 4.0, users who do not have PRIVILEGED access are allowed to change the value of this parameter only for the serial port on which they're accessing the NE. Users with PRIVILEGED access may change the value of this parameter only for any serial port.

Table 2-141. ENT - CID - SECU Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
<i>echo</i>	Echo. This specifies whether or not the TL1 commands received on the port specified by the aid are echoed back to the user by the local NE. (This parameter has no effect on TL1 command responses.) If echo is enabled, the local NE echoes TL1 commands received for remote NEs, too. The values for this parameter are ENABLED or DISABLED. The default value is ENABLED. This parameter applies to the front serial and rear modem ports only. Note: Starting in Release 4.0, users who do not have PRIVILEGED access are allowed to change the value of this parameter only for the serial port on which they're accessing the NE. Users with PRIVILEGED access may change the value of this parameter only for any serial port. Note: The PC-CIT TL1 command builder also has an echo enable/disable option. If both the NE port and the PC-CIT have echo enabled, the TL1 commands are echoed back to the user twice.
<i>tmout</i>	Time out. This specifies the inactivity timer value for TL1 messages on the port specified by the aid. If no TL1 messages are transmitted or received during the time-out interval, all TL1 login sessions on the port are terminated, including TL1 login sessions to remote NEs. The values for this parameter are 0 to 120 minutes. The default value is 15 minutes. Setting this parameter to 0 disables the time out. This parameter applies to the front serial and rear modem ports only. Starting in Release 3.1, the <i>tmout</i> parameter is not supported. The serial port inactivity time-out is replaced with a user's login session inactivity time-out, provisionable using the ENT - USER - SECU and ED - USER - SECU commands.

OUTPUT FORMAT

If the NE fully complies with the **ENT - CID - SECU** request, the following normal completion response is returned.

```
sid date time
M ctag COMPLD
;
```

If the requested command does not change the existing parameter values, the NE doesn't deny the command. Instead the NE responds with the normal completion, as shown above.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The parameters listed there apply to this command also.

EXAMPLE INPUT/OUTPUT

The following example shows an **ENT-CID-SECU** command that sets the security state to lockout.

```
ENT-CID-SECU:LT-TID123:all:123456::lo;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following example shows an **ENT-CID-SECU** command that sets the baudrate and enables the echo.

```
ENT-CID-SECU:LT-TID123:cit-all:123456::baudrate=19200,echo=enabled;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following example shows an **ENT-CID-SECU** command that enables the echo and disables the time-out on both the front serial and rear modem ports.

```
ENT-CID-SECU:LT-TID123:cit-all:123456:::echo=enabled,tmout=0;

IP 123456
<

    LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```

Starting in Release 3.1, the previous example does not apply.

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the **aid** value is invalid:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid Access Identifier */
;
```

The NE returns the following error response if the **state** value is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid STATE parameter */
;
```

The NE returns the following error response if the **baudrate** value in the *spec_block* is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid BAUDRATE */
;
```

The NE returns the following error response if the **echo** value in the *spec_block* is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid ECHO parameter */
;
```

If the NE receives an **ENT-CID-SECU** command with an **aid** value of **ALL** and a **baudrate** specified in the *spec_block*, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, BAUDRATE inconsistent with AID */
;
```

If the NE receives an **ENT-CID-SECU** command with an **aid** value of **ALL** and an **echo** specified in the *spec_block*, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, ECHO inconsistent with AID */
;
```

If the NE receives an **ENT-CID-SECU** command with an **aid** value of **CIT-{1,2,ALL}** and a **state** specified, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, STATE inconsistent with AID */
;
```

If the NE receives an **ENT-CID-SECU** command with an **aid** value of **ALL** and a **tmout** specified in the *spec_block*, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, TMOUT inconsistent with AID */
;
```

Starting in Release 3.1, the previous error response does not apply.

The NE returns the following error response if the **tmout** value in the *spec_block* is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TMOUT parameter */
;
```

Starting in Release 3.1, the **tmout** parameter is not supported and thus the previous error response does not apply.

Starting in Release 4.0, if the NE receives an **ENT-CID-SECU** command with a **state** value specified and the user executing the command does not have Privileged access, the following error response is returned:

```
sid date time
M ctag DENY
PICC
/* Privilege, Illegal Command Code */
;
```

Starting in Release 4.0, if the NE receives an **ENT-CID-SECU** command with a **baudrate** or **echo** value from a user who does not have Privileged access, and the user is not accessing the NE via the serial port specified in the **aid**, or if **aid=ALL**, the following error response is returned:

```
sid date time
M ctag DENY
PICC
/* Privilege, Illegal Command Code */
;
```

ENT-CID-SECU
TL1 Message Details

ENT-CID-SECU
Alcatel-Lucent 1665 DMX, R9.0

RELATED TL1 MESSAGES

RTRV-CID-SECU

NAME

ENT - CONN: Enter Control Plane Connection

The **ENT - CONN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT - CONN:*tid::ctag::callid, servlevel, dir, bandwidth, prototype, srctnatype, srctnaaddress, srclogportid, srclabel, desttnatype, desttnaaddress, destlogportid, destLabel;*

DESCRIPTION

The **ENT - CONN** command initiates the establishment of an end-to-end soft permanent connection (SPC) between the specified TNA end points.

Execution of this command, whether successful or denied, will be recorded in the Security log.

When the end-to-end connection processing is complete, the NE issues a **REPT CONNEVT** message to report the status of the connection request. See **REPT CONNEVT** for details.

Following the successful completion of the end-to-end connection, the ingress NE of each domain through which the connection is routed issues a **REPT CONNCHG** message, with ccb=ENT-CONN, containing the connection- level parameters available at that domain. See **REPT CONNCHG** for details.

Following the successful completion of the cross-connection(s), each NE through which the connection is routed issues a **REPT DBCHG** message, with ccb=ENT-CONN, for each local cross-connection that is established in support of the end-to-end connection. See **REPT DBCHG** for details.

INPUT PARAMETERS

Table 2-142. ENT - CONN Input Parameters (cont 1 of 4)

Parameter Name	Description						
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.						
<i>callid</i>	Call Identifier. Operator-specific call identifiers are supported. An operator-specific <i>callid</i> is a fixed-length 12-byte (24-character) hexadecimal string. One suggested format is where the first 4 bytes (8 characters) represent the source network element address (the hexadecimal encoding of the <i>nodeid</i> (see RTRV-NODE-ENNI)) and the remaining 8 bytes (16 characters) represent the local identifier.						
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax, and a description of this parameter.						
<i>protype</i>	Protection Type. <i>protype</i> specifies the protection type for the E-NNI segments of the SPC. The following values are defined for E-NNI segments: <table> <tr> <td>Value</td><td>E-NNI Protection Type</td></tr> <tr> <td>■ 0x1</td><td>unprotected</td></tr> <tr> <td>■ 1+1</td><td>1+1 protected</td></tr> </table>	Value	E-NNI Protection Type	■ 0x1	unprotected	■ 1+1	1+1 protected
Value	E-NNI Protection Type						
■ 0x1	unprotected						
■ 1+1	1+1 protected						
<i>servlevel</i>	Service Level. <i>servlevel</i> is an integer in the range 0-255 that specifies the service level for the I-NNI segments of the SPC.						
<i>dir</i>	Direction. <i>dir</i> specifies whether the connection is unidirectional or bidirectional. Values: <table> <tr> <td>■ 1WAY</td><td>Unidirectional connection</td></tr> <tr> <td>■ 2WAY</td><td>Bidirectional connection</td></tr> </table>	■ 1WAY	Unidirectional connection	■ 2WAY	Bidirectional connection		
■ 1WAY	Unidirectional connection						
■ 2WAY	Bidirectional connection						

Table 2-142. ENT - CONN Input Parameters (cont 2 of 4)

Parameter Name	Description
<i>bandwidth</i>	Bandwidth. <i>bandwidth</i> specifies the signal rate of the connection. Values: ■ STS1 ■ STS3c ■ STS12c ■ STS48c
<i>srctnatype</i>	Source Transport Network Assigned Address (TNA) Type. Values: Description ■ IPV4 An IPv4 formatted Source TNA address consisting of four dot-separated integers ranging from 0 to 255, for example, 220.10.10.10. ■ IPV6 An IPv6 formatted Source TNA address consisting of 8 dash-separated 4-digit hexadecimal numbers. For example, fedc-0000-0000-76b4-417a-1080-3210-1111. ■ NSAP An NSAP formatted Source TNA address consisting of a 40-digit hexadecimal string. For example, 39840f800000000000000000000000008006a067197aa.
<i>srctnaaddress</i>	Source Transport Network Assigned Address (TNA). <i>srctnaaddress</i> identifies an address assigned one endpoint of the connection by the transport service provider. <i>srctnaaddress</i> , in conjunction with <i>srclogportid</i> and <i>srclabel</i> , identifies the source of the connection. See <i>srctnatype</i> for the allowable <i>srctnaaddress</i> values as a function of the <i>srctnatype</i> value.
<i>srclogportid</i>	Source Logical Port ID. <i>srclogportid</i> is an integer that identifies the source EDGE port (within the TNA). In conjunction with <i>srctnaaddress</i> and <i>srclabel</i> , it identifies the source of the connection. Values: ■ 1 - 4294967295

Table 2-142. ENT - CONN Input Parameters (cont 3 of 4)

Parameter Name	Description												
<i>srclabel</i>	Source Label. <i>srclabel</i> specifies a timeslot (tributary) on the source EDGE port identified by <i>srclogportid</i>. In conjunction with <i>srctnaaddress</i> and <i>srclogportid</i>, it identifies the source of the connection. <i>srclabel</i> has format S-U-K-L-M, where: S specifies a particular STS-3 group within an STS-N, U specifies a particular STS-1 within an STS-3 group, K specifies a particular TUG-3 within an VC-4 and is only significant for SDH, L specifies a particular VT group within an STS-1, and M specifies a particular VT1.5 within a VTG. <table> <tr> <td>Field</td><td>Value</td></tr> <tr> <td>S</td><td> ■ 0 (on port/line with a rate of STS1 or less) ■ 1 (1st STS-3c within an STS-N) ■ 2 (2st STS-3c within an STS-N) ... ■ N/3 (N/3th STS-3c within an OC-N port) </td></tr> <tr> <td>U</td><td> ■ 0 (on port/line with a rate of STS1 or less, and when <i>bandwidth=STS3c or greater</i>) ■ 1 (1st STS-1 within an STS-3) ■ 2 (2nd STS-1 within an STS-3) ■ 3 (3rd STS-1 within an STS-3) </td></tr> <tr> <td>K</td><td>■ 0 (SDH not supported)</td></tr> <tr> <td>L</td><td>■ 0 (VT not supported)</td></tr> <tr> <td>M</td><td>■ 0 (VT not supported)</td></tr> </table> For a connection to a DS3/EC1 EDGE port, <i>srclabel</i>=0-0-0-0-0. For a connection to a VCG EDGE port, divide the VCG tributaries into groups of 3 (1-3, 4-6, 7-9,...) and apply the rules for OC-n ports.	Field	Value	S	■ 0 (on port/line with a rate of STS1 or less) ■ 1 (1st STS-3c within an STS-N) ■ 2 (2st STS-3c within an STS-N) ... ■ N/3 (N/3th STS-3c within an OC-N port)	U	■ 0 (on port/line with a rate of STS1 or less, and when <i>bandwidth=STS3c or greater</i>) ■ 1 (1st STS-1 within an STS-3) ■ 2 (2nd STS-1 within an STS-3) ■ 3 (3rd STS-1 within an STS-3)	K	■ 0 (SDH not supported)	L	■ 0 (VT not supported)	M	■ 0 (VT not supported)
Field	Value												
S	■ 0 (on port/line with a rate of STS1 or less) ■ 1 (1st STS-3c within an STS-N) ■ 2 (2st STS-3c within an STS-N) ... ■ N/3 (N/3th STS-3c within an OC-N port)												
U	■ 0 (on port/line with a rate of STS1 or less, and when <i>bandwidth=STS3c or greater</i>) ■ 1 (1st STS-1 within an STS-3) ■ 2 (2nd STS-1 within an STS-3) ■ 3 (3rd STS-1 within an STS-3)												
K	■ 0 (SDH not supported)												
L	■ 0 (VT not supported)												
M	■ 0 (VT not supported)												
<i>desttnatype</i>	Destination Transport Network Assigned Address (TNA) Type. See <i>srctnatype</i> for the format description.												

Table 2-142. ENT - CONN Input Parameters (cont 4 of 4)

Parameter Name	Description
<i>desttnaaddress</i>	Destination Transport Network Assigned Address (TNA). <i>desttnaaddress</i> identifies an address assigned to one endpoint of the connection by the transport service provider. <i>desttnaaddress</i> , in conjunction with <i>destlogportid</i> and <i>destlabel</i> , identifies the destination of the connection. See <i>desttnatype</i> for the allowable values as a function of the <i>desttnatype</i> value.
<i>destlogportid</i>	Destination Logical Port ID. <i>destlogportid</i> is an integer that identifies the destination EDGE port (within the TNA). In conjunction with <i>desttnaaddress</i> and <i>destlabel</i> , it identifies the source of the connection. Values: ■ 1 - 4294967295
<i>destlabel</i>	Destination Label. <i>destlabel</i> specifies a timeslot (tributary) on the destination EDGE port identified by <i>destlogportid</i> . In conjunction with <i>desttnaaddress</i> and <i>destlogportid</i> , it identifies the destination of the connection. See <i>srclabel</i> for the format description.

OUTPUT FORMAT

If the **ENT - CONN** is accepted, the following normal completion response is returned.

```

sid date time
M ctag COMPLD
  "callid=x,connid=x"
;
```

Note, the COMPLD message only indicates that the command was accepted. The NE issues a subsequent **REPT CONNCHG** message to indicate that the end-to-end connection was established, or issues an error message to indicate that the end-to-end connection failed.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to this command.

Table 2-143. ENT - CONN Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>callid</i>	Call Identifier. Operator-specific call identifiers are supported. An operator-specific <i>callid</i> is a fixed-length 12-byte (24-character) hexadecimal string. One suggested format is where the first 4 bytes (8 characters) represent the source network element address (the hexadecimal encoding of the <i>nodeid</i> (see RTRV-NODE-ENNI)) and the remaining 8 bytes (16 characters) represent the local identifier.

Table 2-143. ENT - CONN Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>connid</i>	Connection Identifier. <i>connid</i> is a unique identifier for a connection segment within the local domain. <i>connid</i> is a character string containing up to 41 characters that is composed of the source node ID, a tributary aid and an index number. The format is as follows. <i>nodeid&tributary_aid&index</i> where <i>nodeid</i> The node ID of the ingress node within the local domain for this connection. It is an IPv4 formatted identifier consisting of four dot-separated integers ranging from 0 to 255. <i>tributary_aid</i> A dash-separated string of 5 integers, representing Bay/Frame #, Shelf #, Slot #, Port #, Tributary #, that identifies the ingress port's tributary within the local domain for this connection, with — Bay/Frame # = 1 — Shelf # = 1 — Slot # = 1-12 (see Table 2-144 for a mapping of NE slots to integer values) — Port # = 1-48 — Tributary # = 1-192 For slots equipped with Ethernet packs, the Port # corresponds to a VCG number. For example, Port # = 1 represents VCG v1. <i>index</i> An integer in the range 0-4294967295 Example 200.10.10.10&1-1-2-1-1&100
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the parameter syntax, and a description of this parameter.

The format of the *tributary_aid* field of the *connid* parameter is *Bay/frame #-Shelf #-Slot #-Port #-Tributary #* where *Slot #* is a 2-digit field defined in the following table.

Table 2-144. *connid slot* Mapping

Slot AID	Slot #
main-1	1
main-2	2
fn-a-1	3
fn-a-2	4
fn-b-1	5
fn-b-2	6
fn-c-1 ¹	7
fn-c-2 ¹	8
fn-d-1	9
fn-d-2	10
growth-1	11
growth-2	12

1. DMX only

EXAMPLE INPUT/OUTPUT

The following example establishes a bidirectional STS1 connection from **srctnaaddress=220.10.10.10**, **srclogportid=15** and **srclabel=3-1-0-0-0** to **desttnaaddress=220.10.10.20**, **destlogportid=3** and **destlabel=1-2-0-0-0**.

```
ENT-CONN:LT-TID123::123456::DC640A0A0102030405060708,0,2WAY,STS1,0x1,
IPV4,220.10.10.10,15,3-1-0-0-0,IPV4,220.10.10.20,3,1-2-0-0-0;

IP 123456
<
  LT-TID123 07-11-26 16:42:11
M 123456 COMPLD
  "callid=DC640A0A0102030405060708,connid=220.10.10.10&1-1-1-1&1"
;
```


ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an NE equipped with non-VLF mains receives an **ENT-CONN** command, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   ENSI
   /* Equipage, Not equipped for Setting specified Information,
   control plane not supported */
;
```

If the NE receives an **ENT-CONN** command with a specified aid, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid ACcess identifier */
;
```

If the NE receives an **ENT-CONN-rr** command with an invalid parameter value, then the command is denied and the following error response is returned, where <parameter_name> identifies a parameter with an invalid value.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid <PARAMETER_NAME> value */
;
```

If the NE receives an **ENT-CONN** command and the specified **srclabel** is not on a valid STSnc tributary boundary for the specified **bandwidth**, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   IDNC
   /* Input, Data Not Consistent, srclabel not consistent with
   bandwidth */
;
```

If the NE receives an **ENT-CONN** command, but the connection source, as specified by **srctna**, **srclogportid** and **srclabel**, does not exist on the node, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   IENE
   /* Input, Entity Not Exists, tna label does not exist */
;
```

If the NE receives an **ENT-CONN** command and the source pack as specified by the **srctna** and **srclogportid** does not support the specified **bandwidth**, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   ENSI
   /* Equipage, Not equipped for Setting specified Information, shelf
   equipage does not allow requested connection */
;
```

If the NE receives an **ENT-CONN** command to provision a connection on a tributary of a pluggable transmission module on an OLIU pack or on an Ethernet or Data pack operating in a private line mode, and a pluggable transmission

module for that line or port is reported as UNEQ in the equipment list, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   ENSI
   /* Equipage, shelf equipage does not allow requested cross connection
*/
;
```

Note, for optical lines that are part of a protection group, the command is accepted if the pluggable transmission module for the specified line or its companion appears in the equipment list.

If the NE receives an **ENT-CONN** command with *dir*=2WAY, but the connection source, as specified by *srctna*, *srclogportid* and *srclabel*, is already used as the destination of an existing control plane connection, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SACC
   /* Status, Already Cross Connected, specified tna label in use */
;
```

If the NE receives an **ENT-CONN** command and the connection source, as specified by *srctna*, *srclogportid* and *srclabel*, is already used as the source or destination of an existing traditional cross-connection, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, specified tna label has existing
traditional cross-connection */
;
```

If the NE receives an **ENT-CONN** command and *portcontrol*=LOCKOUT (see **RTRV-CPORT**) for the source port, as specified by *srctna* and *srclogportid*, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, command not allowed when
portcontrol=LOCKOUT */
;
```

If the NE receives an **ENT-CONN** command and the source port, as specified by *srctna* and *srclogportid*, is a BLSR port for which automatic squelch map generation is disabled (see **RTRV-PROTN-GRP**: *ard*=DISABLE or *rcmode*=MANUAL), then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SDNC
   /* Status, Data Not Consistent, BLSR automatic squelch map generation
is disabled */
;
```

If the NE receives an **ENT-CONN** command but the command cannot complete because the target pack requires a software upgrade, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SROF
   /* Status, Requested Operation Failed, APPLY command needed first */
;
```

If the NE receives an **ENT-CONN** and no route is available between the specified source and destination, the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SROF
   /* Status, Requested Operation Failed, no route available */
;
```

If the NE receives an ENT-CONN command and the number of existing connections equals the maximum number of supported connections supported by the NE, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, the maximum number of connections exists
*/
;
```

If the NE receives an ENT-CONN command and the number of existing control plane connections sourced from the EDGE port tributary, as specified by srctna, srclogportid and srclabel, equals the maximum number supported by the NE, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, the maximum number of connections exists
*/
;
```

RELATED TL1 MESSAGES

DLT-CONN

REPT CONNCHG

REPT CONNEVT

REPT DBCHG

ENT-CONN
TL1 Message Details

ENT-CONN
Alcatel-Lucent 1665 DMX, R9.0

RTRV - CONN

RTRV - PATH

NAME

ENT-CPORT-rr: Enter Control Plane Port

The **ENT-CPORT-rr** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT-CPORT-modifier:*tid:aid:ctag:::spec_block;*

DESCRIPTION

The **ENT-CPORT-rr** command provisions the control plane parameters of lines and ports. Throughout the remainder of this document, the term port, when not qualified by a specific port type (electrical or VCG), should be interpreted to mean line or port as appropriate.

The provisioned control plane parameters are applied to both ports of a 1+1 protection group. 1+1 in this context includes any supported 1+1 application (see **ENT-rr**).

Execution of this command, whether successful or denied, will be recorded in the Security log.

Following the successful completion of the command, the NE issues a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-145. ENT - CPORT - rr Input Parameters

Parameter Name	Description
<i>modifier</i>	Modifier: <i>modifier</i> specifies the target control plane port type Values ■ T3 This is for a DS3 port. ■ EC1 This is for an electrical STS-1 port. ■ OC3 This is for an optical OC-3 line. ■ OC12 This is for an optical OC-12 line. ■ OC48 This is for an optical OC-48 line. ■ OC192 This is for an optical OC-192 line. ■ VCG This is for a VCG port.
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of the line/port. For the valid <i>aids</i>, refer to the AID Table in Appendix A. Access identifier (<i>aid</i>) guidelines: ■ Port <i>aid</i> is used when addressing a T3 port. ■ Port <i>aid</i> is used when addressing an EC1 port. ■ OC-n Line <i>aid</i> is used when addressing an OC-n line. ■ Port <i>aid</i> is used when addressing a VCG port. ALL is not an allowed value.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax, and a description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-146. ENT - CPORT - rr Input *spec_block* Parameters (cont 1 of 4)

Parameter Name	Description								
<i>linkmetric</i>	Link metric. <i>linkmetric</i> specifies the link cost for traffic engineering purposes. Its value is used to indicate the relative desirability of a particular link over another during path selection/computation procedures. A lower value indicates a higher desirability. Values ■ 1-65535 1 is the initial value if <i>linkmetric</i> is not specified when changing <i>portclass</i> to ENNI. <i>linkmetric</i> is applicable to ports with the following <i>portclass</i> — ENNI								
<i>logportid</i>	Logical Port Identifier. <i>logportid</i> is an integer that identifies the local logical port. It is a required parameter when changing <i>portclass</i> to EDGE or ENNI. Values ■ 1-4294967295 <i>logportid</i> is applicable to ports with the following <i>portclass</i> — EDGE — ENNI								
<i>portclass</i>	Port Class. <i>portclass</i> specifies the role of the port. <table border="1"> <thead> <tr> <th>Values</th><th>Description</th></tr> </thead> <tbody> <tr> <td>■ EDGE</td><td>Control plane EDGE port. See Table 2-148 below for a list of supported EDGE ports. Connections on EDGE ports can be provisioned with ENT/DLT - CONN and ENT/DLT - CRS.</td></tr> <tr> <td>■ ENNI</td><td>Control plane ENNI port. See Table 2-149 below for a list of supported ENNI ports. Connections on ENNI ports can only be provisioned with ENT/DLT - CONN.</td></tr> <tr> <td>■ TRADITIONAL</td><td>Traditional port (non-"control plane" port). Connections on TRADITIONAL ports can only be provisioned with ENT/DLT - CRS.</td></tr> </tbody> </table> Changing <i>portclass</i> between two control plane port values is not supported. To change from one control plane port value to another, the port must first be provisioned as TRADITIONAL.	Values	Description	■ EDGE	Control plane EDGE port. See Table 2-148 below for a list of supported EDGE ports. Connections on EDGE ports can be provisioned with ENT/DLT - CONN and ENT/DLT - CRS .	■ ENNI	Control plane ENNI port. See Table 2-149 below for a list of supported ENNI ports. Connections on ENNI ports can only be provisioned with ENT/DLT - CONN .	■ TRADITIONAL	Traditional port (non-"control plane" port). Connections on TRADITIONAL ports can only be provisioned with ENT/DLT - CRS .
Values	Description								
■ EDGE	Control plane EDGE port. See Table 2-148 below for a list of supported EDGE ports. Connections on EDGE ports can be provisioned with ENT/DLT - CONN and ENT/DLT - CRS .								
■ ENNI	Control plane ENNI port. See Table 2-149 below for a list of supported ENNI ports. Connections on ENNI ports can only be provisioned with ENT/DLT - CONN .								
■ TRADITIONAL	Traditional port (non-"control plane" port). Connections on TRADITIONAL ports can only be provisioned with ENT/DLT - CRS .								

Table 2-146. ENT - CPORT - rr Input *spec_block* Parameters (cont 2 of 4)

Parameter Name	Description
<i>portcontrol</i>	Port Control. <i>portcontrol</i> specifies whether or not a control plane port supports additional control plane connections. Values Description ■ NORMAL Port is allowed to support control plane connections. This is the initial value if <i>portcontrol</i> is not specified when changing <i>portclass</i> to EDGE or ENNI. ■ LOCKOUT Port is prohibited from supporting additional control plane connections. Removal of connections is supported. <i>portcontrol</i> is applicable to ports with the following <i>portclass</i>: — EDGE — ENNI
<i>remlogportid</i>	Remote Logical Port Identifier. <i>remlogportid</i> is an integer that identifies the remote port at the other end of the link. It is a required parameter when changing <i>portclass</i> to ENNI. Values ■ 1-4294967295 <i>remlogportid</i> is applicable to ports with the following <i>portclass</i>: — ENNI
<i>remnid</i>	Remote Node Identifier. An IPv4 formatted identifier of the remote node, consisting of four dot-separated integers ranging from 0 to 255, for example: 10.10.10.10. It is a required parameter when changing <i>portclass</i> to ENNI. <i>remnid</i> is applicable to ports with the following <i>portclass</i>: — ENNI

Table 2-146. ENT - CPORT - rr Input *spec_block* Parameters (cont 3 of 4)

Parameter Name	Description
remrcid	Remote Routing Controller Identifier. An IPv4 formatted identifier of the remote routing protocol controller, consisting of four dot-separated integers ranging from 0 to 255, for example: 10.10.10.10. It is a required parameter when changing <i>portclass</i> to ENNI. remrcid is applicable to ports with the following <i>portclass</i>: — ENNI
remspcid	Remote Signaling Protocol Controller Identifier. An IPv4 formatted identifier of the remote signaling protocol controller, consisting of four dot-separated integers ranging from 0 to 255, for example: 220.10.10.10. It is a required parameter when changing <i>portclass</i> to ENNI. remspcid is applicable to ports with the following <i>portclass</i>: — ENNI
remspcscn	Remote Signaling Protocol Controller SCN Address. An IPv4 formatted SCN address of the remote signaling protocol controller, consisting of four dot-separated integers ranging from 0 to 255, for example: 220.10.10.10. It is a required parameter when changing <i>portclass</i> to ENNI. remspcscn is applicable to ports with the following <i>portclass</i>: — ENNI
remtid	Remote Node Target Identifier. <i>remtid</i> is the TID of the node to which the downstream ENNI port belongs. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter. It is a required parameter when changing <i>portclass</i> to ENNI. remtid is applicable to ports with the following <i>portclass</i>: — ENNI
tna	Transport Network Assigned Address. An address assigned to endpoints of the connections by the transport service provider. The same TNA address can be assigned to multiple ports terminating on the same node. It is a required parameter when changing <i>portclass</i> to EDGE. See tnatype for the supported values as a function of the tnatype value. tna is applicable to ports with the following <i>portclass</i>: — EDGE

Table 2-146. ENT - CPORT - rr Input *spec_block* Parameters (cont 4 of 4)

Parameter Name	Description
<i>tnatype</i>	Transport Network Assigned Address Type. Values: Description ■ IPV4 An IPv4 formatted Source TNA consisting of four dot-separated integers ranging from 0 to 255, for example: 220.10.10.10. ■ IPV6 An IPv6 formatted Source TNA consisting of 8 dash-separated 4-digit hexadecimal numbers. For example, fedc-0000-0000-76b4-417a-1080-3210-1111. ■ NSAP An NSAP formatted Source TNA consisting of a 20-byte (40 hexadecimal digits) string, for example: 39840f800000000000000000000008006a067197aa. <i>tnatype</i> is applicable to ports with the following <i>portclass</i>: — EDGE

Table 2-147 summarizes the parameters that are applicable to each portclass.

Table 2-147. ENT -CPORT - rr *portclass* Parameter Summary

Parameter Name	<i>portclass</i>		
	EDGE	ENNI	TRADITIONAL
<i>linkmetric</i>	No	Yes	No
<i>logportid</i>	Yes	Yes	No
<i>portcontrol</i>	Yes	Yes	No
<i>remlogportid</i>	No	Yes	No
<i>remnid</i>	No	Yes	No
<i>remrcid</i>	No	Yes	No
<i>remspcid</i>	No	Yes	No
<i>remspcscn</i>	No	Yes	No
<i>remtid</i>	No	Yes	No
<i>tna</i>	Yes	No	No
<i>tnatype</i>	Yes	No	No

Table 2-148 lists the supported EDGE ports.

Table 2-148. Supported EDGE Ports

Port Type	
DS3	
EC1	
OC-n ¹	0x1
	1+1
	UPSR ²
	BLSR ³
VCG ¹	Private Line ⁴

1. Excludes client ports on a muxponder pack

2. UPSR EDGE ports are treated as unprotected ports when provisioning control plane connections. Path protected control plane connections from UPSR EDGE ports are not supported.
3. Control plane connection requests to BLSR EDGE ports require that automatic squelch map generation is enabled.
4. Private Line includes VCGs on private line packs and VCGs on switched packs that are operating in a private line mode.

In multi-shelf DCS applications, the following ports cannot be provisioned as EDGE ports:

- Ports on an OC-n inter-shelf interface
- Ports in a subshelf

Table 2-149 lists the supported ENNI ports.

Table 2-149. Supported ENNI Ports

Circuit Pack	Application ¹
LNW55	0x1
	1+1
LNW59	0x1
	1+1
LNW62	0x1
	1+1
LNW82	0x1
	1+1
LNW504	0x1
	1+1
LNW603	0x1
	1+1

1. 1+1 includes all supported 1+1 line protection applications.

In multi-shelf DCS applications, the following ports cannot be provisioned as ENNI ports:

- Ports on an OC-n inter-shelf interface
- Ports in a subshelf

OUTPUT FORMAT

If the **ENT-CPORT-rr** is accepted, the following normal completion response is returned.

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example establishes fn-d-1-1 as an **EDGE** port.

```
ENT-CPORT-OC48:LT-TID123:fn-d-1-1:123456:::logportid=12,portclass=EDGE,
portcontrol=NORMAL,tnatype=IPV4,tna=220.10.10.10;
```

```
IP 123456
<
LT-TID123 07-11-26 16:42:11
M 123456 COMPLD
;
```

The following example establishes main-1-1 as an **ENNI** port.

```
ENT-CPORT-OC192:LT-TID123:main-1-1:123456:::linkmetric=1,logportid=12,
portclass=ENNI,portcontrol=NORMAL,remlogportid=5,remnid=10.10.10.10,
remrcid=10.10.10.10,remspcid=20.10.10.1,remspcscn=220.10.10.10,
remtid=LT-TID456;

IP 123456
<
  LT-TID123 07-11-26 16:42:11
M 123456 COMPLD
;
```

The following example establishes fn-d-1-1 as a **TRADITIONAL** port.

```
ENT-CPORT-OC48:LT-TID123:fn-d-1-1:123456:::portclass=TRADITIONAL;

IP 123456
<
  LT-TID123 07-11-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an NE equipped with non-VLF mains receives an **ENT-CPORT** command, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
ENSI
/* Equipage, Not equipped for Setting specified Information,
control plane not supported */
;
```


If the NE receives an **ENT-CPORT-rr** command with an **aid** that is missing, invalid or inconsistent with the **modifier**, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid Access identifier, AID is missing, wrong or
  inconsistent with modifier */
;
```

If the NE receives an **ENT-CPORT-rr** command with an invalid parameter value, then the command is denied and the following error response is returned, where <parameter_name> identifies a parameter with an invalid value.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid <parameter_name> value */
;
```

If the NE receives an **ENT-CPORT-rr** command with the same parameter specified more than once, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  INDV
  /* Input, Data Not Valid */
;
```

If the NE receives an **ENT-CPORT-rr** command and the specified port is not provisioned to be equipped, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  ENEQ
  /* Equipage Not Equipped */
;
```

If the NE receives an **ENT-CPORT-rr** command to change the **portclass** to **EDGE** but the specified port is not an allowable EDGE port, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, Not equipped for Setting specified Information, port does
not support specified portclass */
;
```

If the NE receives an **ENT-CPORT-rr** command to change the **portclass** to **ENNI** and the specified port is not an allowable ENNI port, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, Not equipped for Setting specified Information, port does
not support specified portclass */
;
```

If the NE receives an **ENT-CPORT-rr** command to change the **portclass** of an **ENNI** or **EDGE** port, and **portcontrol=NORMAL** (see **RTRV-CPORT**) for the

specified port, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, portclass change not allowed when
portcontrol=NORMAL */
;
```

If the NE receives an **ENT-CPORT-rr** command to change **portclass** from one control plane port value to another, then the command is denied and the following error response is returned. To change **portclass** from one control plane port value to another, the port must first be provisioned as **TRADITIONAL**.

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, changing between two control plane
portclass values is not allowed */
;
```

If the NE receives an **ENT-CPORT-rr** command to change the **portclass** of a **TRADITIONAL** port to **EDGE**, and, for the node to which the command is addressed, the **nodeid** equals 0.0.0.0 (the null or unprovisioned value) (see **RTRV-NODE**), then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, required node-level parameters not
provisioned */
;
```

If the NE receives an **ENT-CPORT-rr** command to change the **portclass** of a **TRADITIONAL** port to **ENNI**, and, for the node to which the command is addressed, any of the following node-level parameters equals 0.0.0.0 (the null or unprovisioned value) (see **RTRV-NODE**),

nodeid *scnipaddr* *spcid*

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, required node-level parameters not
provisioned */
;
```

If the NE receives an **ENT-CPORT-rr** command to provision any of the following parameters of an EDGE port,

logportid	portclass	tna	tnatype

and there is an existing control plane cross-connection on the port (see **RTRV-CONN**) or bandwidth is reserved for a pending cross-connection, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cross-connect exists */
;
```

If the NE receives an **ENT-CPORT-rr** command to provision any of the following parameters of an ENNI port,

logportid	portclass	remlogportid
remnid	remrcid	remspcid
		remtid

and there is an existing control plane cross-connection on the port (see **RTRV-CONN**) or bandwidth is reserved for a pending cross-connection, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cross-connect exists */
;
```

If the NE receives an **ENT-CPORT-rr** command to change the **portclass** from **TRADITIONAL** to **ENNI** and there is an existing cross-connection on a tributary of the port (see **RTRV-CRS**), then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cross-connect exists */
;
```

If the NE receives an **ENT-CPORT-rr** command to change the **portclass** of a port to **EDGE** or **ENNI** and there is an existing test access connection on a tributary of the port, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, test access active */
;
```

If the NE receives an **ENT-CPORT-rr** command to change the **portclass** of a port to **EDGE** or **ENNI** and there is an existing loopback on the port, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, loopback active */
;
```

If the NE receives an **ENT-CPORT-rr** command to change the **portclass** to **EDGE** and the following parameters are not included in the command,

logportid **tna** **tnatype**

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid <parameter_name> value */
;
```

If the NE receives an **ENT-CPORT-rr** command to change the *portclass* to **ENNI** and the following parameters are not included in the command,

	<i>logportid</i>	<i>remlogportid</i>	<i>remnid</i>
<i>remrcid</i>	<i>remspcid</i>	<i>remspcscn</i>	<i>remtid</i>

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid <parameter_name> value */
;
```

If the NE receives an **ENT-CPORT-rr** command to change the *portcontrol* of a port and there is an existing loopback on the port, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, loopback active */
;
```

If the NE receives an **ENT-CPORT-rr** command to provision any of the following parameters on an **EDGE** port,

<i>linkmetric</i>	<i>remlogportid</i>	<i>remnid</i>
<i>remrcid</i>	<i>remspcid</i>	<i>remspcscn</i> <i>remtid</i>

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNC
  /* Input, Data Not Consistent, one or more input parameters not
  valid for the portclass */
;
```

If the NE receives an **ENT-CPORT-rr** command to provision any of the following parameters on an **ENNI** port,

tna **tnatype**

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNC
  /* Input, Data Not Consistent, one or more input parameters not
  valid for the portclass */
;
```

If the NE receives an **ENT-CPORT-rr** command to provision any of the following parameters on a **TRADITIONAL** port,

linkmetric **logportid** **portcontrol** **remlogportid** **remnid**
remrcid **remspcid** **remspcscn** **remtid** **tna** **tnatype**

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNC
  /* Input, Data Not Consistent, one or more input parameters not
  valid for the portclass */
;
```

If the NE receives an **ENT-CPORT-rr** command to provision the **logportid** of an **EDGE** or **ENNI** port and the specified value is not unique among the **logportid**

values of all other **EDGE** and **ENNI** ports on the NE, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SDNC
   /* Status, Data Not Consistent, logportid is not unique */
;
```

If the NE receives an **ENT-CPORT-rr** command and the resultant *remspcid* or *remspcscn* of the target ENNI port is shared with one or more existing ENNI ports, and the resultant *remspcid/remspcscn* values of the target ENNI port would not be the same as the *remspcid/remspcscn* values of the other ports that share the same *remspcid* or *remspcscn*, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SDNC
   /* Status, Data Not Consistent, remspcscn not consistent with
existing peers */
;
```

RELATED TL1 MESSAGES

RTRV-CPORT-rr

RTRV-NODE

NAME

ENT - CRS - OCH : Enter Optical cross-connects.

The **ENT - CRS - OCH** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT - CRS - OCH : *tid:src_aid,dest_aid:ctag;*

DESCRIPTION

This command is used to enter one-way Optical CHannel (OCH) cross-connections. OCH cross-connections are used to inform the NE of Optical fibering. In some cases, this notification also prompts other system action. For instance:

- Connections to an OMD OCH port are used to enable the variable optical attenuators.
- Connections to/from an OTU2 port of a Muxponder pack are used to assign the Muxponder's internal STS cross-connect fabric to the provisioned client ports.

No system checks are performed when either the *src_aid* or *dest_aid* is REMAID.

Connections to/from non-DWDM lines/ports do not impact the functionality of that line/port.

See Appendix E for a list of valid OCH cross-connects.

Connection rules for frequency or signal type:

1. If either port of the connection has a DWDM frequency (OCh port frequency or *efreq!=NA*) associated with it, then the other port must have the same DWDM frequency or be a REMAID.
2. If neither port of the connection has a DWDM frequency (OCh port frequency or *efreq!=NA*) associated with it, then the two ports of the connection must have the same *signaltype*, or one of the ports must be a REMAID.

Execution of this command, whether successful or denied, is recorded in the Security log.

This command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-150. ENT - CRS - OCH Input Parameters (cont 1 of 2)

Parameter Name	Description								
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.								
<i>src_aid</i>	Source Access Identifier. The <i>src_aid</i> determines the source of the cross-connection. See Appendix A - AID Table for valid AIDs. There is no initial value. Valid AIDs include: <table> <tr> <td>REMAID</td><td>REmote AID. The source is alien, i.e. not on the shelf.</td></tr> <tr> <td>OCH AID</td><td>The source is an Optical Channel on an OMD pack.</td></tr> <tr> <td>OTU2 port AID</td><td>The source is an OTU2 port</td></tr> <tr> <td>OC192 line AID</td><td>The source is an OC192 line.</td></tr> </table> Any source (other than REMAID) may be used as the <i>src_aid</i> of one and only one OCH cross-connection.	REMAID	REmote AID. The source is alien, i.e. not on the shelf.	OCH AID	The source is an Optical Channel on an OMD pack.	OTU2 port AID	The source is an OTU2 port	OC192 line AID	The source is an OC192 line.
REMAID	REmote AID. The source is alien, i.e. not on the shelf.								
OCH AID	The source is an Optical Channel on an OMD pack.								
OTU2 port AID	The source is an OTU2 port								
OC192 line AID	The source is an OC192 line.								
<i>dest_aid</i>	Destination Access Identifier. The <i>dest_aid</i> determines the destination of the cross-connection. See Appendix A - AID Table for valid AIDs. There is no initial value. Valid AIDs include: <table> <tr> <td>REMAID</td><td>REmote AID. The destination is alien, i.e. not on the shelf.</td></tr> <tr> <td>OCH AID</td><td>The destination is an Optical Channel on an OMD pack.</td></tr> <tr> <td>OTU2 port AID</td><td>The destination is an OTU2 port</td></tr> <tr> <td>OC192 line AID</td><td>The destination is an OC192 line</td></tr> </table> Any destination (other than REMAID) may be used as the <i>dest_aid</i> of one and only one OCH cross-connection.	REMAID	REmote AID. The destination is alien, i.e. not on the shelf.	OCH AID	The destination is an Optical Channel on an OMD pack.	OTU2 port AID	The destination is an OTU2 port	OC192 line AID	The destination is an OC192 line
REMAID	REmote AID. The destination is alien, i.e. not on the shelf.								
OCH AID	The destination is an Optical Channel on an OMD pack.								
OTU2 port AID	The destination is an OTU2 port								
OC192 line AID	The destination is an OC192 line								

Table 2-150. ENT - CRS - OCH Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

Refer to the **RTRV - HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **ENT - CRS - OCH** command. If the requested command does not alter the existing condition, the NE will not deny the command. Instead the NE will respond with a COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

EXAMPLE INPUT/OUTPUT

The following example creates an add cross-connection from an alien line to an optical channel.

```
ENT-CRS-OCH:LT-TID123:remaid,d1-9560:123456;  
  
IP 123456  
<  
  
LT-TID123 07-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following example creates a pass-through cross-connection between optical channels.

```
ENT-CRS-OCH:LT-TID123:d1-9520,d2-9520:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 07-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following example creates a drop cross-connection from an optical channel to an OTU2 port.

```
ENT-CRS-OCH:LT-TID123:d1-9560,g1-9:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 07-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **ENT-CRS-OCH** command with an invalid *src_aid* or *dest_aid*, the following error response is returned:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier, AID is missing, wrong or  
inconsistent with modifier */  
;
```

If the NE receives an **ENT-CRS-OCH** command with a *src_aid* which is already the source of a cross-connection, or a *dest_aid* which is already the destination of a cross-connection, the following error response is returned:

```
sid date time
M ctag DENY
  SACC
  /* Status, Already Cross Connected */
;
```

If the NE receives an **ENT-CRS-OCH** command for an unsupported cross-connect type, such as:

- Cross-connects between an OCH and either an OTU2 port or a Main and the **ED-EQPT efreq** parameter value does not equal the OCH frequency
- Cross-connects of an OTU2 port to other than an OCH port or a REMAID
- REMAID to REMAID cross-connections
- Missing XFPs (**RTRV-EQPT name=UNEQ**)

the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, cross connection not supported between
the specified AIDs */
;
```

RELATED TL1 MESSAGES

DLT-CRS-OCH

RTRV-CRS-OCH

NAME

ENT-CRS-rr: Enter Cross Connect

The **ENT-CRS-rr** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT-CRS-modifier:tid:src_aid,dest_aid:ctag[::[cct]:];

Beginning in Release 2.1, the following input format is applicable.

ENT-CRS-
modifier:tid:src_aid,dest_aid:ctag[::[cct]][:spec_block]];

Beginning in Release 6.0, the following input format is applicable.

ENT-CRS-
modifier:tid:src_aid,dest_aid:ctag[::[cct[,src2_aid]][:spec_block]];

DESCRIPTION

The **ENT-CRS-rr** command establishes tributary cross-connections in the system. Different types of cross-connections, *add-drop* and *pass-through* (both of them two-way in the sense that a single command takes care of the transmit and receive directions) can be established by setting the appropriate parameters in the input command line.

By definition, a locked cross-connection is one in which traffic is dropped from a single UPSR ring channel to a DS1 or DS3 interface. The cross-connection is locked in the sense that the drop traffic is not path protected and is always selected from the specified UPSR ring channel.

Beginning in Release 5.0, the definition of a locked cross-connection is expanded to include one in which traffic is dropped from a single UPSR ring channel to a 0x1Sn interface.

Beginning in Release 7.0, in systems equipped with VLF mains, the 0x1 application replaces the 0x1Sn application. Consequently, the definition of a

locked cross-connection is expanded to include one in which traffic is dropped from a single UPSR ring channel to a 0x1 interface.

Beginning in Release 7.1, this command does not apply for WDM packs (OMDs, Muxponders), which do not have addressable tributaries. For optical channel cross-connections, see **ENT-CRS-0CH**. For a description of how client ports are handled, see **ENT-OTPE**.

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

In response to the **ENT-CRS-rr** command, the NE issues a **REPT DBCHG** message with *ccb*=ENT-CRS-rr for the creation of the cross-connection.

In response to the **ENT-CRS-rr** command to create a **2WAYPR** cross-connection, the NE issues a **REPT DBCHG** message, with *ccb*=ENT-PROTN-GRP, for each STS-n or VT1.5 path protection group that is created when the cross-connection is established.

Creation of a **2WAYPR** cross-connection may result in the creation of no path protection groups, a single path protection group for one direction of transmission or two path protection groups, one for each direction of transmission.

Beginning in Release 6.0, support for **2WAYPR** cross-connections is discontinued. Consequently the NE does not issue any **REPT DBCHG** messages associated with the creation of such cross-connections.

In response to the **ENT-CRS-rr** command to create a **1WAYPR** cross-connection, the NE issues a **REPT DBCHG** message, with *ccb*=ENT-PROTN-GRP, for the STS-n or VT1.5 path protection group that is created when the cross-connection is established.

In response to the **ENT-CRS-rr** command to create a **1WAY** or **1WAYPR** cross-connection, the NE issues one or more report **REPT DBCHG** messages as follows in the order indicated.

1. If the execution of the **ENT-CRS-rr** command for a 1-way cross-connection results in the creation of a 2-way cross-connection, the NE issues a **REPT DBCHG** message, with *ccb*=DLT-CRS-rr, for deletion of the pre-existing 1-way cross-connection which was combined with the newly created 1-way cross-connection to form a 2-way cross-connection.
2. The NE issues a **REPT DBCHG** message, with *ccb*=ENT-CRS-rr, for the creation of the cross-connection which results from the execution of the **ENT-CRS-rr** command whether it be a 1-way cross-connection or a 2-way cross-connection.

Beginning in Release 6.0, support for 2-way cross-connections is discontinued. Consequently, in response to the **ENT-CRS-rr** command to create a **1WAY** or

1WAYPR cross-connection, the NE only issues a single **REPT DBCHG** message for the created cross-connection.

Beginning in Release 6.0, in the **REPT DBCHG** message for a **1WAYPR** atomic cross-connection, the slot 1 ring channel input is reported as the *src_aid* and the slot 2 ring channel input is reported as the *src2_aid*, regardless of the order in which the AIDs were specified in the command.

In response to the **ENT-CRS-rr** command to create a **MLTPT** cross-connection, the NE issues two **REPT DBCHG** messages, one for the connected channel on each affected VCG.

Beginning in Release, 6.0, **MLTPT** cross-connections are 1-way cross-connections and a single **MLTPT** cross-connections establishes transmission only on the specified VCG. Consequently, in response to the **ENT-CRS-rr** command to create a **MLTPT** cross-connection, the NE issues a single **REPT DBCHG** message, for the creation of the cross-connection to the specified VCG.

In response to an **ENT-CRS-rr** command which results in two bridged **1WAY** cross-connections whose outputs are on complementary **UPSR** ring channels, the NE issues the following **DBCHG** notifications in the order specified.

1. The NE issues a **REPT DBCHG** message with *ccb*=DLT-CRS-rr for the deletion of the pre-existing **1WAY** cross-connection to one of the ring channels.
2. The NE issues a **REPT DBCHG** message with *ccb*=ENT-CRS-rr for the creation of a **1WAYPR** cross-connection whose output aid is the corresponding **UPSR** channel AID.

In response to an **ENT-CRS-rr** command which results in two bridged **1WAYPR** cross-connections whose outputs are on complementary **UPSR** ring channels, the NE issues the following **DBCHG** notifications in the order specified.

1. The NE issues a **REPT DBCHG** message with *ccb*=DLT-CRS-rr for the deletion of the pre-existing **1WAYPR** cross-connection to one of the ring channels.
2. The NE issues a **REPT DBCHG** message with *ccb*=ENT-CRS-rr for the creation of a **1WAYPR** cross-connection whose output aid is the corresponding **UPSR** channel AID.

Beginning in Release 6.0, in response to the **ENT-CRS-rr** which results in a bridged cross-connection, the NE only issues a single **REPT DBCHG** message for the newly created cross-connection.

INPUT PARAMETERS

Table 2-151. ENT-CRS-rr Input Parameters (cont 1 of 3)

Parameter Name	Description
<i>modifier</i>	This is the command modifier for the ENT-CRS-rr command. This required field will only have one of the following values: ■ STS1 This specifies that an STS-1 cross-connection be established. ■ STS3c This specifies that an STS-3c cross-connection be established. ■ STS12c This specifies that an STS-12c cross-connection be established. ■ STS48c This specifies that an STS-48c cross-connection be established. ■ VT1 This specifies that a VT1.5 cross-connection be established.
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>src_aid</i>	Source Access Identifier. The <i>src_aid</i> is a required parameter and must address a valid channel or VCG. See Appendix A - AID Tables. Beginning in Release 6.0, <i>src_aid</i> identifies the input of a 1WAY cross-connection or the first input of a 1WAYPR cross-connection. ALL is not allowed in the <i>src_aid</i> for this command at the STS-1 or higher level, but is allowed at the VTG or VT1.5 level. ALL is not allowed in the <i>src_aid</i> for this command at the VTG or VT1.5 level when provisioning cross-connections on the LNW74 pack

Table 2-151. ENT-CRS-rr Input Parameters (cont 2 of 3)

Parameter Name	Description
	Supported AID formats: ■ STS-n channel ■ VT1.5 channel ■ STS-n ring channel ■ VT1.5 ring channel ■ STS-n logical ring channels ■ VT1.5 logical ring channels Beginning in Release 6.0, logical ring channel aids are used to specify the source and destination of a cross-connection. Refer to Appendix A - AID Tables for the definition of the logical ring channel aids. In a multi-shelf DCS system utilizing a single TID, src_aid may specify a tributary (ring channel) of a customer interfacing port in a subshelf. See Appendix A for the list supported subshelf ring channel AIDs.
dest_aid	Destination Access Identifier. The dest_aid is a required parameter and must address a valid channel of the NE in order to be accepted. See Appendix A - AID Tables. ALL is not allowed in the dest_aid for this command at the STS-1 or higher level, but is allowed on the VTG/VT1.5 level. Supported AID Formats: the same formats as are supported in src_aid. In a multi-shelf DCS system utilizing a single TID, dest_aid may specify a tributary (ring channel) of a customer interfacing port in a subshelf. See Appendix A for the list supported subshelf ring channel AIDs.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax, and a description of this parameter.

Table 2-151. ENT-CRS-rr Input Parameters (cont 3 of 3)

Parameter Name	Description
cct	Cross-connection Type. This parameter specifies the type of cross-connection requested and will be null, or will have one of the following values: ■ 2WAYPR Two-Way Pair. This requests a two-way cross-connection between the source and destination. This is the default value; if the cct value is null or omitted, 2WAYPR will be used. For BLSR applications 2WAYPR will be used to establish 2-way point-to-point cross-connections. Beginning in Release 6.0, 2WAYPR is no longer a supported value. If the cct value is null or omitted, the default value of 1WAY will be used. ■ MLTPT MultiPoint. This requests a multipoint (unprotected) cross-connection between the source and destination in a non-path switched ring configuration be established. The MLTPT cross connect type can be used only for cross-connections involving Ethernet interface cards. When using MLTPT cross-connections, a signal locking mechanism is provided. Beginning in Release 6.0, MLTPT is no longer a supported value. Multipoint cross-connections are provisioned by setting chappl=UNSWITCHED. ■ 1WAY A 1-way point-to-point cross-connection between the src_aid to the dest_aid. ■ 1WAYPR A 1-way path-protected cross-connection from the src_aid to the dest_aid, where src_aid is an STSn channel aid or a VT1.5 channel aid. Beginning in Release 6.0, 1WAYPR specifies a 1-way path-protected cross-connection with two inputs, src_aid and src2_aid, and one output, dest_aid.
src2_aid	Second Source Access Identifier. See "Appendix A - AID Tables". src2_aid identifies the second input of a 1WAYPR cross-connection. It is required and supported only for 1WAYPR cross-connections. See src_aid for the list of supported aid values and formats.
spec_block	The spec_block parameters are listed and described in the following table.

Table 2-152. ENT-CRS-rr Input *spec_block* Parameters (cont 1 of 4)

Parameter Name	Description of Spec_Block Parameters
<i>chappl</i>	Channel Application. <i>chappl</i> specifies that the cross-connection is an unswitched cross-connection. For these cross-connections, internal equipment protection is disabled. If the parameter is omitted from the ENT-CRS-rr command, internal equipment protection is enabled. Values include: ■ UNSWITCHED Setting <i>chappl</i>=UNSWITCHED on supported path-protected cross-connections from UPSR interfaces also disables path switching. Beginning in Release 6.0, setting <i>chappl</i>=UNSWITCHED on path-protected cross-connections from UPSR interfaces is no longer supported. Beginning in Release 6.0, multipoint cross-connections are provisioned by setting <i>chappl</i>=UNSWITCHED.
<i>circuitid</i>	Circuit Identifier. <i>circuitid</i> is a quoted text string of up to 36 ASCII characters. The permitted character set consists of the 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language), with the following exceptions: the ; (semicolon), " (double quote), and \ (backslash) characters are not permitted within the quoted string. Setting <i>circuitid</i>="" (i.e. specifying a null string) in the command is the equivalent of omitting the <i>circuitid</i> parameter. <i>circuitid</i> is a provisionable attribute of an STSn rate cross-connection. Beginning in Release 5.0, <i>circuitid</i> is a provisionable attribute of a VT1 rate cross-connection.

Table 2-152. ENT - CRS - rr Input *spec_block* Parameters (cont 2 of 4)

Parameter Name	Description of Spec_Block Parameters
<i>loca</i>	Identifies the <i>tid</i> of the node at which service, carried on <i>src_aid</i>, is added to the BLSR. A non-NULL <i>loca</i> is required if the input is a channel in a BLSR port protection group. This parameter is not applicable to ADD and non-BLSR connections. Values: See <i>tid</i> in the RTRV - HDR command. For VT1 BLSR cross-connections and VT-accessed STS1 BLSR pass-through cross-connections, <i>loca</i> identifies the <i>tid</i> of the nearest upstream node in the ring at which the STS1 signal is VT connected. <i>loca</i> may not be entered in commands in which <i>cct=MLTPT</i> or in which <i>chappl=UNSWITCHED</i>. If automatic squelch map generation is enabled (see <i>rcmode=AUTO</i> in RTRV - PROTN - GRP), <i>loca</i>, as required above, may be omitted. However, when provisioning 1-way cross-connections it is recommended to include <i>loca</i> in the command in accordance with the above statements. Beginning in Release 6.0, <i>cct=MLTPT</i> is no longer supported. Multipoint cross-connections are provisioned by setting <i>chappl=UNSWITCHED</i>.
<i>locz</i>	Identifies the <i>tid</i> associated with <i>dest_aid</i> of the node at which service is dropped from the BLSR. A non-NULL <i>locz</i> is required if the output is a channel in a BLSR port protection group. This parameter is not applicable to DROP and non-BLSR connections. Values: See <i>tid</i> in the RTRV - HDR command. For VT1 BLSR cross-connections and VT-accessed STS1 BLSR pass-through cross-connections <i>locz</i> identifies the <i>tid</i> of the nearest downstream node in the ring at which the STS1 signal is VT connected. <i>locz</i> may not be entered in commands in which <i>cct=MLTPT</i> or in which <i>chappl=UNSWITCHED</i>. If automatic squelch map generation is enabled (see <i>rcmode=AUTO</i> in RTRV - PROTN - GRP), <i>locz</i> may be omitted. However, when provisioning 1-way cross-connections it is recommended to include <i>locz</i> in the command in accordance with the above statements. Beginning in Release 6.0, <i>cct=MLTPT</i> is no longer supported. Multipoint cross-connections are provisioned by setting <i>chappl=UNSWITCHED</i>.

Table 2-152. ENT-CRS-rr Input *spec_block* Parameters (cont 3 of 4)

Parameter Name	Description of Spec_Block Parameters
vtacc	VT Accessed: vtacc is an attribute of a STS1 BLSR pass-through cross-connection. It specifies that the STS1 transports VTs which are cross-connected at the VT1 rate at other nodes in the circuit. Values: YES - VT-accessed This parameter is omitted for cross-connections which are not VT-accessed. If automatic squelch map generation is enabled (see <i>rcmode</i>=AUTO in RTRV-PROTN-GRP), vtacc may be omitted.
vtloca	VT loca: vtloca is the source node tid of a VT1 BLSR cross-connection. A non-Null vtloca is required for VT1 cross-connections if and only if src_aid is a VT1.5 in a BLSR protection group, subject to the following exceptions: vtloca must not be provisioned for VT1 pass-through cross-connections and VT1 UNSWITCHED cross-connections. Values: See tid in the RTRV-HDR command. If automatic squelch map generation is enabled (see <i>rcmode</i>=AUTO in RTRV-PROTN-GRP), vtloca may be omitted.
vtlocz	VT locz: vtlocz is the destination node tid of a VT1 BLSR cross-connection. A non-Null vtlocz is required for VT1 cross-connections if and only if dest_aid is a VT1.5 in a BLSR protection group, subject to the following exceptions: vtlocz must not be provisioned for 1-way VT1 cross-connections, VT1 pass-through cross-connections and VT1 UNSWITCHED cross-connections. Values: See tid in the RTRV-HDR command. If automatic squelch map generation is enabled (see <i>rcmode</i>=AUTO in RTRV-PROTN-GRP), vtlocz may be omitted. Beginning in Release 6.0, vtlocz is no longer supported as it is not required for 1-way cross-connections.

Table 2-152. ENT-CRS-rr Input *spec_block* Parameters (cont 4 of 4)

Parameter Name	Description of Spec_Block Parameters
<i>xcappl</i>	Cross-connection Application: <i>xcappl</i> is provided as a means to identify the application in which the cross-connection is used. The management system can use <i>xcappl</i> in conjunction with <i>xcnum</i> to uniquely identify a set of cross-connections associated with one instance of an application. Values: 0-255 (Default = 0) The mapping of applications to numeric values is a management system function.
<i>xcnum</i>	Cross-Connection Number: <i>xcnum</i> is provided as a means to identify the instance of the application (<i>xcappl</i>) in which the cross-connection is used. The management system can use <i>xcnum</i> in conjunction with <i>xcappl</i> to uniquely identify a set of cross-connections associated with one instance of an application. Values: Any 9-digit number is acceptable. The suggested format of the 9 digits is as follows: 2 digits for the slot, 2 digits for the port, 3 digits for the STS tributary and 2 digits for the VT tributary. The default value is 000000000.

OUTPUT FORMAT

If the **ENT-CRS-rr** request completes successfully, the following normal completion response is returned.

```
sid date time
M ctag COMPLD
;
```

The NE returns the following normal (successful) completion response to an **ENT-CRS-rr** command to establish a cross-connection which is identical to an existing cross-connection. No **REPT DBCHG** message is issued.

```
sid date time
M ctag COMPLD
;
```


Beginning in 3.1, in response to an **ENT-CRS-rr** command to establish a cross-connection which is identical to an existing cross-connection, the NE does not return the normal successful completion message indicated above. Instead the NE denies the command and issue an appropriate denial message identified in the error responses.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, support for **2WAYPR** cross-connections is discontinued. 2-way connectivity is achieved by provisioning multiple 1-way cross-connections. In addition all cross-connections must be provisioned using logical ring channel aids. Consequently, unless otherwise specified, the following examples should be considered invalid in Release 6.0.

The following example establishes a two-way (add/drop) cross-connection between an STS-1 channel in the high-speed OC-n interface (m-1-2) and a low-speed DS3 port (b-1).

```
ENT-CRS-STs1:TID123:m-1-2,b-1:123456;
```

```
IP 123456
<
  TID123 00-11-26 16:42:11
M 123456 COMPLD
;
```

The following example establishes a two-way pass-through cross-connection for the VT1.5 channel in the high-speed OC-48 lines (m-1-2-5-4) in an OC-48 Path Switched Ring.

```
ENT-CRS-VT1:TID123:m-1-2-5-4,m-1-2-5-4:Z89abc::2waypr;
```

```
IP 123456
<
  TID123 00-11-26 16:42:11
M 123456 COMPLD
;
```

Notice that there are two colons between the **ctag** of "z89abc" and the **cct** of **2WAYPR**.

If there had been another **VT1 2WAYPR** path already established in the system (for the same address), the command would not have COMPLD at the DMX shelf. A DENY would have resulted instead.

The following example establishes a two-way hairpin cross-connection between an STS-1 channel in the low-speed 4OC-3 interface (a-1-2) and a low-speed DS3 port (b-1).

ENT-CRS-STS1:TID123:a-1-2,b-1:123456

```
IP 123456
<
  TID123 00-11-26 16:42:11
M 123456 COMPLD
;
```

The following example establishes a pass-through STS-3c cross-connection between the STS-3c channels in the OC-48 interfaces in the main slots occupying m-1-7, m-1-8, and m-1-9.

ENT-CRS-STS3c:TID123:m-1-7,m-1-7:654321::2waypr;

```
IP 654321
<
  TID123 00-11-26 16:54:33
M 654321 COMPLD
;
```

If any of m-7, m-8, or m-9 were already involved in another cross-connection, then the command would not have completed.

The following example establishes an STS-3c hairpin cross-connection between the STS-3c channels in the 2OC-12 interfaces in Fn-a (a-1-1) and 2OC-12 interfaces in Growth (g-2-1).

ENT-CRS-STS3c:TID123:a-1-1,g-2-1:654321::2waypr;

```
IP 654321
<
  TID123 00-11-26 16:54:33
M 654321 COMPLD
;
```

The following example establishes an **STS3c** add/drop cross-connection between the 4OC-3 interface in the function slot "b", and the STS-3c channel in the high-speed OC-48 interface (m-1-10).

```
ENT-CRS-STs3c:TID123:m-1-10,b-1-1:654321::2waypr;
```

```
IP 654321
<
  TID123 00-11-26 16:54:33
M 654321 COMPLD
;
```

If there had been no OC-3 interface in the function slot "b" or if any of m-1-10, m-1-11, m-1-12, b-1-1, b-1-2, and b-1-3 were already involved in another cross-connection, or if the OC-3 interface had been set up for an application other than 0X1, 1+1 or UPSR, then the command would not have completed.

The following example establishes a **2WAYPR** (UPSR) cross-connection between the STS-1 channels in the OC-48 main interfaces m-1-7, and the low-speed 10/100 Fast Ethernet interface.

```
ENT-CRS-STs1:TID123:m-1-7,d-v1-1:654321::2waypr;
```

```
IP 654321
<
  TID123 00-11-26 16:54:33
M 654321 COMPLD
;
```

If any of m-1-7, or d-v-1-1 were already involved in another cross-connection, then the command would not have completed.

The following example establishes a **2WAYPR** (add/drop) cross-connection between a VT1.5 channel in the high-speed OC-192 interface (m-1-191-3-3), and a low-speed VT1.5 channel (b-1-1-1-4) in the OC-48 interface in Function slot "b".

```
ENT-CRS-VT1:TID123:m-1-191-3-3,b-1-1-1-4:123456;
```

```
IP 123456
<
  TID123 00-11-26 16:42:11
M 123456 COMPLD
;
```

The following example establishes a **2WAYPR** (add/drop) cross-connection between an STS-3c channel in the high-speed OC-192 interface (m-1-10), and a low-speed STS-3c channel in the OC-48 interface located in Function slot "b".

```
ENT-CRS-STs1:TID123:m-1-10,b-1-1:123456;
```

```
IP 123456
<
  TID123 00-11-26 16:42:11
M 123456 COMPLD
;
```

The following example establishes a **VT1** hairpin cross-connection between the VT1.5 channels in the two OC-12 interfaces in Fn-a (a-1-1-4-3), and the two OC-12 interfaces in Growth (g-2-1-4-3).

```
ENT-CRS-VT1:TID123:a-1-1-4-3,g-2-1-4-3:654321::2waypr;
```

```
IP 654321
<
  TID123 00-11-26 16:54:33
M 654321 COMPLD
;
```

The following example establishes a **2WAYPR** (add/drop) cross-connection between a VT1.5 channel in the high-speed OC-48 interface (m-1-40-3-3), and a low-speed VT1.5 channel (b-10-1-4) in the EC-1 interface in Function slot "b".

```
ENT-CRS-VT1:TID123:m-1-40-3-3,b-10-1-4:123456;
```

```
IP 123456
<
  TID123 00-11-26 16:42:11
M 123456 COMPLD
;
```

The following example establishes a **2WAYPR** (add/drop) cross-connection between a VT1.5 channel in the high-speed OC-48 interface (m-1-40-3-3), and a low-speed VT1.5 channel (a-1-1-4) in the DS1 interface in Function slot "a".

```
ENT-CRS-VT1:TID123:m-1-40-3-3,a-1-1-4:123456
```

```
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
;
```

The following example establishes a two-way (add/drop) cross-connection between an STS-1 channel in the high-speed BLSR OC-n interface (m1-1-2), and a low-speed DS3 port (b-1).

```
ENT-CRS-STS1:TID123:m1-1-2,b-1:123456:::locz=TID1232;
```

```
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
;
```

The following example establishes a two-way (add/drop) cross-connection between an STS-3c channel in the low-speed OC-n interface (a-1-4), and the high-speed BLSR OC-n interface (m2-1-7).

```
ENT-CRS-STS3c:TID123:a-1-4,m2-1-7:123456:::locz=TID1232;
```

```
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
;
```

The following example establishes a two-way (add/drop) cross-connection between an STS-12c channel on the two high-speed BLSR interfaces m1-1-13 and m2-1-13.

```
ENT-CRS-STs12c:TID123:m1-1-13,m2-1-13:123456:::loca=TID1232,locz=TID1233;
```

```
IP 123456
<
    TID123 00-11-26 16:42:11
M 123456 COMPLD
;
```

The following example establishes a 1-way hairpin cross-connection between two BLSR rings. From the standpoint of provisioning *loca* and *locz*, the cross-connection is treated as a drop from a ring (Ring1) with protection group fn-d-1 and an add to a ring (Ring2) with protection group growth-1.

```
ENT-CRS-STs12c:TID123:d1-1-5,g2-1-10:123456::1way:loca=Ring1-addnode-TID,locz=Ring2-dropnode-TID;
```

```
IP 123456
<
    TID123 00-11-26 16:42:11
M 123456 COMPLD
;
```

The following example establishes a two-way (add/drop) VT1 cross-connection between an DS1 interface and a VT1.5 ring channel on the high-speed BLSR OC-n interface.

```
ENT-CRS-VT1:TID1231:m2-1-7-1-4,a-1-1-1:123456:::loca=TID1232,vtloca=TID1234;
```

```
IP 123456
<
    TID1231 00-11-26 16:42:11
M 123456 COMPLD
;
```

The following example establishes a two-way VT1 pass-through cross-connection on the high-speed BLSR OC-n interface.

```
ENT-CRS-VT1:TID1232:m2-1-7-1-4,m1-1-7-1-4:123456:::loca=TID1234,locz=TID1231;  
  
IP 123456  
<  
    TID1232 00-11-26 16:42:11  
M 123456 COMPLD  
;
```

The following example establishes a two-way VT-accessed STS1 pass-through cross-connection on a low-speed BLSR OC-n interface.

```
ENT-CRS-STs1:TID1233:g2-1-7,g1-1-7:123456:::loca=TID1234,locz=TID1232,vtacc=YES;  
  
IP 123456  
<  
    TID1233 00-11-26 16:42:11  
M 123456 COMPLD  
;
```

The following examples establishes an **STS1** 1-way point-to-point cross-connection from the LS UPSR interface, a-1-5 to the HS BLSR interface m2-1-4.

```
ENT-CRS-STs3c:TID123:a-1-5,m2-1-4:123456:::1way:locz=TID1232;  
  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
;
```

The following examples establishes an **STS3c** 1-way path-protected cross-connection from the HS UPSR interface, m-1-1 to the LS 1+1 interface b-1-4.

```
ENT-CRS-STs3c:TID123:m-1-1,b-1-4:123456::1waypr;
```

```
IP 123456
<
  TID123 00-11-26 16:42:11
M 123456 COMPLD
;
```

The following example establishes a two-way (add/drop) **STS3c** cross-connection, with **chappl** = **UNSWITCHED**, between the low-speed OC-n channel a-1-4 and the high-speed OC-n UPSR ring channel m-1-7.

```
ENT-CRS-STs3c:TID123:a-1-4,m-1-7:123456:::chappl=UNSWITCHED;
```

```
IP 123456
<
  TID123 00-11-26 16:42:11
M 123456 COMPLD
;
```

The following example establishes a two-way (add/drop) **STS1** cross-connection, with **circuitid** = "**Boston to Chicago**", between the low-speed OC-n channel g-1-4 and the high-speed OC-n UPSR ring channel m-1-7.

```
ENT-CRS-STs1:TID123:g-1-4,m-1-7:123456:::circuitid="Boston to Chicago";
```

```
IP 123456
<
  TID123 00-11-26 16:42:11
M 123456 COMPLD
;
```

The following examples are valid beginning in Release 6.0.

The following examples create two **1WAY VT** cross-connections that provide 2-way connectivity between a DS1 interface and a HS BLSR interface.

```
ENT-CRS-VT1:123:a1-1-1-1,m1-1-13-1-2:654321::1WAY:circuitid=\"DS1 to BLSR  
WEST\", locz=TID456,xcappl=70,xcnum=030100101;
```

```
IP 654321  
<  
    123 05-12-30 16:54:33  
M 654321 COMPLD  
;
```

```
ENT-CRS-VT1:123:m1-1-13-1-2,a1-1-1-1:654322:::circuitid=\"BLSR WEST to  
DS1\", loca=TID456,vt loca=TID789,xcappl=70,xcnum=030100101;
```

```
IP 654322  
<  
    123 05-12-30 16:55:33  
M 654322 COMPLD  
;
```

The following examples create two **1WAY STS1** cross-connections that provide 2-way UPSR pass-through connectivity.

```
ENT-CRS-ST1:TID123:m1-1-1,m2-1-1:654321::1WAY:circuitid=\"UPSR WEST to UPSR  
EAST\",xcappl=11,xcnum=030100101;
```

```
IP 654321  
<  
    TID123 05-12-30 16:54:33  
M 654321 COMPLD  
;
```

```
ENT-CRS-ST1:TID123:m2-1-1,m1-1-1:654322:::circuitid=\"UPSR EAST to UPSR  
WEST\",xcappl=11,xcnum=030100101;
```

```
IP 654322  
<  
    TID123 05-12-30 16:55:33  
M 654322 COMPLD  
;
```

The following examples create four **1WAYPR STS1** hairpin cross-connections that provide 2-way connectivity between two LS UPSR interfaces.

```
ENT-CRS-STs1:TID123:d1-1-1,g1-2-1:654321::1WAYPR,d2-1-1:circuitid=\"UPSR1 to  
UPSR2 WEST\",xcappl=21,xcnum=110200100;
```

```
IP 654321  
<  
    TID123 05-12-30 16:54:33  
M 654321 COMPLD  
;
```

```
ENT-CRS-STs1:TID123:d1-1-1,g2-2-1:654322::1WAYPR,d2-1-1:circuitid=\"UPSR1 to  
UPSR2 EAST\",xcappl=21,xcnum=110200100;
```

```
IP 654322  
<  
    TID123 05-12-30 16:55:33  
M 654322 COMPLD  
;
```

```
ENT-CRS-STs1:TID123:g1-2-1,d1-1-1:654323::1WAYPR,g2-2-1:circuitid=\"UPSR2 to  
UPSR1 WEST\",xcappl=21,xcnum=110200100;
```

```
IP 654323  
<  
    TID123 05-12-30 16:56:33  
M 654323 COMPLD  
;
```

```
ENT-CRS-STs1:TID123:g1-2-1,d2-1-1:654324::1WAYPR,g2-2-1:circuitid=\"UPSR2 to  
UPSR1 EAST\",xcappl=21,xcnum=110200100;
```

```
IP 654324  
<  
    TID123 05-12-30 16:57:33  
M 654324 COMPLD  
;
```

The following examples create three **STS1** hairpin cross-connections that provide 2-way connectivity between a LS UPSR interface and a LS 1+1 interface.

```
ENT-CRS-STs1:TID123:d1-1-1,g1-2-1:654321::1WAYPR,d2-1-1:circuitid=\"UPSR to 1+1\",xcappl=13,xcnum=110200100;
```

```
IP 654321
<
  TID123 05-12-30 16:54:33
M 654321 COMPLD
;
```

```
ENT-CRS-STs1:TID123:g1-2-1,d1-1-1:654322::1WAY:circuitid=\"1+1 to UPSR WEST\",xcappl=13,xcnum=110200100;
```

```
IP 654322
<
  TID123 05-12-30 16:55:33
M 654322 COMPLD
;
```

```
ENT-CRS-STs1:TID123:g1-2-1,d2-1-1:654323::1WAY:circuitid=\"1+1 to UPSR EAST\",xcappl=13,xcnum=110200100;
```

```
IP 654323
<
  TID123 05-12-30 16:56:33
M 654323 COMPLD
;
```

The following examples create four **1WAY STS3C UNSWITCHED** cross-connections that provide 2-way unswitched connectivity between a HS UPSR interface and a LS UPSR interface.

```
ENT-CRS-STs3c:TID123:m1-1-1,d1-1-1:654321::1WAY:chappl=UNSWITCHED,circuitid=\"UPSR1 WEST to UPSR2 WEST\",xcappl=23,xcnum=090100100;
```

```
IP 654321
<
  TID123 05-12-30 16:54:33
M 654321 COMPLD
;
```

```
ENT-CRS-STs3c:TID123:d1-1-1,m1-1-1:654322::1WAY:chappl=UNSWITCHED,  
circuitid=\"UPSR2 WEST to UPSR1 WEST\",xcappl=23,xcnum=090100100;
```

```
IP 654322  
<  
    TID123 05-12-30 16:55:33  
M 654322 COMPLD  
;
```

```
ENT-CRS-STs3c:TID123:m2-1-1,d2-1-1:654323:::chappl=UNSWITCHED,  
circuitid=\"UPSR1 EAST to UPSR2 EAST\",xcappl=23,xcnum=090100100;
```

```
IP 654323  
<  
    TID123 05-12-30 16:56:33  
M 654323 COMPLD  
;
```

```
ENT-CRS-STs3c:TID123:d2-1-1,m2-1-1:654324:::chappl=UNSWITCHED,  
circuitid=\"UPSR2 EAST to UPSR1 EAST\",xcappl=23,xcnum=090100100;
```

```
IP 654324  
<  
    TID123 05-12-30 16:57:33  
M 654324 COMPLD  
;
```

The following examples create four **1WAY STS1 UNSWITCHED** cross-connections that provide 2-way multipoint connectivity between a HS UPSR interface and an Ethernet interface.

```
ENT-CRS-STs1:TID123:m1-1-1,d1-v1-1:654321::1WAY:chappl=UNSWITCHED,  
circuitid=\"UPSR WEST to VCG\",xcappl=14,xcnum=090100100;
```

```
IP 654321  
<  
    TID123 05-12-30 16:54:33  
M 654321 COMPLD  
;
```

```
ENT-CRS-STs1:TID123:d1-v1-1,m1-1-1:654322::1WAY:chappl=UNSWITCHED,  
circuitid=\"VCG to UPSR WEST\",xcappl=14,xcnum=090100100;
```

```
IP 654322  
<  
    TID123 05-12-30 16:55:33  
M 654322 COMPLD  
;
```

```
ENT-CRS-STs1:TID123:m2-1-1,d1-v2-1:654323:::chappl=UNSWITCHED,  
circuitid=\"UPSR EAST to companion VCG\",xcappl=14,xcnum=090100100;
```

```
IP 654323  
<  
    TID123 05-12-30 16:56:33  
M 654323 COMPLD  
;
```

```
ENT-CRS-STs1:TID123:d1-v2-1,m2-1-1:654324:::chappl=UNSWITCHED,  
circuitid=\"companion VCG to UPSR EAST\",xcappl=14,xcnum=090100100;
```

```
IP 654324  
<  
    TID123 05-12-30 16:57:33  
M 654324 COMPLD  
;
```

The following examples create two VT1.5 cross-connections that provide 2-way connectivity between a DS1 tributary (of an LNW20 TMUX) in the main shelf of a Multi-shelf DCS system and a DS1 tributary in subshelf #2.

```
ENT-CRS-VT1:TID123:b1-1-1-1,2-a1-1-1-1:654321::1WAY:circuitid=\"Multi-shelf  
DCS DS1 main to subshelf\",xcappl=13,xcnum=050100101;
```

```
IP 654321  
<  
    TID123 10-12-30 16:54:33  
M 654321 COMPLD  
;
```

```
ENT-CRS-STS1:TID123:2-a1-1-1-1,b1-1-1-1:654322::1WAY:circuitid=\"Multi-shelf  
DCS DS1 subshelf to main\",xcappl=13,xcnum=050100101;
```

```
IP 654322  
<  
    TID123 10-12-30 16:55:33  
M 654322 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

When using the LNW66 10/100 Fast Ethernet card in **MLTPT** or **2WAYPR** (UPSR) mode, only VCG number 1 can be provisioned by the user; otherwise, the following error response is returned.

```
sid date time  
M ctag DENY  
  IIAC  
  /* Input, Invalid ACcess identifier, AID is missing, wrong or  
    inconsistent with the modifier */  
;
```

When using the LNW67 or LNW68 1 GbE Ethernet card in **MLTPT** or **2WAYPR** (UPSR) mode, only VCGs 1 and 3 can be provisioned by the user; otherwise, the following error response is returned.

```
sid date time  
M ctag DENY  
  IIAC  
  /* Input, Invalid ACcess identifier, AID is missing, wrong or  
    inconsistent with the modifier */  
;
```

Beginning in Release 6.0, the previous 2 error checks are replaced by the following one.

If the NE receives an **ENT-CRS-rr** command, with no specified value of the **chappl** parameter, to provision a cross-connection to the second VCG of a VCG pair on an Ethernet pack that does not support such a connection (see the table

entitled "Ethernet/Data Pack AID Ranges" in Appendix A), then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, entered VCG cannot be
  provisioned by the user */
;
```

When using a 1 GbE Ethernet card, if the card is in NOTAG mode, a multipoint cross connect is not allowed and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, mltpt cross connect not allowed when
  board is in NOTAG mode */
;
```

If the NE receives a request to establish a cross-connection on an unsupported VCG channel of an Ethernet card, the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, entered VCG cannot be
  provisioned by the user */
;
```

If the NE receives an **ENT-CRS-rr** command with the same parameter specified more than once (with the exception of cases in which the source and destinations

must be the same for pass-through cross-connections), the following error response is returned.

```
sid date time
M ctag DENY
IISP
/* Input, Invalid Syntax or Punctuation, parameter(s)
   multiply defined */
;
```

If the NE receives an **ENT-CRS-rr** command with an invalid command code **modifier**, the following error response is returned.

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

If the NE receives an **ENT-CRS-rr** command without a valid **aid**, the following error response is returned.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
   inconsistent with modifier */
;
```

If a system receives an **ENT-CRS-rr** command with an invalid **cct** value, the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid CCT */
;
```


Beginning in Release 6.0, the previous error response is replaced by the following one.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid cct */
;
```

If a system receives an **ENT-CRS-rr** command where the source and destination AIDs represent two different timeslots (ring channels) of the UPSR, the following error response is returned.

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, shelf equipage does not allow requested
    crossconnection */
;
```

If the NE receives an otherwise valid **ENT-CRS-rr** command but the system does not support the specified cross-connection, then the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, cross-connection not supported between
    the specified AIDs */
;
```

If the NE receives an otherwise valid **ENT-CRS-rr** command but the requested cross-connection is not supported in combination with one or more existing cross-connections, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, unsupported cross-connection
  combination */
;
```

If the NE receives an otherwise valid **ENT-CRS-rr** command, but the target interfaces do not support the specified rate, then the following error response is returned.

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, shelf equipage does not allow requested
  cross connection */
;
```

If the network element receives an otherwise valid **ENT-CRS-rr** command, but for which the system is not properly equipped, the following error response is returned.

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, shelf equipage does not allow requested
  cross connection */
;
```

The following examples provide some sample cases where the above error would result.

- The system receives an otherwise valid cross-connection command, but the slot pair addressed by at least one of the **aids** in the input command is equipped with a mix of incompatible circuit packs.

If the NE receives an **ENT-CRS-rr** command to provision a cross-connection to the channel or ring channel of a pluggable transmission module on an OLIU pack or on an Ethernet or Data pack operating in a private line mode, and a pluggable

transmission module for that line or port does not appear in the equipment list, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, shelf equipage does not allow requested
    cross connection */
;
```

Note, for optical lines that are part of a protection group, the command is accepted if the pluggable transmission module for the specified line or its companion appears in the equipment list.

If the NE receives an otherwise valid **ENT-CRS-rr** command, but for which the cross-connection cannot be made because the addressed **src_aid** or **dest_aid** is already involved in an existing cross-connection, the following error response is returned.

```
sid date time
M ctag DENY
  SACC
  /* Status, Already Cross Connected */
;
```

Beginning in Release 3.1, the previous error response is superseded by the following two responses.

If the NE receives an otherwise valid **ENT-CRS-rr** command, but the number of cross-connections originating from the specified **src_aid** is already at the limit supported by the system, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SACC
  /* Status, Already Cross Connected */
;
```

If the NE receives an otherwise valid **ENT-CRS-rr** command, but the specified **dest_aid** is already involved in an existing cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SACC
  /* Status, Already Cross Connected */
;
```

Note that the ring channels associated with an LNW20 port with *eif*=T3 and *pmd*=PORTLESS (see **RTRV-rr**) may be cross-connected at both the STS1 and at the VT1.5 rates in both directions at the same time. In one direction, an STS1 containing a channelized DS3 is cross-connected to the LNW20 T3 port as the destination. The LNW20 extracts the DS1s from the DS3, and maps them into VT1.5s. These VT1.5s may then be individually cross-connected as source signals to any valid VT destination (including another LNW20 port). In the other direction, VTs are cross-connected to the LNW20 portless port, and the DS1 is extracted and muxed into a DS3, which is mapped into an STS1. The STS1 may be cross-connected as source to any valid STS1 destination. Note that these cross-connections may be made in any order.

Therefore, for portless LNW20 T3 ports, the above error response applies only if the NE receives a request for a second cross-connection to the specified **dest_aid** at the same rate (the STS1 and its 28 constituent VTs may each simultaneously be the destination of a cross-connection).

Beginning in Release 5.0, If the NE receives an otherwise valid **ENT-CRS-rr** command to provision a duplicate cross-connection, i.e., one in which the **src_aid** and **dest_aid** are identical to those of an existing cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IEAE
  /* Input, Entity Already Exists, duplicate cross-connection */
;
```

Beginning in Release 6.0 the previous error check includes further restrictions, as follows.

If the NE receives an otherwise valid **ENT-CRS-rr** command to provision a duplicate cross-connection, i.e., one in which the **modifier**, **src_aid**, **src2_aid**,

dest_aid, ***cct*** and ***chappl*** are identical to those of an existing cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IEAE
  /* Input, Entity Already Exists, duplicate cross-connection */
;
```

If the NE receives an otherwise valid **ENT-CRS-rr** command, but the entered command (if executed) would exceed its DS1 cross-connection capacity (four STS-1s), the following error response is returned.

```
sid date time
M ctag DENY
  SROF
  /* Status, Requested Operation Failed, cross-connect
    capacity is not available */
;
```

When using the LNW26 OC-48 OLIU, and the sum of [(High Speed STS-1s that are VT1.5 cross-connected) + (Low Speed STS-1s on OC-3, OC-12 and/or EC-1 that are VT1.5 cross-connected)] is greater than or equal to 12 STS-1s total, then there will be restrictions on establishing VT1.5 pass-through cross connects. The following cases summarize those restrictions.

Whenever the user exceeds the total of 12 STS-1s with VT1.5 cross-connects (High-Speed STS-1s + Low-Speed STS-1s), the VT1.5 cross connects will be restricted to Add-Drops, and an autonomous message (of the status condition level) is created indicating the restriction of VT1.5 cross connects on High-speed STS-1s to Add-Drop only (no VT1.5 cross connects). The description of this message is: "Cross-connect restriction - VT pass-thru not allowed" with the STS AID. This warning message should be heeded unless the user intends to restrict the NE to a hub application (Add-Drop cross connects - no Pass-throughs).

When the 12 STS-1 limit is exceeded, the only allowed VT cross-connect type is Add-Drop. Otherwise, the request is denied for VT Pass-Through, and the following message displayed.

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, only VT add/drop cross-
connections allowed */
;
```

If the NE receives an otherwise valid **ENT-CRS-rr** command but the entered command, if executed, would exceed the VT1.5 cross-connection capacity of the NE, the following error response is returned.

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, cross-connect
capacity is not available */
;
```

If the NE receives an otherwise valid **ENT-CRS-rr** command, but the NE is synchronizing its database between the SYSCTL and secondary storage on the mains, the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, tx download in progress, retry later.
*/
;
```

Beginning in Release 6.0, the previous error check is discontinued. Main packs are no longer used for secondary storage.

If the NE receives an otherwise valid **ENT-CRS-VT1** command but the command, if executed, would access an unavailable VT1.5, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, VT is not available */
;
```

If the NE receives an otherwise valid **ENT-CRS-STS1** command to establish an STS-1 cross-connection to a 28-port DS1 pack, but the command, if executed, would access unavailable bandwidth to the DS1 pack, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, STS-1 cross-connect
   capacity to DS1 pack is not available */
;
```

If the NE receives an otherwise valid **ENT-CRS-rr** command to establish a cross-connection to a channel of a port in a BLSR port protection group, and a valid ring map for the specified BLSR port protection group is not stored in NVM, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, Invalid Ring Map */
;
```

For BLSR protection groups requiring manual squelch map entry, If the NE receives an **ENT-CRS-rr** command where the value of the **loca** parameter is not compliant with the following rules.

- A non-NULL source TID (**loca**) is required if the input AID (**src_aid**) is a ring channel on a port in a BLSR port protection group.
- A non-NULL source TID (**loca**) is a TID in the active ring map.

- The source TID (**loca**) is NULL if the input (**src_aid**) is not a ring channel on a port in a BLSR port protection group.

The command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, loca not valid */
;
```

If the NE receives an **ENT-CRS-rr** command containing a non-NULL value of the **loca** parameter and in which **cct=MLTPT** or **chappl=UNSWITCHED** the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, loca not valid */
;
```

Beginning in Release 4.0, if the NE receives an **ENT-CRS-rr** command where the value of the **loca** parameter is not compliant with the following rules,

- A non-NULL **loca** parameter is required if the **src_aid** is a ring channel on a port in a BLSR port protection group requiring manual squelch map provisioning, and the cross-connection is NOT one of the following types:
 - a multipoint cross-connection
 - an unswitched cross-connection
- A non-NULL **loca** parameter is permitted if the **src_aid** is a ring channel on a port in a BLSR port protection group with automatic squelch map generation enabled, and the cross-connection is NOT one of the following types:
 - a multipoint cross-connection
 - an unswitched cross-connection
- A non-NULL **loca** parameter is a TID in the active ring map.
- If the **modifier=VT1**, the value of **loca** must be the same as the value of **loca** associated with any existing VT1 cross-connection which is carrying traffic dropped from that STS1.
- The **loca** parameter is NULL if the **src_aid** is not a ring channel on a port in a BLSR port protection group.

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, loca not valid */
;
```

For BLSR protection groups requiring manual squelch map entry, if the NE receives an **ENT-CRS-rr** command where the value of the **locz** parameter is not compliant with the following rules,

- A non-NULL destination TID (**locz**) is required if the output AID (**dest_aid**) is a ring channel on a port in a BLSR port protection group.
- A non-NULL destination TID (**locz**) is a TID in the active ring map.
- The destination TID (**locz**) is NULL if the output (**dest_aid**) is not a ring channel on a port in a BLSR port protection group.

the command is denied, and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, locz not valid */
;
```

If the NE receives an **ENT-CRS-rr** command containing a non-NULL value of the **locz** parameter and in which **cct=MLTPT** or **chappl=UNSWITCHED** the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, locz not valid */
;
```

Beginning in Release 4.0, if the NE receives an **ENT-CRS-rr** command where the value of the **locz** parameter is not compliant with the following rules,

- A non-NULL **locz** parameter is required if the **dest_aid** is a ring channel on a port in a BLSR port protection group requiring manual squelch map provisioning, and the cross-connection is NOT one of the following types:
 - a multipoint cross-connection

- an unswitched cross-connection
- A non-NULL **locz** parameter is permitted if the **dest_aid** is a ring channel on a port in a BLSR port protection group with automatic squelch map generation enabled, and the cross-connection is NOT one of the following types:
 - a multipoint cross-connection
 - an unswitched cross-connection
- A non-NULL **locz** parameter is a TID in the active ring map.
- If the **modifier=VT1**, the value of **locz** must be the same as the value of **locz** associated with any existing VT1 cross-connection which is carrying traffic added to that STS1.
- The **locz** parameter is NULL if the **dest_aid** is not on ring channel on a port in a BLSR port protection group.

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, locz not valid */
;
```

If the NE receives an **ENT-CRS-rr** command where the value of the **vtloca** parameter is not compliant with the following rules,

- A non-NULL **vtloca** parameter is required if and only if the **modifier=VT1** and the **src_aid** is a VT1 ring channel on a port in a BLSR port protection group requiring manual squelch map provisioning, and the cross-connection is NOT one of the following types:
 - a pass-through cross-connection
 - an unswitched cross-connection
- A non-NULL **vtloca** parameter is permitted if and only if the **modifier=VT1** and the **src_aid** is a VT1 ring channel on a port in a BLSR port protection group with automatic squelch map generation enabled, and the cross-connection is NOT one of the following types:
 - a pass-through cross-connection
 - an unswitched cross-connection
- A non-NULL **vtloca** parameter is a TID in the active ring map.
- The **vtloca** parameter is NULL if the **src_aid** is not a VT1 ring channel on a port in a BLSR port protection group.

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, unexpected or invalid vtloca */
;
```

If the NE receives an **ENT-CRS-rr** command in which the **vtlocz** parameter which is not compliant with the following rules,

- A non-NULL **vtlocz** parameter is required if and only if the **modifier=VT1** and the **dest_aid** is a VT1 ring channel on a port in a BLSR port protection group requiring manual squelch map provisioning, and the cross-connection is NOT one of the following types:
 - a pass-through cross-connection
 - a 1-way cross-connection (**cct=1WAY** or **cct=1WAYPR**)
 - an unswitched cross-connection (**chappl=UNSWITCHED**)
- A non-NULL **vtlocz** parameter is permitted if and only if the **modifier=VT1** and the **dest_aid** is a VT1 ring channel on a port in a BLSR port protection group with auto squelch map generation enabled, and the cross-connection is NOT one of the following types
 - a pass-through cross-connection
 - a 1-way cross-connection (**cct=1WAY** or **cct=1WAYPR**)
 - an unswitched cross-connection (**chappl=UNSWITCHED**)
- A non-NULL **vtlocz** parameter is a TID in the active ring map.
- The **vtlocz** parameter is NULL if the **dest_aid** is not a VT1 ring channel on a port in a BLSR port protection group.

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, unexpected or invalid vtlocz */
;
```

Beginning in Release 6.0, the previous error check is discontinued, since the **vtlocz** parameter is no longer supported.

If the NE receives an **ENT-CRS-rr** command where the value of the **vtacc** parameter is not compliant with the following rule,

- A non-NULL **vtacc** parameter is permitted if and only if the **modifier=STS1** and the resultant cross-connection is a BLSR pass-through cross-connection.

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, unexpected or invalid vtacc */
;
```

In systems not supporting protection access, if the NE receives an **ENT-CRS-rr** command with a **src_aid** or **dest_aid** that specifies a protection channel of a port in a BLSR protection group, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, protection access not supported */
;
```

In systems not supporting VT1.5 grooming of switched BLSR channels, if the NE receives an **ENT-CRS-rr** command, with the **modifier = VT1** and a **src_aid** or **dest_aid**, which is a channel on a port in a BLSR protection group, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, VT1.5 grooming of BLSR tributaries
not supported */
;
```

In systems not supporting BLSR TSI cross-connections, If the NE receives an **ENT-CRS-rr** command to establish such a cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, TSI cross-connections not supported
*/
;
```

In systems not supporting multipoint cross-connections to BLSR channels, If the NE receives an **ENT-CRS-rr** command to establish such a cross-connection, the command is denied and the following error response will be returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, multipoint cross-connections on BLSR
tributaries not supported */
;
```

In systems supporting Non-preemptible Unprotected Traffic (NUT), if the NE receives an **ENT-CRS-rr** command to establish a multipoint cross-connection on a BLSR channel (for which the NUT attribute is set to Protected or Preemptible), the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, NUT attribute not consistent with
mltpt cross-connection */
;
```

In systems not supporting cross-connections between BLSR channels and the channels of 0x1 ports, if the NE receives an **ENT-CRS-rr** command to establish such a cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, BLSR cross-connections to 0x1 ports
not supported */
;
```

In systems supporting Non-preemptible Unprotected Traffic (NUT), if the NE receives an **ENT-CRS-rr** command to establish a cross-connection between BLSR channel, for which NUT attribute is set to Protected or Preemptible, and an unswitched UPSR channel, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, NUT attribute not consistent with
cross-connections to unswitched channel */
;
```

In systems supporting Non-preemptible Unprotected Traffic (NUT), if the NE receives an **ENT-CRS-rr** command to establish an STS-Nc cross-connection to a BLSR channel or ring channel, and there is a mix of protected (*nutatr*=PROT/PREE) and unprotected (*nutatr*=NOTPR/NPREE or *nutatr*=TNOTP/TNPREE) STS-1 timeslots within the specified STS-Nc channel or ring channel, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, NUT attribute not consistent across
all timeslots */
;
```

If the NE receives an **ENT-CRS-rr** command to establish an STS-48c rate cross-connection on a channel of an OC-48 port in a BLSR protection group, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid rate */
;
```

In systems in which the main is equipped with OC-48 pack(s) with limited bandwidth in function slots a, b or c, it is permissible for the system to deny an otherwise valid **ENT-CRS-rr** command to establish a cross-connection on any channel in the range STS #25 to STS #48, and on a LS OC48 pack in any fna, fnb or fnc slot. For any of these commands that are denied, the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, cross-connect not supported between
  specified AIDs */
;
```

If the NE receives an otherwise valid **ENT-CRS-rr** command in which a specified **aid** is not consistent with the provisioned value of the application parameter of the port identified in the **aid**, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, aid not consistent with provisioned
  port application */
;
```

If the NE receives an **ENT-CRS-rr** command, with no specified value of the **chappl** parameter, to establish a **1WAY** cross-connection sourced from a UPSR ring channel and any of the following conditions exist,

- the specified cross-connection is a drop cross-connection and there is an existing 1WAY drop cross-connection sourced from the associated ring channel on the opposite UPSR port
- the specified cross-connection is a drop cross-connection and there is an existing cross-connection destined to the associated ring channel on the opposite UPSR port
- the specified cross-connection is a VT drop cross-connection and there is an existing 1WAY drop cross-connection sourced from any VT within the associated STS1 ring channel on the opposite UPSR port
- the specified cross-connection is a VT drop cross-connection and there is an existing cross-connection destined to any VT within the associated STS1 ring channel on the opposite UPSR port

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, associated ring channel already
cross-connected */
;
```

Beginning in Release 6.0.2, the following check replaces the previous check.

If the NE receives an **ENT-CRS-rr** command, with no specified value of the **chappl** parameter, to establish a **1WAY** cross-connection sourced from a UPSR ring channel and any of the following conditions exist,

- the specified cross-connection is a drop cross-connection and there is an existing 1WAY drop cross-connection sourced from the associated ring channel on the opposite UPSR port
- the specified cross-connection is a drop cross-connection and there is an existing cross-connection destined to the associated ring channel on the opposite UPSR port
- the specified cross-connection is a VT drop cross-connection and there is an existing 1WAY drop cross-connection sourced from the associated VT ring channel on the opposite UPSR port
- the specified cross-connection is a VT drop cross-connection and there is an existing 1WAY cross-connection destined to the associated VT ring channel on the opposite UPSR port

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, associated ring channel already
cross-connected */
;
```

Beginning in Release 7.0, when equipped with VLF mains (see Appendix D), the above restriction is removed, and the request is accepted. With VLF mains, associated UPSR ring channels may be independently cross-connected on all lines (main, function unit, and growth pairs).

If the NE receives an otherwise valid **ENT-CRS-rr** command to establish a 1-way cross-connection to a ring channel of a USPR and there is an existing 1-way cross-connection from a different source connected to the associated ring channel on the opposite rotation of the ring, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, associated ring channel already
cross-connected */
;
```

Beginning in Release 6.0 the previous error check is replaced by the following one.

If the NE receives an **ENT-CRS-rr** command, with no specified value of the **chappl** parameter, to establish a cross-connection destined to a UPSR ring channel and any of the following conditions exist,

- the specified cross-connection is an add cross-connection and there is an existing add cross-connection from a different source destined to the associated ring channel on the opposite UPSR port
- the specified cross-connection is an add cross-connection and there is an existing 1WAY drop cross-connection sourced from the associated ring channel on the opposite UPSR port
- the specified cross-connection is a VT add cross-connection and there is an existing 1WAY drop cross-connection sourced from any VT within the associated STS1 ring channel on the opposite UPSR port

then the command is denied and the following error response is returned. This check does not prohibit the ability to provision a **1WAY** add cross-connection destined to a UPSR ring channel together with a **1WAY** pass-through cross-connection sourced from the same ring channel.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, associated ring channel already
cross-connected */
;
```

Beginning in Release 7.0, when equipped with VLF mains (see Appendix D), the above restriction is removed, and the request is accepted. With VLF mains, associated UPSR ring channels may be independently cross-connected on all lines (main, function unit, and growth pairs).

If the NE receives an otherwise valid **ENT-CRS-rr** command to establish a cross-connection that would result in a bridge between traffic being dropped from a UPSR channel and traffic being dropped from a UPSR ring channel, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, requested bridge not supported */
;
```

Beginning in Release 6.0, the previous error check is replaced by the following one.

If the NE receives an **ENT-CRS-rr** command to establish a cross-connection that would result in a bridge between a **1WAY** UPSR drop cross-connection and one input of a **1WAYPR** USPR drop cross-connection, the command is denied and the following error response is returned. This error check does not prohibit the ability

to provision a **1WAY** pass-through cross-connection together with a **1WAYPR** drop cross-connection.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, requested bridge not supported */
;
```

Beginning in Release 7.0, when equipped with VLF mains (see Appendix D), the above restriction is removed, and the request is accepted. With VLF mains, associated UPSR ring channels may be independently cross-connected on all lines (main, function unit, and growth pairs).

If the NE receives an otherwise valid **ENT-CRS-rr** command to establish a 1-way cross-connection that would result in a bridge where one output is a ring channel on one rotation of a UPSR and the other output is a different ring channel on the opposite rotation of the same UPSR, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, requested bridge not supported */
;
```

Beginning in Release 6.0, the previous error check is discontinued and the cross-connection is accepted.

If the NE receives an otherwise valid **ENT-CRS-rr** command to establish a VT cross-connection that would result in a bridge between a VT UPSR drop cross-connection and a VT UPSR pass-through cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, requested bridge not supported */
;
```

If the NE receives an otherwise valid **ENT-CRS-rr** command to establish a cross-connection that would result in a bridge of unswitched cross-connections from a VCG tributary where one output is any slot1 ring channel and the other output is any slot2 ring channel, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, requested bridge not supported */
;
```

Beginning in Release 7.0, the previous error check is discontinued and the cross-connection is accepted.

If the NE receives an otherwise valid **ENT-CRS-rr** command to establish a **1-WAY** cross-connection and the specified source or destination is already in use for a cross-connection in the opposite direction at a different rate, the command is denied and the following error response is returned. This denial includes requests to establish simultaneous VT1 and STSNc cross-connections involving the same STS-1 in opposite directions.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, asymmetric rate cross-connections
not supported */
;
```

If the NE receives an **ENT-CRS-rr** command to establish a bridged cross-connection at a rate that is different from that of the other cross-connection sharing the same input, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNC
/* Input, Data Not Consistent, rate not consistent with existing
cross-connection */
;
```

If the NE receives an **ENT-CRS-rr** command to establish a bridged cross-connection between a signal with switched traffic and a signal with unswitched traffic. The command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, bridging of switched and unswitched
(0x1) cross-connections not supported */
;
```

If the NE receives an otherwise valid **ENT-CRS-rr** command with a non-null value of the **chappl** parameter, and at least one of the specified aids is not a channel on a UPSR port, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Input, Data Not Valid, unexpected chappl parameter */
;
```

Beginning in Release 6.0, the previous error check is no longer supported. All checks for appropriate values of the **chappl** parameter are covered by other error checks.

If the NE receives an otherwise valid **ENT-CRS-rr** command in which the specified channel application is not supported between the ports identified by the **src_aid** and **dest_aid** (for example, an unswitched cross-connection to a 1+1 port), then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, channel application not supported
between specified ports */
;
```

If the NE receives an **ENT-CRS-rr** command, with **chappl=UNSWITCHED**, and either of the following conditions exist,

- the **src_aid** is a UPSR ring channel and there is a cross-connection sourced from the associated ring channel on the opposite UPSR port that is not an UNSWITCHED cross-connection
- the **dest_aid** is a UPSR ring channel and there is a cross-connection destined to the associated ring channel on the opposite UPSR port that is not an UNSWITCHED cross-connection

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, chappl conflicts with existing
cross-connection */
;
```

Beginning in Release 7.0, when equipped with VLF mains (see Appendix D), the above restriction is removed, and the request is accepted. With VLF mains, associated UPSR ring channels may be independently cross-connected on all lines (main, function unit, and growth pairs).

The NE denies all **ENT-CRS-rr** commands that result in a cross-connection, with no specified value of the **chappl** parameter, and an UNSWITCHED cross-connection on the same VCG. The following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, chappl conflicts with existing
cross-connection */
;
```

The NE denies all **ENT-CRS-rr** commands that result in a cross-connection, with no specified value of the **chappl** parameter, on one VCG of a VCG pair (see Appendix A), and an UNSWITCHED cross-connection on the other VCG of the

VCG pair, on an LNW66, LNW67, LNW68 or LNW71 pack. The following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, chappl conflicts with existing
cross-connection */
;
```

If the NE receives an **ENT-CRS-rr** command, with **chappl=UNSWITCHED**, to establish a cross-connection between a tributary of an RPR VCG and an OC-n ring channel, and the same tributary on the companion VCG of the RPR VCG pair is cross-connected, with **chappl=UNSWITCHED**, to or from an OC-n ring channel, then if the specified OC-n ring channel is not the companion OC-n ring channel of the cross-connection to/from the companion VCG, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, unsupported cross-connection
combination */
;
```

Beginning in Release 6.0.1 the previous error check is discontinued and the cross-connection is accepted.

If the NE receives an otherwise valid **ENT-CRS-rr** command to establish a VT1 cross-connection to a LS OC-N UPSR port or port pair, and the specified or default channel application is different than the channel application used to establish another VT1 cross-connection within the same LS STS-1, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, channel application different than
existing VT cross-connection */
;
```

Beginning in Release 6.0, the previous error check is replaced by the following one.

If the NE receives an **ENT-CRS-VT1** command to establish a VT1 add or drop cross-connection within an STS-1 on a LS UPSR port, and the specified or default channel application is different from the channel application associated with an existing VT1 add or drop cross-connection within the same LS STS-1, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, channel application different than
  existing VT cross-connection */
;
```

Beginning in Release 7.0, the previous error check does not apply in shelves equipped with VLF mains. Mixing of VT1s with different channel applications in the same STS-1 within a UPSR application is allowed.

If the NE receives an **ENT-CRS-rr** command containing an invalid value of the **circuitid** parameter, the command is denied, and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid circuitid parameter value */
;
```

If the NE receives an **ENT-CRS-VT1** command containing the **circuitid** parameter, the command is denied, and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, unexpected circuitid parameter */
;
```

Beginning in Release 5.0, **circuitid** is a provisionable attribute of a VT1 cross-connection. Consequently, the previous error check is discontinued.

If the NE receives an otherwise valid **ENT-CRS-rr** command and at least one of the specified aids is used in a test access connection, the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, existing test access connection */
;
```

The NE denies all **ENT-CRS** commands which would result in mixing of a locked (VT1 or STS1) cross-connection with any cross-connection other than another locked cross-connection sourced from the same STS1 timeslot of a UPSR. The following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, connection not supported because of
constraints on locked cross-connections */
;
```

Beginning in Release 6.0.2, the previous error check is discontinued. Mixing of locked and non-locked cross-connections on different VTs within the same STS1 is supported.

The NE denies all **ENT-CRS** commands to establish a cross-connection which uses the companion timeslot of an existing locked cross-connection. The following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, connection not supported because of
constraints on locked cross-connections */
;
```

Beginning in Release 6.0, the previous error check is discontinued. The associated check for locked cross-connections is covered by another error check which results in a different error response.

If the NE receives an otherwise valid **ENT-CRS-rr** command to establish a cross-connection and the required connection bandwidth is not available at the backplane interface of the specified pack(s), the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SARB
   /* Status, All Resources Busy, required cross-connection bandwidth
is not available */
;
```

The required connection bandwidth may not be available in the following situations:

- the I/O capacity of the pack exceeds the backplane capacity to the slot in which the pack is equipped
- a portion of the available bandwidth of a pack is provisioned to be allocated for low-order cross-connections only (thus limiting the number of supported high-order cross-connections)
- contiguous bandwidth is not available to support STSn rate cross-connections, where $n > 1$

If the NE receives an otherwise valid **ENT-CRS-rr** command and the system is provisioned to be in ring upgrade mode (see **RTRV-SYS**, *nemode=RING-UPGRADE*), the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, command Not allowed in Ring Upgrade
mode */
;
```

Beginning in Release 6.0, the previous error response is replaced with the following one.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, command not allowed in Ring Upgrade
mode */
;
```

If the NE receives an otherwise valid **ENT-CRS-rr** command but the command cannot complete because the target pack requires a software upgrade, the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SROF
   /* Status, Requested Operation Failed, APPLY command needed first
  */
;
```

If the NE receives an otherwise valid **ENT-CRS-rr** command to provision a cross-connection on a tributary of a VCG that supports virtual concatenation and both of the following conditions exist,

- There is an existing cross-connection on another tributary of the specified VCG
- Virtual concatenation is disabled on the specified VCG (see **RTRV-VCG**, *vcat=DISABLE*)

the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, multiple cross-connections not
  supported when vcat is disabled */
;
```

If the NE receives an **ENT-CRS-rr** command containing an invalid value of the **xcappl** parameter, the command is denied, and the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid xcappl parameter value */
;
```

If the NE receives an **ENT-CRS-rr** command containing an invalid value of the **xcnum** parameter, the command is denied, and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid xcnum parameter value */
;
```

If the NE receives an **ENT-CRS-rr** command in which **src2_aid** is missing or unexpected, based on the specified **cct**, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, missing or unexpected src2_aid */
;
```

If the NE receives an **ENT-CRS-rr** command addressed to a ring channel associated with an unavailable T3 port (**RTRV-T3**, *pmd*=UNAVAIL), the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, cannot cross-connect UNAVAIL T3 */
;
```

If the NE receives an **ENT-CRS-rr** command addressed to a ring channel associated with an optical line which has *signaltype* set to STNA (see **RTRV-rr**), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed when
signaltype=STNA */
;
```

If the NE receives an **ENT-CRS-rr** command addressed to a ring channel associated with an optical line which has *portclass* set to ENNI (see **RTRV-CPORT**), the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, command not allowed when portclass
is ENNI */
;
```

If the NE receives an **ENT-CRS-rr** command addressed to a ring channel in an EDGE port (see **RTRV-CPORT**), and the ring channel is already involved in a control plane cross-connection, the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, tributary has existing control plane
connection */
;
```

If the NE receives an **ENT-CRS-rr** command to provision a cross-connection on a tributary of a multi-shelf DCS OC-n inter-shelf interface, the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, cross-connection not supported on
multi-shelf DCS */
;
```

If the NE receives an **ENT-CRS-rr** command to provision a cross-connection on a tributary in a subshelf of a multi-shelf DCS and there is a TIM-S-D alarm on OC-n inter-shelf interface, the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
/* Status, Not in Valid State, subshelf optical link mismatch */
;
```

RELATED TL1 MESSAGES

ED-CRS-rr

DLT-CRS-rr

REPT DBCHG

RTRV-CRS-rr

NAME

ENT-ERATE: Enter Ethernet Rate service

The **ENT-ERATE** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 5.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT-ERATE: *tid:aid:ctag::[tagid],[cos]:spec_block;*

DESCRIPTION

The **ENT-ERATE** is used to create an Ethernet QoS service on circuit packs that support QoS services.

The **ENT-ERATE** command applies only to the following circuit packs:

- LNW70
- LNW78

Services are created and accessed based on the **trafmgmtmd** that had been provisioned at the port, the port **aid**, the value of **tagid** and the value of **cos**. Together these will uniquely address a particular service within the network element. The number of services that can be addressed is dependent on the value of **trafmgmtmd** and are given as follows:

- **trafmgmtmd** = NOTCLayer 2 bridging will occur but there will be no QoS services at the port.
- **trafmgmtmd** = PORT1 QoS service per port
- **trafmgmtmd** = COSPORT1 QoS service per **cos** value per port
- **trafmgmtmd** = TAGPORT1 QoS service per **tagid** value per port
- **trafmgmtmd** = COSTAGPORT1 QoS service per **cos** value per **tagid** value per port

For all modes only services that are allowed as indicated in the following table can be accessed (using **ENT-ERATE/ED-ERATE/DLT-ERATE**) and retrieved (using **RTRV-ERATE**).

<i>trafmgmtmd</i>	Allowed Values to Access Service		
	Port <i>aid</i>	<i>tagid</i>	<i>cos</i>
NOTC	None	None	None
PORT	All values	blank	blank
TAGPORT	All values	1-4093	blank
COSPORT	All values	blank	0-3
COSTAGPORT	All values	1-4093	0-3

The ***trafmgmtmd*** can be changed by provisioning a new value of ***trafmgmtmd*** only when no services exist on the port. Before changing ***trafmgmtmd*** all services must have been deleted (with **DLT-ERATE**).

Also, when ***vlantagmd***=NOTAG (see **ED-EQPT**), ***pir*** and ***pbs*** can be provisioned.

Starting in release 6.0, the following apply for the LNW70:

The number of services that can be addressed for ***trafmgmtmd***= PORT is enhanced as follows:

- 1 QoS service per port, when higher layer protocol classification is not used (***hlayercos*** is NONE).
- 1 QoS service per ***cos*** value per port when ***hlayercos*** is set DSCP.

The table above is modified as follows:

<i>trafmgmtmd</i>	Allowed Values to Access Service		
	Port <i>aid</i>	<i>tagid</i>	<i>cos</i>
NOTC	None	None	None
PORT	All values	blank	<i>blank or 0-3</i>
TAGPORT	All values	1-4093	blank
COSPORT	All values	blank	0-3
COSTAGPORT	All values	1-4093	0-3

The **ENT-ERATE** command cannot be used if **porttype** for the port pointed to by **aid** is set to INTERIOR or if **trafmgmtmd** is set to NOTC.

The maximum number of services that can be created by **ENT-ERATE** is as listed below. Attempts to create more services will be denied.

- LNW70 400 services per circuit pack for all ports

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT-ERATE** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV-EQPT prot_state** = PROT, the **ENT-ERATE** command generates a **REPT DBCHG** message for an addressed VCG and its companion.

INPUT PARAMETERS

Table 2-153. ENT-ERATE Input Parameters (cont 1 of 2)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
aid	Access Identifier. The aid can address an Ethernet port on an LNW70 circuit pack. Starting in release 7.0, the aid can address a VCG, an Ethernet port, or a Link Aggregation Group (LAG) on an LNW70 circuit pack. The aid cannot address a port that is a member of a LAG. References to a port also apply to a LAG. Starting in release 6.0, the aid can address an Ethernet port on an LNW78 circuit pack. Starting in release 7.0, the aid can address either an Ethernet port or an EoS VCG on an LNW78 circuit pack. Refer to the AID Table in Appendix A for valid AIDs.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
tagid	Tag ID. Represents the VLAN ID in 802.1TAG mode and represents the Port Tag ID in TRANS mode. Value: An integer in the range of 1 to 4093.

Table 2-153. ENT-ERATE Input Parameters (cont 2 of 2)

Parameter Name	Description
	If trafmgmtmd is set to PORT or COSPORT then tagid must be blank. If trafmgmtmd is set to TAGPORT or COSTAGPORT, then a valid numerical value for tagid must be entered and it must be a value that has been previously provisioned at the port. tagid must be blank on the LNW78.
cos	Class of Service. This parameter specifies the class of service that the parameters in this command apply to. Value: The allowed value is an integer between 0 and 3. ■ The value of 0 specifies CoS level 0. ■ The value of 1 specifies CoS level 1. ■ The value of 2 specifies CoS level 2. ■ The value of 3 specifies CoS level 3. For an RPR pack the allowed value is an integer between 1 and 3. ■ The value of 1 specifies CoS level 1 (Class C). ■ The value of 2 specifies CoS level 2 (Class B). ■ The value of 3 specifies CoS level 3 (Class A). If trafmgmtmd is set to PORT or TAGPORT then cos must be blank. Starting in release 6.0, the following apply for the LNW70: If trafmgmtmd is set to PORT and hlayercos is set to: ■ DSCP: then a valid cos must be entered. ■ NONE: then cos must be blank. If trafmgmtmd is set to COSPORT or COSTAGPORT, then a valid numerical value for cos must be entered. This parameter applies only to the following circuit packs: ■ LNW70 ■ LNW78
spec_block	Specific Block. The spec_block parameters are defined in the following table.

Table 2-154. ENT-ERATE input *spec_block* parameters. (cont 1 of 4)

Parameter Name	Description
<i>cbs</i>	Committed Burst Size. This is the committed burst size in kilobytes (1024 bytes) for the service addressed by the <i>trafmgmtmd</i>, port <i>aid</i>, <i>tagid</i>, and <i>cos</i>. Value: An integer in the range of 1 to 1024. For the LNW78 the range is 1 to 256. Starting in release 7.0, for the LNW70 and LNW78: Value: An integer in the range of 1 to 255. Initial value: 10 This value is chosen because it guarantees that the burst size is at least the max frame size possible (when jumbo frames up to 10K are used). Starting in release 7.0: Initial value: 20 In case of Private Line (<i>vlantagmd</i> set to NOTAG), the <i>cbs</i> value cannot be set (it takes on the <i>pbs</i> value). <i>cbs</i> cannot be set for CoS level 1 on an RPR pack.
<i>cir</i>	Committed Information Rate. This is the committed information rate of the traffic conditioner function in Mbps for the service addressed by the <i>trafmgmtmd</i>, port <i>aid</i>, <i>tagid</i>, and <i>cos</i>. Value: An integer in the range of 0 to 1000. The value of <i>cir</i> must be less than or equal to <i>pir</i>. A value of 0 means that there is no network commitment on incoming traffic. All traffic will be considered excess traffic. A value of 1000 means that there is no policing of the traffic. i.e., traffic will flow unconditioned. Starting in release 7.0, for the LNW70: Value: An integer in the range of 0 to 10000. The value of <i>cir</i> must be less than or equal to <i>pir</i>. A value of 0 means that there is no network commitment on incoming traffic. All traffic will be considered excess traffic. A value above the port rate (aggregate if a LAG) means that there is no policing of the traffic. i.e., traffic will flow unconditioned. Initial value: 0

Table 2-154. ENT-ERATE input *spec_block* parameters. (cont 2 of 4)

Parameter Name	Description
	In case of Private Line (<i>vlantagmd</i> set to NOTAG), the <i>cir</i> value cannot be set (it takes on the <i>pir</i> value). <i>cir</i> cannot be set for CoS level 1 on an RPR pack.
<i>pbs</i>	Peak Burst Size. This is the peak burst size in kilobytes (1024 bytes) for the service addressed by the <i>trafmgmtmd</i>, port <i>aid</i>, <i>tagid</i>, and <i>cos</i>. Value: An integer in the range of 1 to 1024. The value of <i>pbs</i> must be greater than or equal to <i>cbs</i>. For the LNW78 the range is 1 to 256. Starting in release 7.0, for the LNW70 and LNW78: Value: An integer in the range of 1 to 255. Initial value: 20 This value is chosen because it guarantees that the burst size is at least the max frame size possible (when jumbo frames up to 10K are used) in excess of the <i>cbs</i> value. Starting in release 7.0: Initial value: 30 <i>pbs</i> cannot be set for CoS level 3 on an RPR pack.
<i>pir</i>	Peak Information Rate. This is the peak information rate of the traffic conditioner function in Mbps. This is the <i>pir</i> for the service addressed by the <i>trafmgmtmd</i>, port <i>aid</i>, <i>tagid</i>, and <i>cos</i>. Value: An integer in the range of 0 to 1000. A value of 0 means that the traffic is halted. i.e., 0 Mbps. The value of <i>pir</i> must be greater than or equal to <i>cir</i>. Initial value: 1000 (= maximum line rate) A value of 1000 means that there is no policing of the traffic. i.e., traffic will flow unconditioned. Starting in release 7.0, for the LNW70: Value: An integer in the range of 0 to 10000. A value of 0 means that the traffic is halted. i.e., 0 Mbps. The value of <i>pir</i> must be greater than or equal to <i>cir</i>. Initial value: 10000 A value above the port rate (aggregate if a LAG) means that there is no policing of the traffic. i.e., traffic will flow unconditioned. <i>pir</i> cannot be set for CoS level 3 on an RPR pack.

Table 2-154. ENT-ERATE input *spec_block* parameters. (cont 3 of 4)

Parameter Name	Description
qospm	Enables Performance Monitoring data collection for the service addressed by the trafmgmtmd, port aid, tagid, and cos. Counters for the service will be re-initialized to 0 when qospm is toggled from DISABLE to ENABLE. Values allowed: ■ ENABLE - QoS performance monitoring is enabled (initial value) ■ DISABLE - QoS performance monitoring disabled
dftpri2cos	This parameter sets the traffic class of all packets that ingress the port with tagid and sets the cos value that will be inserted into the packet prior to egressing the NE. The cos value will be inserted into the user_priority bits. This parameter is only applicable if the port pointed to by aid has trafmgmtmd set to TAGPORT. Values allowed: Integers between 0-3, inclusive. Initial value: 0
userpri2cos	This parameter shows the user priority bit values that map to the specified cos value. It is a map consisting of 8 elements left-to-right in increasing order of user priority, where each element specifies whether the user priority value maps to the CoS ("1") or not ("0"). This parameter is only applicable if the port pointed to by aid has trafmgmtmd set to COSPORT, COSTAGPORT. Values allowed: A string of 8 characters from the set ("0","1"). Initial value: for cos 0: 01100000 for cos 1: 10010000 for cos 2: 00001100 for cos 3: 00000011 userpri2cos does not apply to an RPR pack. The mapping is specified by IEEE 802.17a-2004.
dscp2cos	Differentiated Services Code Point (DSCP) to associated CoS Level (cos) map. This parameter lists the DSCP integer (six bits of the DS field) values that map to the specified cos value. This parameter is only applicable if the port pointed to by aid has trafmgmtmd set to PORT and the hlayercos set to DSCP.

Table 2-154. ENT-ERATE input *spec_block* parameters. (cont 4 of 4)

Parameter Name	Description
	Values allowed: An ampersand-separated list of integers between 0 and 64. A dash "-" between 2 integers is allowed and represents a range. The value 64 is used to classify non DSCP traffic to a cos. A dash "-" without integers will remove all previously entered values. Any number can only be mapped to one service. Any DSCP value that is not mapped to a cos will default to class of service 0, even if cos 0 was not created using (ENT-ERATE). If value 64 (for non IP frames) is not assigned to a cos, it will be assigned by default to class of service 0. Removing a DSCP value from a cos may be done by omitting the value from the list of valid DSCP values for a cos. A value can be reassigned to a different cos (ED-ERATE) without being removed from a previous cos. A cos can be deleted (DLT-ERATE) without removing all its DSCP values, unassigned value will default to cos 0. Initial values are based on RFC2474, RFC2597, and RFC2598: ■ for cos 0: 0-9&11&13&15&26&28&30&34&36&38&44&50&52&54&58&60&62 ■ for cos 1: 16-25&27&29&31 ■ for cos 2: 10&12&14&32&33&35&37&39&40&43&45&47&64 ■ for cos 3: 46&48&49&51&53&55-57&59&61&63 This parameter applies only to the following circuit packs: ■ LNW70

OUTPUT FORMAT

If the network element (NE) fully complies with the **ENT-ERATE** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example is applicable when **vlantagmd** is 802.1TAG (802.1/VLAN Tag Mode) or TRANS (Transparent Mode):

```
ENT-  
ERATE:TID123:<aid>:123456::4093,1:pir=950,cir=300,pbs=125,cbs  
=125;
```

```
TID123 00-01-01 08:00:00
```

The following example is applicable when **vlantagmd** is NOTAG:

```
ENT-ERATE:TID123:<aid>:123456:::pir=950,pbs=125;
```

```
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example is applicable to the LN78:

```
ENT-ERATE:TID123:<aid>:123456::,1:pir=950,pbs=125;
```

```
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example is for **dscp2cos**:

```
ENT-ERATE:TID123:<aid>:123456::,1:pir=950,pbs=125,dscp2cos=0-  
8&12&34-50;
```

```
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If **aid** points to a port for which rate controls are not supported, then the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid Access Identifier, AID is missing, wrong, or refers
  to a port that does not support this TL1 command */
;
```

If **aid** points to a port that is on an LNW70 and if **trafmgmtmd** = NOTC then the following error response is returned:

```
sid date time
M ctag DENY
  ICNV
  /* Input, Command Not Valid, cannot provision QoS services when
  TRAFMGMTMD = NOTC */
;
```

If **porttype** = INTERIOR then the following error response is returned:

```
sid date time
M ctag DENY
  ICNV
  /* Input, Command Not Valid, cannot provision QoS services on an
  INTERIOR port */
;
```


If the number of services previously provisioned on the circuit pack addressed by **aid** is greater than or equal to 400, then the following error response is returned:

```
sid date time
M  ctag DENY
   SARB
   /* Status, All Resources Busy, maximum number of QoS services have
already been provisioned on circuit pack */
;
```

If the **aid** does not point to a port on a supported pack then the following error response is returned:

```
sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid Access Identifier, QoS services are not supported
on this pack */
;
```

If a port is a member of a Link Aggregation Group, the following error response is returned:

```
sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid ACcess identifier, one or more ports are members of a
LAG */
;
```

If the user enters a value for **tagid** that is not an integer in the range of 1-4093, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value for TAGID is not valid */
;
```

If the specified **tagid** (VLAN or Port Tag ID) has not been provisioned at the port pointed to by **aid**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IENE
   /* Input, Entity Not Exists, TAGID has not been provisioned at the
port */
;
```

If **trafmgmtmd** is set to "PORT" or "COSPORT" and the user inputs a value for **tagid**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, TAGID must not be specified with this
TRAFMGMTMD at this port */
;
```

If **trafmgmtmd** is set to "TAGPORT" or "COSTAGPORT" and the user does not specify a valid **tagid**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, no TAGID specified */
;
```

If the values for **aid**, **tagid** and **cos** point to a service that is already provisioned, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, QoS service already exists */
;
```

If the user enters a value for **cos** that is not an integer in the range of 0-3, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of COS is not valid */
;
```

If the user enters a value for **cos** on an RPR pack that is not an integer in the range of 1-3, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of COS is not valid */
;
```

If **trafmgmtmd** is set to "PORT" or "TAGPORT" and the user inputs a value for **cos**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, COS must not be specified with this
   TRAFMGMTMD at this port */
;
```

Starting in release 6.0, the previous error message is changed as follows:

If **trafmgmtmd** is set to TAGPORT and the user inputs a value for **cos**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, COS must not be specified with this
   TRAFMGMTMD at this port */
;
```

For the LNW70, If **trafmgmtmd** is set to PORT and **hlayercos** = NONE and the user inputs a value for **cos**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, COS must not be specified with this
   TRAFMGMTMD when HLAYERCOS is not set at this port */
;
```

If **trafmgmtmd** is set to “COSPORT” or “COSTAGPORT” and the user does not specify a valid **cos**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, no COS specified */
;
```

If the user enters a value for **cbs** that is not an integer in the allowed range, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, CBS out of range */
;
```

If the user enters a value for **cir** that is not an integer in the allowed range, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, CIR out of range */
;
```

If the user enters a **cir** value that is greater than **pir**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of PIR and CIR must meet the
   following relationship: CIR <= PIR */
;
```

In case of Private Line (**vlantagmd** is set to **NOTAG**), if the user enters a **cir** value, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, CIR cannot be set for a Private Line */
;
```

If the user enters a value for **pbs** that is not an integer in the allowed range, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, PBS out of range */
;
```

In case of Private Line (**vlantagmd** is set to **NOTAG**), if the user enters a **cbs** value, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, CBS cannot be set for a Private Line */
;
```

If the user enters a **cbs** value that is greater than **pbs**, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of PBS and CBS must meet the
   following relationship: CBS <= PBS */
;
```

If the user enters a value for **pir** that is not an integer in the allowed range, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, PIR out of range */
;
```

On an RPR pack, if the user enters a **cir** or **cbs** value when **cos** is 1, or when **trafmgmtmd** is set to **PORT** and **dftpri** is set to **1** (see **RTRV-EPORT**), then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, CIR or CBS do not apply to COS 1 */
;
```

On an RPR pack if the user enters a **pir** or **pbs** value when **cos** is 3, or when **trafmgmtmd** is set to **PORT** and **dftpri** is set to **3** for the port, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, PIR or PBS do not apply to COS 3 */
;
```

If the user enters a **qospm** value that is not either the string “ENABLE” or the string “DISABLE”, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, the value of QOSPM is not valid */
;
```

If the user enters a **dftpri2cos** value that is not an integer between 0-3, inclusive, then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, the value of DFTPRI2COS is not valid */
;
```

If the user enters a **dftpri2cos** value and the port pointed to by **aid** does not have **trafmgmtmd** set to TAGPORT, then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid TRAFMGMTMD for DFTPRI2COS */
;
```

If the user enters a **userpri2cos** value that is not an eight character string of 0 or 1s, then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, the value of USERPRI2COS is not valid */
;
```

If the user enters a **dscp2cos** value that is not as specified in the input parameter table above, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of DSCP2COS is not valid */
;
```

If the user enters a **userpri2cos** value and the port pointed to by **aid** does not have **trafmgmtmd** set to COSPORT, COSTAGPORT then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid TRAFMGMTMD for USERPRI2COS */
;
```

If the user enters a **dscp2cos** value and the port pointed to by **aid** does not have **trafmgmtmd** set to PORT, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid TRAFMGMTMD for DSCP2COS */
;
```


If the user enters a ***userpri2cos*** value and one of the user priority values is already provisioned for another service then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, USERPRI2COS value already provisioned */
;
```

If the user enters a value for any of the following parameters:

	<i>userpri2cos</i>	<i>cascadecos</i>
<i>dftpri2cos</i>	<i>aggregatetc</i>	

but the port specified in the ***aid*** is an Ethernet port or VCG on an LNW78 circuit pack, then the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, one or more input parameters not valid
with specified circuit pack */
;
```

RELATED TL1 MESSAGES

DLT-ERATE, ED-ERATE, RTRV-ERATE

NAME

ENT - ERP : Enter ERP Instance

The **ENT - ERP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT - ERP :*tid:aid:ctag::erpid,vrtswid:spec_block;*

DESCRIPTION

The **ENT - ERP** command creates an ERP (Ethernet Ring Protection) instance.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - ERP** command generates a **REPT DBCHG** message for the addressed slot. In case of protected LNW170s (*prot_state* (**ED - EQPT**)) a **REPT DBCHG** message is generated for the companion slot as well..

This command applies to the following packs : LNW70, LNW170.

INPUT PARAMETERS

Table 2-155. ENT - ERP Input Parameters

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access identifier. This is the address of a slot equipped with an Ethernet circuit pack. Refer to the AID Table for valid AIDs.
<i>ctag</i>	Correlation tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>erpid</i>	ERP ID: an alphanumeric string of up to 32 characters. It may not contain a hyphen("-"). The ERP ID must be unique per slot. The ERP ID has no network-wide significance. i.e there is no requirement that the same ERP ID must be provisioned on the port(s) at the remote network element(s) to which the port(s) at this network element are connected.
<i>vtswid</i>	Virtual Switch ID. Value: An integer in the range 1 to 16.
<i>spec_block</i>	Specific block. The <i>spec_block</i> parameters are defined in the following table.

Table 2-156. ENT - ERP Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>ERPport</i>	ERP port list. This is a mandatory parameter. An ampersand-separated list of 2 port AIDs. port AIDs can be Ethernet port AIDs or VCG AIDs. The second parameter in the list instead of a port AID can also be an ERP ID. In case of a sub-ring ERP, this refers to the Main ERP this sub-ring is connected to. All ports addressed by an ENT - ERP command must be in the same virtual switch.
<i>vlan</i>	VLAN identifier used for ERP signaling. This is a mandatory parameter. It is an integer in the range 1-4093.

Table 2-156. ENT - ERP Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
<i>protlink</i>	RPL (Ring Protection Link) identification. It is the aid (Ethernet port or VCG) of one of the 2 ERPports . A ring requires one (and only) one RPL. Therefore, this parameter is optional on any node of the ring.
<i>wtr</i>	Wait-to-Restore timer. A value in the range 1-12 minutes. Default is 5 min. Only applies to RPL Owners (nodes that have an RPL provisioned).
<i>guard</i>	Guard timer. A value in the range 10-2000 milliseconds in steps of 10 milliseconds. Default is 500 milliseconds. Prevents nodes from reacting to outdated information.
<i>mdlevel</i>	Maintenance Domain level. A value in the range 0-7. Default is 1. It is the service OAM maintenance domain level used in the ERP signaling control messages (R-APS).
<i>proptc</i>	Controls enabling propagation of Topology Change (TC) messages. Values : enable/disable. Default : disable. Only applies to sub-ring ERP instances where the sub-ring interconnects with its Main ring and controls whether a sub-ring topology change results in a TC message in the main ring.
<i>state</i>	Controls enabling the ERP instance. Values : enable/disable. Default : enable. When an ERP instance is disabled, it no longer participates in ERP signaling. Port block/unblock states remain unchanged and ERP messages are still forwarded (unless one of the ports is blocked).
<i>pri</i>	R-APS PDU priority. Represents the encoding of the p-bits in the R-APS VLAN tag. A value in the range 0-7. Default is 7.

OUTPUT FORMAT

If the network element (NE) fully complies with the **ENT - ERP** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
ENT-ERP:TID123:<aid>:123456::my_Erp,2:ERPport=a-v1&a-v2,vlan=1234;  
  
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the slot in the specified AID contains a circuit pack to which this command does not apply, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, circuit pack does not support ERP */  
;
```

If the specified erpid is not an alphanumeric string up to 32 characters, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, erpid not valid */  
;
```

If the entered **erpId** is already in use in the same Function or Growth Unit pair, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, ERPID already in use */
;
```

If the specified virtual switch id (**vrtswid**) is not within the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, vrtswid out of range */
;
```

If the **vlantagmd (ED-EQPT)** for the board is set to NOTAG, the following error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, ERP not supported in NOTAG mode */
;
```

If the **ERPport** parameter is missing, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, ERPport must be specified */
;
```

If the **vlan** parameter is missing, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, vlan must be specified */
;
```

If the port AIDs in **ERPport** do not contain two entries, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, ERPport syntax error */
;
```

If the first port AID in **ERPport** is not an Ethernet port or VCG AID, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, ERPport syntax error */
;
```

If both port AIDs in **ERPport** are the same, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, duplicate ERPports */
;
```


If any of the specified ERPports is not part of the circuit pack specified by the AID, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, Port list not consistent with AID */
;
```

If the ERP instance referenced in **ERPport** does not exist, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, referenced ERP does not exist */
;
```

If the ERP instance referenced in **ERPport** itself references another ERP instance i.e. is not composed of 2 physical port AIDs, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, referenced ERP not a Main Ring */
;
```

If the ERP instance referenced in **ERPport** already is configured to support 8 sub-rings, the following error response is returned:

```
sid date time
M ctag DENY
  SARB
  /* Status, All Resources Busy, maximum number of subrings reached */
;
```

If any of the specified ERPports are not members of the specified virtual switch, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, port is not a member of specified
virtual switch */
;
```

This error message is also returned if any of the ports implied by an ERP instance referenced in **ERPport** is not a member of the specified virtual switch.

If any of the specified **ERPport** AIDs are members of another group, the following error response is returned.

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, port is a member of another group */
;
```

This error message applies when the port is a member of another ERP instance, a spanning tree group, or a LAG.

If any of the specified **ERPport** AIDs are Ethernet port AIDs and the LNW170 runs in protected mode **prot_state (ED-EQPT)**, the following error response is returned.

```
sid date time
M ctag DENY
IENE
/* Status, Entity Not Exists, port is not available for ERP. */
;
```

If the specified **ERPport** AIDs have different roles ref **portrole (ED-EPORT/ED-VCG)**, the following error response is returned.

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, ERP ports should have the same port
role */
;
```

If any of the specified **ERPport** AIDs have CUSTOMER role ref **portrole (ED- EPORT/ED -VCG)** and the port belongs to a virtual switch whose tagmd is TRANS, the following error response is returned.

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, ERP port role not supported in this
mode */
;
```

If any of the specified **ERPport** AIDs are VCG port AIDs and the VCG has LCAS protection enabled [**htmr (ED -VCG)** != 99,999 ms], the following error response is returned.

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, ERP port cannot have LCAS protection
enabled. */
;
```

If the user enters a **vlan** that is not within the 1 to 4093 range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, VLAN ID out of range */
;
```

If the vlan is not unique among all sub-rings attached to the main ring referenced in **ERPport** , the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, VLAN not unique among sub-rings */
;
```

If the user enters a **vlan** that is not available because it is already in use on any of the **ERPports** (ref **dftporttag/addporttag** (**ED-EPOR**T/**ED-VCG**) or **ENT-VLAN**), the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, VLAN not available */
;
```

If the **protlink** AID is not one of the Ethernet port or VCG AIDs of this ERP instance, the following error response is returned.

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, protlink is not available for ERP. */
;
```

If the **protlink** AID is not an Ethernet port or VCG AID, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, protlink syntax error */
;
```

If the user enters a Wait to Restore Timer (**wtr**) value that is not within the 1 to 12 range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, WTR out of range */
;
```

If the user enters a Wait to Restore Timer (*wtr*) value and this is not an RPL owner node (*protlink*), the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, WTR only applicable to RPL owners
*/
;
```

If the user enters a Guard Timer (*guard*) value that is not within the 10 to 2000 range or is not a multiple of 10, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, GUARD out of range */
;
```

If the user enters a Maintenance Domain Level (*mdlevel*) value that is not within the 0 to 7 range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, mdlevel out of range */
;
```

If the user enables TC propagation (*proptc*) for an ERP instance that is not a sub-ring (second para in *ERPport*), the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, TC propagation cannot be enabled.
*/
;
```

If the user enters a priority (*pri*) value that is not within the 0 to 7 range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, priority out of range */
;
```

If the maximum number of *erpId* is reached (20 in unprotected mode, 16 in protected mode), and the user attempts to create another *erpId* in the same Function or Growth Unit pair, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, maximum number of ERPIDs already in use */
;
```

RELATED TL1 MESSAGES

DLT-ERP

ED-ERP

RTRV-ERP

NAME

ENT - FECOM: Enter Far End Communications

The **ENT - FECOM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT - FECOM:*tid:aid:ctag[:::spec_block];*

DESCRIPTION

The **ENT - FECOM** command enables or disables OSI operations communications over the DCC and IAO LAN ports independently. The **ENT - FECOM** command is also used to provision the DCC Network_Side/User_Side parameter, or to reset the IAO LAN ports.

The ENT-ULS command supports similar functionality for TCP/IP on the IAO LAN ports.

To assure some form of IAO LAN access is always available, the NE does not allow a user to disable both OSI and TCP/IP on both IAO LAN ports.

Starting in Release 3.1.1, it is not allowed for user to enable OSI for the rear IAO LAN port if TCP/IP is currently enabled for this port.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - FECOM** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-157. ENT - FECOM Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The AID identifies the DCC or IAO LAN address to which the command is to be applied, excluding AIDs ending with "-all". Refer to the AID Table for valid AIDs.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-158. ENT - FECOM Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>com</i>	This parameter enables or disables the OSI communication over the specified DCC or IAO LAN port. Valid values are ENABLED or DISABLED. The default value is ENABLED. Starting in Release 3.1.1, the default value is ENABLED for DCC and front IAO LAN port, and DISABLED for the rear IAO LAN port. Starting in Release 5.0, if the <i>application</i> is 0x1S1 or 0x1S2 (refer to RTRV-rr), for the DCC of the active port, the default value is ENABLED; for the DCC of the inactive companion port, the only valid value is DISABLED.
<i>side</i>	This parameter designates the NE's end of each DCC as either NS (network-side) or US (user-side). This designation is required for DCC communication and must be coordinated with the NE at the other end of each DCC span that is enabled. One end of each DCC span must be designated as the network-side and the other end of each DCC span must be designated as the user-side; otherwise, an alarm is reported. The default value depends on the optical port protection mode, slot and DCC AID.
<i>lanreset</i>	This value can only be Y (yes), and is only applicable when used with an IAO LAN AID. This resets the specified IAO LAN port.

The network and user **side** values are shown in the following table.

Table 2-159. DMX Default Network/User Side Values

Default DCC Network/User SIDE Values		Optical Port Protection Mode		
Slots	DCC AID	UPSR	0x1	Linear(1+1)
High-Speed Main Slots	dcc-m1-1	us	-	-
	dcc-m2-1	ns	-	-
	dcc-m-1	-	-	-
Low-Speed xOC-n in Function and Growth Slots	dcc-{a,b,c,d,g}{1}-{1-x}	ns	ns	-
	dcc-{a,b,c,d,g}{2}-{1-x}	us	us	-
	dcc-{a,b,c,d,g}-{1-x}	-	-	ns

Starting in Release 2.1, the network and user **side** values are shown in the following table.

Table 2-160. DMX Default Network/User **side** Values

Default DCC Network/User side Values		Optical Port Protection Mode			
Slots	DCC AID	UPSR	0x1	Linear(1+1)	BLSR
High-Speed Main Slots	dcc-m1-1	us	-	-	us
	dcc-m2-1	ns	-	-	ns
	dcc-m-1	-	-	-	-
Low-Speed OC-n in Function and Growth Slots	dcc-{a,b,c,d,g}{1}-{1-x}	ns	ns	-	-
	dcc-{a,b,c,d,g}{2}-{1-x}	us	us	-	-
	dcc-{a,b,c,d,g}-{1-x}	-	-	ns	-

Starting in Release 3.0, the network and user **side** values are shown in the following table.

Table 2-161. DMX Default Network/User **side** Values

Default DCC Network/User side Values		Optical Port Protection Mode		
Slots	DCC AID	UPSR	Linear(1+1)	BLSR
High-Speed Main Slots	dcc-m1-1	us	-	us
	dcc-m2-1	ns	-	ns
	dcc-m-1	-	ns	-
Low-Speed xOC-n in Function and Growth Slots	dcc-{a,b,c,d,g}{1}-{1-x}	us	-	us
	dcc-{a,b,c,d,g}{2}-{1-x}	ns	-	ns
	dcc-{a,b,c,d,g}-{1-x}	-	ns	-

Starting in Release 3.1, the network and user **side** values are shown in the following table.

Table 2-162. DMX Default Network/User **side** Values

Default DCC Network/User side Values		Optical Port Protection Mode		
Slots	DCC AID	UPSR	Linear(1+1)	BLSR
High-Speed Main Slots	dcc-m1-1	us	-	us
	dcc-m2-1	ns	-	ns
	dcc-m-1High-Speed Main Slots	-	ns	-
Low-Speed xOC-n in Function and Growth Slots	dcc-{a,b,c,d,g}{1}-{1-x}	ns	-	ns
	dcc-{a,b,c,d,g}{2}-{1-x}	us	-	us
	dcc-{a,b,c,d,g}-{1-x}	-	ns	-

WARNING: Note that the default **side** values for the Low-Speed slots are changed from release 3.0 to make them be consistent with releases prior to 3.0. Customers who install new shelves should check and change the values if necessary to ensure that they will not encounter DCC problems.

Starting in Release 5.0, the network and user **side** values are shown in the following table.

Table 2-163. DMX Default Network/User Side Values

Default DCC Network/User side Values		Optical Port Protection Mode				
Slots	DCC AID	UPSR	Linear(1+1)	BLSR	0x1S1	0x1S2
High-Speed Main Slots	dcc-m1-1	us	-	us	-	-
	dcc-m2-1	ns	-	ns	-	-
	dcc-m-1	-	ns	-	-	-
Low-Speed xOC-n in High-Speed Main SlotsFunction and Growth Slots	dcc-{a,b,c,d,g}{1}-{1-x}	ns	-	ns	ns	ns [#]
	dcc-{a,b,c,d,g}{2}-{1-x}	us	-	us	ns [#]	ns
	dcc-{a,b,c,d,g}-{1-x}	-	ns	-	-	-

[#] Note: This value will not take effect because the DCC is in the disabled state for the corresponding 0x1Sn inactive port.

Starting in Release 7.0, the network and user **side** values are shown in the following table.

Table 2-164. DMX Default Network/User **side** Values

Default DCC Network/User side Values		Optical Port Protection Mode					
Slots	DCC AID	UPSR	Linear(1+1)	BLSR	0x1S1	0x1S2	0x1
High-Speed Main Slots	dcc-m1-1	us	-	us	-	-	-
	dcc-m2-1	ns	-	ns	-	-	-
	dcc-m-1	-	ns	-	-	-	-
Low-Speed xOC-n in Function and Growth Slots	dcc-{a,b,c,d,g}{1}-{1-x}	ns	-	ns	ns	ns [#]	ns
	dcc-{a,b,c,d,g}{2}-{1-x}	us	-	us	ns [#]	ns	ns
	dcc-{a,b,c,d,g}-{1-x}	-	ns	-	-	-	-

[#] Note: This value will not take effect because the DCC is in the disabled state for the corresponding 0x1Sn inactive port.

Starting in Release 7.1, the network and user **side** values are shown in the following table.

Table 2-165. DMX Default Network/User **side** Values

Default DCC Network/User side Values		Optical Port Protection Mode					
Slots	DCC AID	UPSR	Linear(1+1)	BLSR	0x1S1	0x1S2	0x1
High-Speed Main Slots	dcc-m1-{1-x}	us	-	us	-	-	ns
	dcc-m2-{1-x}	ns	-	ns	-	-	ns
	dcc-m-{1-x}	-	ns	-	-	-	-
Low-Speed xOC-n in Function and Growth Slots	dcc-{a,b,c,d,g}{1}-{1-x}	ns	-	ns	ns	ns [#]	ns
	dcc-{a,b,c,d,g}{2}-{1-x}	us	-	us	ns [#]	ns	ns
	dcc-{a,b,c,d,g}-{1-x}	-	ns	-	-	-	-

[#] Note: This value will not take effect because the DCC is in the disabled state for the corresponding 0x1Sn inactive port.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the requested command does not change the existing parameter values, the NE does not deny the command. Instead the NE responds with the normal completion shown above.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example enables OSI communication, and sets the high-speed ring DCC to the network_side:

```
ENT-FECOM:LT-TID123:dcc-m1-1:CTAG::COM=enabled,SIDE=ns;  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an error is detected in any of the command parameters, the entire command is denied; the command cannot be partially completed.

If there are errors in more than one command parameter, an error is detected and reported in only one of the parameters. The parameter for which the error is detected may not be the first parameter in the command that is in error.

The NE returns the following error response if the *aid* value is invalid:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier, AID is wrong or missing */  
;
```

The NE returns the following error response if the same parameter is repeated in the *spec_block*:

```
sid date time  
M ctag DENY  
IISP  
/* Input, Invalid Syntax or Punctuation, parameter(s)  
multiply defined */  
;
```

The NE returns the following error response if the **COM** value in the *spec_block* is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid COM value */
;
```

The NE returns the following error response if the **side** value in the *spec_block* is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid SIDE value */
;
```

The NE returns the following error response if the **LANRESET** value in the *spec_block* is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid LANRESET parameter */
;
```

If the NE receives an **ENT - FECOM** command with a *spec_block* parameter that is not allowed for the given AID, for example, specifying both a valid IAO LAN AID and DCC **side** value, or both a valid DCC AID and **LANRESET** value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, parameter settings inconsistent
with AID */
;
```

The NE returns the following error response if the command would have disabled both OSI and TCP/IP access on both IAO LAN ports:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, can't disable both OSI and TCP/IP
  access on both IAO LAN ports */
;
```

Note: To have TCP/IP TL1 access, besides the TCP/IP being enabled for at least one of LAN ports, the target NE shall be enabled as TL1 TCP/IP Gateway NE as well via ENT-SYS TL1 command. Even if TCP/IP is enabled for at least one of LAN ports, but the target NE is not enabled as TL1 TCP/IP Gateway NE, the NE returns the above error response as well if the command would have disabled OSI access on both IAO LAN ports.

Starting in Release 3.1.1, the NE returns the following error response if the command would have enabled OSI on the rear IAO LAN port with TCP/IP currently enabled:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cannot enable OSI on the rear IAO LAN
  port with TCP/IP enabled */
;
```

The NE returns the following error response if the Application mode is equal to either "0x1" or "upsr", and a linear DCC AID (for example, DCC-{m,a,b,c,d,g}-{1-x} where x is the number of ports available on the pack that is being addressed) was entered:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, parameter settings inconsistent with AID
  */
;
```

The NE returns the following error response if the Application mode is equal to "1+1", and a ring DCC AID (for example, DCC-{m,a,b,c,d,g}{1,2}-{1-x} where x is the number of ports available on the pack that is being addressed) was entered:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, parameter settings inconsistent with AID
*/
;
```

Starting in Release 5.0, the NE returns the following error response if the command would have enabled DCC on the inactive companion port for 0x1Sn:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, cannot enable DCC on the inactive
companion port of 0x1Sn */
;
```

Starting in Release 5.1, the NE returns the following error response if the command would have enabled DCC (OSI) on a DCC port in which IP over DCC is enabled (such information can be obtained from **RTRV-ULS**):

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot enable OSI over DCC on a port
in which IP over DCC is enabled */
;
```

The NE returns the following error response if the user attempts to run this command on the DCC port associated with a line that has *signaltype*=STNA (Signal Type Not Available) (see **RTRV-rr**):

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed when
signaltype=STNA */
;
```


The NE returns the following error response if the user attempts to run this command on the DCC port in 1+1 OC-n protection group that is provisioned as a subshelf interface on the main shelf (see **RTRV-SUBSHELF**):

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed for subshelf
interface */
;
```

RELATED TL1 MESSAGES

ENT-ULS

ENT-ULSDCC-L3

RTRV-FECOM

RTRV-ULS

TEST-IAOLAN

NAME

ENT - FECOM - SCN: Enter Far End Communications for Signaling Communications Network (SCN)

The **ENT - FECOM - SCN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT - FECOM - SCN:*tid:aid:ctag:::spec_block;*

DESCRIPTION

The **ENT - FECOM - SCN** command enables or disables IP communications over the DCC and/or LAN, and provisions the related IP address and subnet mask of the LAN for the Signaling Communications Network (SCN). SCN is a data communications network for carrying optical control plane signaling and routing messages.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - FECOM - SCN** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-166. ENT - FECOM - SCN Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The AID identifies the DCC or LAN (LAN-3 only) address to which the command is to be applied, excluding AIDs ending with "-all". Refer to the AID Table for valid AIDs.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

Table 2-166. ENT - FECOM-SCN Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-167. ENT - FECOM-SCN Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>ip_linedcc</i>	IP over line DCC. This parameter enables or disables the IP communications over the specified DCC (Line) interface. Valid values are ENABLED or DISABLED. The initial value is DISABLED. The IP over line DCC only applies to VLF mains, LNW62 and LNW55 packs. Beginning in Release 9.0, it also applies to LNW603. When IP over line DCC is enabled for a port or multiple ports, it is not required to allocate an IP address to each port. The enabled IP over line DCC interfaces are called unnumbered interfaces. Though there is no IP address for each unnumbered interface, the system containing the unnumbered interface(s) must have a router-id provisioned for signaling communications network. The router-id is used as if it is the IP address of all unnumbered interfaces in the system. To provision the router-id (named as SCN IP address) for a system, see <i>scnipaddr</i> parameter in ENT - NODE.
<i>ip_lan</i>	IP over LAN. This parameter enables or disables the IP communications over the specified LAN interface. Valid values are ENABLED or DISABLED. The initial value is DISABLED. To enable IP on a LAN port, both an IP address (<i>ipaddr_lan</i>) and a subnet mask (<i>ipsnmk_lan</i>) are required.
<i>ipaddr_lan</i>	LAN IP Address. This is the 32-bit IP address for the specified LAN port. It consists of four dot-separated decimal numbers ranging from 0 to 255. The initial value is a null. If IP is disabled on a LAN port, IP address 0.0.0.0 can be used to delete a previously provisioned IP address.
<i>ipsnmk_lan</i>	LAN IP Subnet Mask. This is the 32-bit IP subnet mask for the specified LAN port.

Table 2-167. ENT - FECOM_SCN Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
	It consists of four dot-separated decimal numbers ranging from 0 to 255, with the restriction that all four integers represent (in binary) one or more '1' bits, followed by zero or more '0' bits (i.e. all '1' are near the most significant bit, all '0' are near the least significant bit). The initial value is a null. If IP is disabled on a LAN port, IP subnet mask 0.0.0.0 can be used to delete a previously provisioned subnet mask.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```

sid date time
M ctag COMPLD
;
```

If the requested command does not change the existing parameter values, the NE does not deny the command. Instead the NE responds with the normal completion shown above.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example enables IP over line DCC on the specified DCC port:

```

ENT-FECOM-SCN:LT-TID123:dcc-m1-1:123456::IP_LINEDCC=enabled;
IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```

The following example enables IP over the specified LAN port with assigned IP address and subnet mask:

```
ENT-FECOM-SCN:LT-TID123:lan-3:123456::IP_LAN=enabled,  
IPADDR_LAN=152.120.10.1,IPSNMK_LAN=255.255.255.0;  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an error is detected in any of the command parameters, the entire command is denied; the command cannot be partially completed.

If there are errors in more than one command parameter, an error is detected and reported in only one of the parameters. The parameter for which the error is detected may not be the first parameter in the command that is in error.

The NE returns the following error response if the **aid** value is invalid:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier, AID is wrong or missing */  
;
```

The NE returns the following error response if the application mode is 1+1, a non 1+1 DCC **aid** was entered, or vice versa:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier, AID inconsistent with  
application */  
;
```

The NE returns the following error response if the parameter(s) in the **spec_block** do not apply to **aid** entered:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, parameter settings inconsistent with AID */
;
```

The NE returns the following error response if the same parameter is repeated in the **spec_block**:

```
sid date time
M ctag DENY
  IISP
  /* Input, Invalid Syntax or Punctuation, parameter(s)
  multiply defined */
;
```

The NE returns the following error response if the **ip_linedcc** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid IP_LINEDCC value */
;
```

The NE returns the following error response if the **ip_lan** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid IP_LAN value */
;
```

The NE returns the following error response if the *ipaddr_lan* value in the *spec_block* is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid IPADDR_LAN value */
;
```

The NE returns the following error response if the *ipsnmk_lan* value in the *spec_block* is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid IPSNMK_LAN value */
;
```

The NE returns the following error response if user attempts to provision *ip_linedcc* for a pack type which does not support line DCC:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, IP_LINEDCC does not apply to this pack
type */
;
```

The NE returns the following error response if the command would have enabled IP on a DCC port without SCN router-id provisioned (see the *scnipaddr* parameter in **ENT - NODE**):

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, cannot enable IP on the DCC port,
must have SCN IP address provisioned */
;
```


The NE returns the following error response if user attempts to enable IP on a LAN without IP address (*ipaddr_lan*) and subnet mask (*ipsnmk_lan*) provisioned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, LAN port must have both an IP address
and a subnet mask to enable IP */
;
```

The NE returns the following error response if the user attempts to run this command on the DCC port associated with a line that has *signaltype*=STNA (Signal Type Not Available) (see **RTRV-rr**):

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed when
signaltype=STNA */
;
```

RELATED TL1 MESSAGES

ENT - NODE

RTRV - FECOM - SCN

NAME

ENT-IP-ROUTE: Enter IP Route

The **ENT-IP-ROUTE** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT-IP-ROUTE: *tid*: [*aid*]: *ctag*::: *spec_block*;

DESCRIPTION

This command can be used to add a manual entry (static route) to a network element's (NE's) IP routing table, to modify the Tunnel Auto Provisioning (TAP) parameters for IP tunneling.

The related **DLT-IP-ROUTE** command can be used to delete a manual entry in an NE's IP routing table.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command generates a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-168. ENT-IP-ROUTE Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. If <i>nxthopport</i> =LAN, this parameter is required to specify the Inter-Area Office Local Area Network (IAO LAN) port address, such as, front port LAN-1 or rear port LAN-2, otherwise this parameter is not allowed.

Table 2-168. ENT - IP - ROUTE Input Parameters (cont 2 of 2)

Parameter Name	Description
	Starting in Release 5.1, if <i>nxthopport=DCC</i> , this parameter is required to specify a DCC port AID (not including DCC AIDs ending in "-ALL"). Refer to Appendix A - AID Tables.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-169. ENT - IP - ROUTE Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>dest_ip</i>	Destination IP address. This is a 32-bit IP address consisting of four dot-separated decimal numbers 0-255. This is a required parameter, there is no default value. This parameter and the following <i>dest_mask</i> parameter combine to specify an IP subnet address. More than one destination IP address can be provisioned by executing the command multiple times. Each destination IP address provisioned creates one manual entry in the IP routing table. A maximum of 50 different destination IP addresses (manual entries) can be provisioned. Beginning in Release 4.0, a maximum of 20 different destination IP addresses (manual entries) can be provisioned.
<i>dest_mask</i>	Destination IP Subnet Mask. This is the 32-bit IP subnet mask consisting of four dot-separated decimal numbers 0-255. This is a required parameter, there is no default value.
<i>nxthopport</i>	Next-Hop Port Type. This parameter specifies that the IAO LAN as LAN or IP tunneling as CLNP_TUNNEL (default) is the port type through which the <i>dest_ip</i> can be reached. Starting in Release 5.1, this parameter also can have a value of DCC. <i>nxthopport=LAN</i> is used to add or modify a manual entry for static IP routing via an IAO LAN port. <i>nxthopport=CLNP_TUNNEL</i> is used to add a manual entry for IP tunneling via the DCC (DCC-ALL) and OSI LAN. <i>nxthopport=DCC</i> is used to add or modify a manual entry for static IP routing to use the DCC port specified in the <i>aid</i> of this command as the outgoing interface (not including DCC AIDs ending in "-ALL").

Table 2-169. ENT - IP - ROUTE Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>nxthopadr</i>	Next-Hop Address. This parameter specifies the IP address or the Network Service Access Point (NSAP) address of the next hop toward the specified <i>dest_ip</i> address. If <i>nxthoport</i>=LAN, this parameter must be a 32-bit IP address, consisting of four dot-separated decimal numbers 0 to 255. If <i>nxthoport</i>=CLNP_TUNNEL, this parameter must be an NSAP address, consisting of 40 hexadecimal characters. Refer to the ENT - ULSDCC - L3 command for other NSAP specifics. This is a required parameter, there is no default value. Starting in Release 5.1, if <i>nxthoport</i>=DCC, this parameter should not be specified.
<i>tapadver</i>	Tunnel Auto Provisioning (TAP) Advertise. This parameter specifies if the IP routing table entry identified by the combination of input parameters above should be shared with all other NEs in the same TAP group so that all their IP routing tables are automatically updated to include the same entry, too. Starting in Release 5.1, if <i>nxthoport</i>=DCC, this parameter should not be specified. The allowed values are YES (default) and NO. Note, this parameter value for <i>individual</i> entries in the IP routing table is superseded if the NE's TAP Advertise Status is disabled (per the ED - IP - TUNNEL parameter <i>tadverstat</i>).
<i>tapcost</i>	Tunnel Auto Provisioning (TAP) Cost. This parameter specifies the cost metric to be assigned to the specified IP routing table entry. Allowed values are 0 to 65535. The default value is 20. Starting in Release 5.1, if <i>nxthoport</i>=DCC, this parameter should not be specified.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<

  sid date time
M  ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example adds a manual entry for an FTP server in IP subnet 199.88.77.0 in an FTP-GNE's IP routing table. The default IP router's LAN port connected to the FTP-GNE's front IAO LAN port has IP address of 198.78.46.20:

```
ENT-IP-ROUTE:LT-TID123:lan-
1:123456:::DEST_IP=199.88.77.6,DEST_MASK=255.255.255.0,NXTHOPPORT=lan,NXTHOP
ADR=198.78.46.20;

IP 123456
<

  LT-TID123 01-10-30 22:25:30
M  123456 COMPLD
;
```

The next example adds a manual entry for an FTP server in IP subnet 199.88.77.0 in an FTP-RNE's IP routing table, specifying the FTP-GNE's NSAP address as the next-hop OSI address. This provisioning is not necessary in small networks, but is required in at least one FTP-RNE in every OSI area except the FTP-GNE's area:

```
ENT-IP-ROUTE:LT-  
TID123::123456:::DEST_IP=199.88.77.6,DEST_MASK=255.255.255.0,NXTHOPPORT=c\np  
_tunnel,NXTHOPADR=39840F8000000000000000108006A11234500;  
  
IP 123456  
<  
  
    LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
;
```

The following example adds a manual entry for an FTP-RNE in the FTP-GNE's IP routing table, specifying the FTP-RNE's IP subnet address and the FTP-RNE's NSAP address as the next-hop OSI address. This provisioning is not necessary in small networks, but is required for the IP subnet address of every OSI *area* or every *FTP-RNE* in every OSI area except the FTP-GNE's own area:

```
ENT-IP-ROUTE:LT-  
TID123::123456:::DEST_IP=199.88.77.65,DEST_MASK=255.255.255.128,NXTHOPPORT=c  
\np_tunnel,NXTHOPADR=39840F8000000000000000208006A15678900;  
  
IP 123456  
<  
  
    LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
;
```

The following example adds a manual entry for IP routing to use 1+1 DCC port **dcc-m-1** as the outgoing interface to reach IP address 199.88.77.6 with subnet mask 255.255.255.0:

```
ENT-IP-ROUTE:LT-TID123:dcc-m-  
1:123456:::DEST_IP=199.88.77.6,DEST_MASK=255.255.255.0,NXTHOPPORT=dcc;  
  
IP 123456  
<  
  
LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the **aid** value is invalid or conflicts with the **nxthopport** value, for example, a valid IAO LAN port AID and **nxthopport=CLNP_TUNNEL**:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess Identifier */  
;
```

The NE returns the following error response if the **dest_ip** value is invalid or missing:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid DEST_IP value */  
;
```


The NE returns the following error response if the **dest_mask** value is invalid or missing:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid DEST_MASK value */
;
```

The NE returns the following error response if the **nxthopport** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid NXTHOPPORT value */
;
```

The NE returns the following error response if the **nxthopadr** value is invalid or missing:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid NXTHOPADR value */
;
```

The NE returns the following error response if valid **nxthopport** and **nxthopadr** parameter values are specified but inconsistent, e.g., **nxthopport=CLNP_TUNNEL** and **nxthopadr=198.198.198.198** (or any other IP address):

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, NXTHOPPORT and NXTHOPADR are
inconsistent */
;
```

The NE returns the following error response if the **tapadver** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TAPADVER value */
;
```

The NE returns the following error response if the **tapcost** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TAPCOST value */
;
```

The NE returns the following error response if the command would exceed the maximum number of manual entries in the IP routing table:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, too many manual entries in
IP routing table */
;
```

The NE returns the following error response if the command would have assigned **nxthopadr**, **tapadver**, or **tapcost** to an individual DCC port specified by DCC port address:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access Identifier, cannot assign NXTHOPADR,
TAPADVER or TAPCOST to a DCC port */
;
```

RELATED TL1 MESSAGES

CPY-MEM

DLT-IP-ROUTE

ED-IP-TUNNEL

ENT-SYS

ENT-ULS

RTRV-IP-ROUTE

SCHED-BACKUP

NAME

ENT - IPMAP: Enter IP to Application Context ID Map

The **ENT - IPMAP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.1

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT - IPMAP: *tid::ctag::spec_block;*

DESCRIPTION

This command is allowed at any network element (NE), but only the entries at a NE provisioned to be a TL1 TCP/IP Gateway are effective.

The **ENT - IPMAP** command specifies the IP calling addresses from which a TL1 TCP/IP gateway NE (GNE) is allowed to accept a TCP/IP connection; it maps each IP calling address to an application context ID (ACID). The assigned ACID is used by the TL1 TCP/IP GNE each time an OSI association is established to a TL1-remote NE (RNE), such as, in response to each TL1-RNE login request received from the IP calling address. The ACID determines the TL1 autonomous messages, if any, to be output by the TL1 TCP/IP GNE and TL1-RNEs.

In addition to IP calling addresses for OSs, the IP calling addresses of any other remote TL1 TCP/IP users need to be pre-authorized by this command.

Although **not** recommended due to the decreased security provided, to simplify the administration of IP addresses authorized by this command, a special IP calling address (255 . 255 . 255 . 255) can be authorized to allow access from **all** IP calling addresses. The ACID value assigned to this special IP calling address is used for all incoming TCP/IP connection requests from IP calling addresses that were not individually provisioned with a different ACID using this command.

As a user convenience, each IP calling address can be associated with a host name that is meaningful to the user; for example, SNMS. Any host names provisioned with the **ENT - IPMAP** command are output in response to **RTRV - IPMAP** commands; host names are not used by the system otherwise .

A TL1 TCP/IP GNE is enabled using the related command **ENT - SYS**.

The related **DLT - IPMAP** command can be used to delete an IP calling address.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command generates a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-170. ENT - IPMAP Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-171. ENT - IPMAP Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tcpipaddr</i>	IP Calling Address. The IP calling address is a 32-bit address consisting of four dot-separated decimal numbuer ranging from 0 to 255 (only the first number is not allowed to be 0). This is a required parameter. For any user to establish a TCP/IP connection to or through a TL1 TCP/IP GNE, the user's IP calling address must have been pre-authorized using this command to the TL1 TCP/IP GNE. Note: Although not recommended due to the decreased security provided, to simplify the administration of IP addresses authorized by this command, <i>tcpipaddr</i>=255.255.255.255 can be used to authorize access from all IP calling addresses. More than one IP calling address can be provisioned by executing the command multiple times. A maximum of 50 different IP calling addresses can be provisioned. Beginning in Release 4.0, a maximum of 20 different IP calling addresses can be provisioned.

Table 2-171. ENT - IPMAP Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
	Beginning in Release 7.1.1, the initial value for this parameter is 169.254.255.255, which authorizes any IP calling address with 169.254/16 prefix to establish TL1 over TCP/IP connections with the local NE or remote NEs via the local NE as the GNE. Any provisioning value for this parameter with a 169.254/16 prefix is only valid if it is entered as 169.254.255.255.
<i>tcpiphost</i>	IP Host Name. This is the host name to be associated with the specified IP calling address (<i>tcpipaddr</i>). The host name consists of 1 to 24 alphanumeric characters. This is not a required parameter. The default value is NULL.
<i>acid</i>	Application Context ID. This is the application to be assigned to the specified IP calling address (<i>tcpipaddr</i>). Supported <i>acid</i> values include: ■ TL1PEERCOMM (default) ■ TL1MAINTENANCE ■ TL1MEMORYADMINISTRATION ■ TL1TEST ■ TL1OTHER1 ■ TL1OTHER2 ■ TL1CR Note: The <i>acid</i> TL1CR will never report any TL1 autonomous messages. The same <i>acid</i> value can be mapped to more than one IP calling address. The default <i>acid</i> for all provisioned IP calling addresses is TL1PEERCOMM. For example, if a new IP calling address is entered, but no <i>acid</i> is specified for that IP calling address, TL1PEERCOMM is assigned to that IP calling address. If this parameter is omitted for an IP calling address that is already authorized, the current <i>acid</i> value is not changed. Beginning in Release 7.1.1, the initial value for this parameter is TL1TEST for IP calling address with the 169.254/16 prefix.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time  
M ctag COMPLD  
;
```

If the requested command does not change the existing parameter values, the NE doesn't deny the command. Instead the NE responds with the normal completion shown above.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows the assignment of **acid TL1PEERCOMM** to an IP calling address:

```
ent-ipmap:LT-TID123::123456::tcpipaddr=198.76.54.3,acid=tl1peercomm;  
  
IP 123456  
<  
  
LT-TID123 00-11-22 16:12:11  
M 123456 COMPLD  
;
```

The following example shows the association of an IP calling address to a host name:


```
ent-ipmap:LT-TID123::123456:::tcpipaddr=198.76.44.4, tcpiphost=snms;  
  
IP 123456  
<  
  
    LT-TID123 00-11-22 16:12:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an error is detected in any of the command parameters, the entire command is denied; a command cannot be partially completed.

If there are errors in more than one command parameter, then an error is detected and reported in only one of the parameters. The parameter for which the error is detected may not be the first parameter in the command that is in error.

The NE returns the following error response if the **tcpipaddr** value in the **spec_block** is invalid or is missing:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, IP Address invalid or missing */  
;
```

The NE returns the following error response if the **tcpiphost** value in the **spec_block** is invalid:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, host name invalid */  
;
```

The NE returns the following error response if the **acid** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid ACID */
;
```

The NE returns the following error response if a user attempts to enter an additional IP address that would exceed the maximum number of entries supported:

```
sid date time
M ctag DENY
  SLEM
/* Status, List Exceeds Maximum, maximum IP Address entries
already reached */
;
```

RELATED TL1 MESSAGES

DLT-IPMAP

ENT-SYS

ENT-TL1MSGMAP

ENT-ULS

RTRV-IPMAP

RTRV-SYS

RTRV-TL1MSGMAP

RTRV-ULS

NAME

ENT - LAGRP : Enter Link Aggregation Group

The **ENT - LAGRP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT - LAGRP : *tid:aid:ctag::leadport:spec_block;*

DESCRIPTION

The **ENT - LAGRP** command is used to create a Link Aggregation Group (LAG), which is a logical port on a Virtual Switch, replacing its member ports. It is managed with the same commands used for Ethernet/LAN ports, in addition to **DLT - LAGRP**, **ED - LAGRP**, and **RTRV - LAGRP**. Any existing loopbacks on member ports are released.

It is recommended that cables associated with members of a LAG not be connected until the group is defined, else a loop may be formed.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - LAGRP** command generates a **REPT DBCHG** message.

This command applies to the following packs:

- LNW70
- LNW170, except when *prot_state* = PROT (see **RTRV - EQPT**)

INPUT PARAMETERS

Table 2-172. ENT - LAGRP Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of the Link Aggregation Group (LAG). Refer to the AID Table for valid AIDs. The LAG must not already exist (see RTRV-LAGRP). The maximum number of LAGs in a pack is four.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>leadport</i>	Lead Port. This is a mandatory parameter. The Lead Port must be in the same group as the LAG <i>aid</i> . It must be in a Virtual Switch; its membership is transferred to the LAG, as do VLAN memberships (see RTRV-EPORT or RTRV-VLAN) and QoS services (see RTRV-ERATE). Layer 2 provisioning is copied to the LAG (see RTRV-EPORT). As a result, service on the Lead Port is continued on the LAG. Values: An Ethernet/LAN port AID.
<i>spec_block</i>	Specific block. The <i>spec_block</i> parameters are defined in the following table.

Table 2-173. ENT - LAGRP Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>eplst</i>	Ethernet/LAN port list. Value: An Ethernet/LAN port AID. Port must be in the same slot, and the same rate, as <i>leadport</i> . It must not be a member of another LAG, and not a member of a Virtual Switch.
<i>hashtype</i>	The basis for assigning a conversation to a link. Values: ■ MAC Use SA/DA (initial value) ■ IP Use SIP/DIP. This may allow better load distribution when connected to a router where the MAC SA/DA are constant or nearly constant and the traffic is IP.
<i>protocol</i>	The protocol used for Link Aggregation. Values:

Table 2-173. ENT - LAGRP Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
	■ LACP IEEE Std 802.3™-2002 Link Aggregation Control Protocol (initial value) ■ NONE Aggregation among members is forced. Any Link Aggregation protocol messages received are ignored and none are sent.
asmode	active/standby mode. Values: ■ ENABLE active/standby mode is enabled The value is valid only when LACP is enabled (<i>protocol</i> = LACP). ■ DISABLE active/standby mode is disabled. The LAG is in Load Balanced Mode (initial value)
actsyspri	Actor_System_Priority. Specifies the system priority for a LAG. Value: an integer in the range 0 to 65535. The initial value is 32768.

OUTPUT FORMAT

```

      sid date time
M  ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
ENT-LAGRP:TID123:d-lag1:1::d1-1:ep1st=d1-2;
```

```
TID123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may apply to this command.

If the slot in the specified **leadport** AID contains a circuit pack to which this command does not apply, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, circuit pack does not support link aggregation  
*/  
;
```

If the *vlantagmd* (**RTRV-EQPT**) is set to NOTAG, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, tag mode set to NOTAG */  
;
```

If the specified LAG **aid** already exists, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, LAG already exists */  
;
```

If the number of LAGs on the pack would exceed the maximum number specified for the pack, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, too many LAGs */
;
```

If the **leadport** parameter is missing, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, lead port must be specified */
;
```

If the user enters a **leadport** or **ep1st** AID that is inconsistent with the LAG **aid**, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, ports must be in the same group as LAG */
;
```

If the user enters a **leadport** and **ep1st** AID that are not in the same pack, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Input, Status, Data Not Consistent, ports must be in the same pack */
;
```

If any specified port is a member of another LAG, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, one or more ports are members of another LAG
*/
;
```

Starting in Release 9.0, if any specified port is a port of an ERP instance, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, one or more ports are members of an ERP */
;
```

If the **leadport** is not a member of a Virtual Switch, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, lead port is not a member of a Virtual Switch
*/
;
```

If a port in **epilst** is a member of a Virtual Switch, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, port is a member of a Virtual Switch */
;
```


If not all ports are the same rate, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, all ports must be the same rate */
;
```

If the slot of the specified **aid** is provisioned with **prot_state** = PROT (see **RTRV-EQPT**), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, PROT_STATE is set to PROT */
;
```

If a NE receives an ENT-LAGRP command with a value of **asmode=ENABLE**, and if **protocol = NONE** is specified in the command, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, active/standby LAG requires LACP to be enabled.
*/
;
```

If the user enters a Actor_System_Priority (**actsyspri**) that is not within the 0 to 65535 range, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, actsyspri out of range */
;
```

RELATED TL1 MESSAGES

DLT-LAGRP, ED-LAGRP, RTRV-LAGRP

NAME

ENT-MAC: Enter MAC Address

The **ENT-MAC** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 4.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT-MAC: *tid:aid:ctag::mac, tag, type:spec_block;*

DESCRIPTION

The **ENT-MAC** command adds a MAC+VLAN/tag address on a port. It is used to provision persistent and filtered MAC+VLAN/tag addresses. A persistent MAC+VLAN will bypass the normal aging process. Filtering on a MAC+VLAN/tag address allows an operator to drop frames from a disruptive user based on its MAC+VLAN/tag address. Packets received by any port in that VLAN on the pack with the MAC as SA will be dropped.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT-MAC** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV-EQPT** *prot_state* = PROT, the **ENT-MAC** command generates a **REPT DBCHG** message for the addressed slot and its companion.

INPUT PARAMETERS

Table 2-174. ENT-MAC Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-174. ENT -MAC Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of the slot (slot AID). Refer to the AID Table in Appendix A for a list of valid AIDs. Value ALL is not allowed.
<i>ctag</i>	Correlation Tag. Refer to the RTRV -HDR command for the input parameter syntax and description of this parameter.
<i>mac</i>	MAC address. Value: A string of 12 hexadecimal characters. Unicast MAC addresses only are supported.
<i>tag</i>	VLAN or port tag. Value: An integer in the range 1 - 4093 . When vlantagmd (ED-EQPT) is 802.1TAG , VLAN is used. When vlantagmd (ED-EQPT) is TRANS , port tag is used. When vlantagmd (ED-EQPT) is NOTAG , the command is not supported.
<i>type</i>	Address type. Legal values are: ■ PERSISTENT - address will not age out, the same address is allowed on only one port in a circuit pack. ■ FILTERED - frame with filtered source MAC is dropped, the same address is allowed on many ports. When portaid is an RPR port, only PERSISTENT applies.
<i>spec_block</i>	Specific Block. The spec_block parameters are defined in the following table.

Table 2-175. ENT -MAC Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>portaid</i>	Ethernet LAN/VCG Port AID. This is the port aid where the address is provisioned. Refer to the AID Table in Appendix A for a list of valid AIDs. Value ALL is not allowed. This parameter is required. For RPR packs the only valid RPR VCG AID is RPR Span. Addresses provisioned on an RPR span cause traffic destined to that address to preferentially take that span. Starting in Release 7.0, EoS VCGs on the LNW78 are valid.

Table 2-175. ENT -MAC Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
	Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid, if the member ports are consistent with <i>aid</i> . The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG.
<i>rpr_mac</i>	RPR MAC Address. This parameter applies to RPR packs. It is the address of the RPR station through which the <i>mac</i> is reached. It applies and is required if, and only if, <i>portaid</i> is a valid RPR Span and <i>enh_brdgmd</i> (see ED - RPR) is ENABLE . Value: A string of 12 hexadecimal characters.

OUTPUT FORMAT

If the network element (NE) fully complies with the **ENT -MAC** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV -HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number may be included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

The following example shows the provisioning of a MAC:

```
ENT-MAC:TID123:growth-1:123456::443454A30045,53,filtered:portaid=g-1;

TID123 98-01-01 08:00:00
M 123456 COMPLD
;
```

The following example shows the provisioning of a MAC on an RPR pack:

```
ENT-MAC:TID123:growth-1:123456::443454A30045,53,persistent:portaid=g1-  
v1,rpr_mac=123ABC456DEF;  
  
TID123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR** command **ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the specified slot AID contains a non Ethernet board, or if the Ethernet board is not set to 802.1 or transparent tag mode, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, board type or mode does not support MAC+vlan/  
tag */
```

If the system receives an otherwise valid **ENT - MAC** command, but the **aid** addresses a facility that is **not** equipped, the following error response is returned:

```
sid date time  
M ctag DENY  
ENEQ  
/* Equipage, Not EQuipped */  
;
```

If the specified port AID does not match the slot AID, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, port AID and slot AID do not match */  
;
```

Starting in Release 7.0, the previous error response is replaced by:

If the specified port (or LAG) AID is inconsistent with **aid**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, inconsistent AIDs */
;
```

If the specified port is a member of a Link Aggregation Group, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid ACcess identifier, port is member of a LAG */
;
```

If the specified VLAN/tag does not already exist, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, vlan/tag does not exist */
;
```

If the specified MAC address is not unicast, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, MAC address is not unicast */
;
```

If the specified MAC address is not a valid MAC, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, MAC address is not valid */
;
```

If the MAC+VLAN/tag has been previously provisioned as persistent on a different port on the circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, MAC+VLAN/tag already provisioned on a port */
;
```

Starting in Release 7.0, if the MAC+VLAN/tag has been previously provisioned as persistent on a different port in the same virtual switch on the following circuit packs

- LNW70
- LNW78

the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, MAC+VLAN/tag already provisioned on a port */
;
```


If the user attempt to provision more than 500 MAC+VLAN/tag addresses per circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, only 500 MAC+VLAN/tag addresses per circuit pack
  are supported */
;
```

If the system can't provision the MAC+LAN/tag address due to processing error, the following error response is returned:

```
sid date time
M ctag DENY
  SSRE
  /* Status, System Resources Exceeded, processing error, try again later */
;
```

If an entered parameter has an incorrect value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, one or more input parameters are invalid */
;
```

If **portaid** is a valid RPR Span and **rpr_mac** is specified, but **enh_brdgmd** (see **ED-RPR**) is **DISABLE**:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, RPR MAC address does not apply when bridging
  mode is basic */
;
```

If **portaid** is not an RPR Span and **rpr_mac** is specified, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, RPR MAC address does not apply to specified port
*/
;
```

If **portaid** is a valid RPR Span and **enh_brdgmd** (see **ED-RPR**) is **ENABLE**, but **rpr_mac** is not specified, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, RPR MAC address is required */
;
```

If the user attempts to enter a **type** of **FILTERED**, and **locked_sa** (see **ED-EPORT** or **ED-VCG**) is **ENABLE**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, port has locked source address */
;
```

RELATED TL1 MESSAGES

DLT-MAC

RTRV-MAC

NAME

ENT - NODE: Enter Node

The **ENT - NODE** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT - NODE - *modifier:tid::ctag:::spec_block;*

DESCRIPTION

The **ENT - NODE** command provisions control plane parameters at the node level.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - NODE** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-176. ENT - NODE Input Parameters

Parameter Name	Description
<i>modifier</i>	This is the command modifier for the ENT - NODE command. The modifier is a required field, and must have one of the following values: ● ENNI This requests to provision control plane E-NNI related parameters.
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-177. ENT - NODE Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>nodeid</i>	Node ID. It identifies the local node in the transport topology. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The initial value is 0.0.0.0, indicating an unprovisioned value. The value of 0.0.0.0 can be used to delete a previously provisioned Node ID.
<i>spcid</i>	Signaling Protocol Controller Identifier. An identifier that allows the local signaling protocol controller to maintain signaling relationships with its downstream or upstream E-NNI peer. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The initial value is 0.0.0.0, indicating an unprovisioned value. The value of 0.0.0.0 can be used to delete a previously provisioned signaling protocol controller identifier. This parameter is only applicable for <i>modifier</i> ENNI.
<i>rcid</i>	Routing Controller (RC) ID. An identifier for the local E-NNI Level 1 RC, which is used as OSPF Router ID. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The initial value is 0.0.0.0, indicating an unprovisioned value. The value of 0.0.0.0 can be used to delete a previously provisioned RC ID. This parameter is only applicable for <i>modifier</i> ENNI.
<i>raid</i>	Routing Area ID. An OSPF routing area for the local E-NNI Level 1 RC. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The initial value is 0.0.0.0, indicating an unprovisioned value. The value of 0.0.0.0 can be used to delete a previously routing area ID. This parameter is only applicable for <i>modifier</i> ENNI.
<i>scnipaddr</i>	SCN IP address. An IPv4 address for the local node, which is used as either signaling protocol controller SCN address, routing controller SCN address or both. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The initial value is 0.0.0.0, indicating an unprovisioned value. The value of 0.0.0.0 can be used to delete a previously provisioned SCN IP address. This parameter is only applicable for <i>modifier</i> ENNI.
<i>l1routing</i>	Level 1 Routing Controller. It enables/disables the local node as E-NNI Level 1 Routing Controller. Valid values are ENABLED or DISABLED. The initial value is DISABLED. To enable a node as Level 1 Routing Controller, <i>rcid</i>, <i>raid</i> and <i>scnipaddr</i> are required to have provisioned values or to be provisioned in the command while <i>l1routing</i> is set to ENABLED. This parameter is only applicable for <i>modifier</i> ENNI.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the requested command does not change the existing parameter values, the NE does not deny the command. Instead the NE responds with the normal completion shown above.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example provisions E-NNI related parameters at the node level:

```
ENT-NODE-ENNI:LT-TID123::123456:::nodeid=10.10.10.1,spcid=10.10.10.1,
rcid=10.10.10.1,raid=1.1.1.1,scnipaddr=220.10.10.1,l1routing=enabled;

IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an error is detected in any of the command parameters, the entire command is denied; the command cannot be partially completed.

If there are errors in more than one command parameter, an error is detected and reported in only one of the parameters. The parameter for which the error is detected may not be the first parameter in the command that is in error.

The NE returns the following error response if an ***aid*** value is entered:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier */
;
```

The NE returns the following error response if it receives an **ENT - NODE** command with an invalid command ***modifier***:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

The NE returns the following error response if the parameter(s) in the ***spec_block*** are otherwise valid, but some are inconsistent with the ***modifier*** provided:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, parameter settings inconsistent with
modifier */
;
```

The NE returns the following error response if the same parameter is repeated in the ***spec_block***:

```
sid date time
M ctag DENY
IISP
/* Input, Invalid Syntax or Punctuation, parameter(s)
multiply defined */
;
```

The NE returns the following error response if the **nodeid** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid NODEID value */
;
```

The NE returns the following error response if the **spcid** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid SPCID value */
;
```

The NE returns the following error response if the **rcid** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid RCID value */
;
```

The NE returns the following error response if the **raid** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid RAID value */
;
```

The NE returns the following error response if the **scnipaddr** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid SCNIPADDR value */
;
```

The NE returns the following error response if the **l1routing** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid L1ROUTING value */
;
```

The NE returns the following error response if the command would have changed the value of **nodeid** for the node where there is an existing control plane connection (see **RTRV-CRS-rr**), or a pending control plane connection in the process of being completed, on any EDGE or E-NNI port (see **portclass** in **RTRV-CPORT-rr**):

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, cannot change NODEID due to existing
or pending CP connection */
;
```

The NE returns the following error response if the command would have changed the value of **spcid** for the node where there is an existing control plane connection (see **RTRV-CRS-rr**), or a control plane connection in the process of being completed, on any EDGE or E-NNI port (see **portclass** in **RTRV-CPORT-rr**):

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, cannot change SPCID due to existing
or pending CP connection */
;
```


The NE returns the following error response if the command would have changed a value of **scnipaddr** for the node where there is an existing control plane connection (see **RTRV-CRS-rr**), or a control plane connection in the process of being completed, on any EDGE or E-NNI port (see *portclass* in **RTRV-CPORT-rr**):

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cannot change SCNIPADDR due to
  existing or pending CP connection */
;
```

The NE returns the following error response if the command would have changed **nodeid** to an unprovisioned value (0.0.0.0) when there is an existing ENNI or EDGE port (see **RTRV-CPORT-rr**) provisioned for the NE:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cannot unprovision NODEID due to
  existing ENNI or EDGE port */
;
```

The NE returns the following error response if the command would have changed **spcid** to an unprovisioned value (0.0.0.0) when there is an existing ENNI port (see **RTRV-CPORT-rr**) provisioned for the NE:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cannot unprovision SPCID due to
  existing ENNI port */
;
```

The NE returns the following error response if the command would have enabled this NE as Level 1 Routing Controller (***l1routing***) without ***rcid***, ***raid*** and ***scnipaddr*** provisioned or being provisioned with this command:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, must have RCID, RAID and SCNIPADDR to
enable RC */
;
```

The NE returns the following error response if the command would have changed ***rcid***, ***raid*** and/or ***scnipaddr*** to an unprovisioned value (0.0.0.0) when ***l1routing*** is ENABLED:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, can not unprovision RCID, RAID and/
or SCNIPADDR when L1ROUTING is enabled */
;
```

The NE returns the following error response if the command would have provisioned ***spcid*** without ***scnipaddr*** provisioned or being provisioned with this command:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, must have SCNIPADDR provisioned */
;
```

The NE returns the following error response if the command would have changed ***scnipaddr*** to an unprovisioned value (0.0.0.0) when ***spcid*** has a provisioned value (non 0.0.0.0):

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, can not unprovision SCNIPADDR when
SPCID is provisioned */
;
```

ENT-NODE
TL1 Message Details

ENT-NODE
Alcatel-Lucent 1665 DMX, R9.0

RELATED TL1 MESSAGES

RTRV - NODE

NAME

ENT-NTP-SERVER: Enter (add) NTP Server to the list

The **ENT-NTP-SERVER** command is available beginning in

- Alcatel-Lucent 1665 DMX, Release 3.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT-NTP-SERVER: *tid:[aid]:ctag:::spec_block;*

DESCRIPTION

This command is used to add an Network Time Protocol (NTP) Server to the NE's NTP server list. The NTP servers in this list will be polled by the NE. The maximum number of NTP servers an NE can reference is three. This change will not take effect until NTP is re-enabled by using the **ENT-SYS** command.

The provisioned list of NTP servers can be retrieved by using the **RTRV-NTP-SERVER** command.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command generates a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-178. ENT-NTP-SERVER Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-178. ENT - NTP - SERVER Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. Because this command applies to the NTP protocol on all DCC and OSI LANs, this parameter can only have the value all or null (default = all).
<i>ctag</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-179. ENT - NTP - SERVER Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>ipaddr</i>	IP Address. This is the 32-bit IP address for the NTP server to be added to the NTP server list. It consists of four dot-separated decimal numbers ranging from 0 to 255. There is no default value. If no <i>ipaddr</i> value (NULL) is entered, nothing is deleted and a normal completion response is returned.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<

sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example provisions an NTP Server in the NE's server list:

```
ENT-NTP-SERVER:LT-TID123::12345:::ipaddr=192.168.1.1;  
  
IP 123456  
<  
  
    LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

The NE returns the following error response if the *aid* value is invalid:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid Access Identifier */  
;
```

The NE returns the following error response if the *ipaddr* value is invalid:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid IPADDR value */  
;
```

The NE returns the following error response if the server list is full:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, NTP server list is full */
;
```

RELATED TL1 MESSAGES

ENT-SYS

ED-NTP

RTRV-NTP

RTRV-NTP-STATE

RTRV-NTP-SERVER

DLT-NTP-SERVER

ED-DAT

NAME

ENT-OCH: Enter provisioning for Optical Channels.

The **ENT-OCH** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

When using the **ENT-OCH** command, either the *spec_block* or *pst* parameter may be used: they are never used together. Since all the provisionable values are specified through the *spec_block* and *pst* parameters, an **ENT-OCH** command without *pst* or *spec_block* parameters will result in no action by the NE.

The syntax of **ENT-OCH** using *spec_block* parameters:

ENT-OCH:*tid:aid:ctag[:::spec_block]*;

The syntax of **ENT-OCH** using the *pst* parameter:

ENT-OCH:*tid:aid:ctag[:::pst]*;

DESCRIPTION

This command provisions the various parameters of an Optical channel. Optical Channels are accessible at the Optical Channel Multiplexer/Demultiplexer Circuit Packs (addressed using the port addresses of the OMDs).

When the system receives an **ENT-OCH** command from the user, it will provision the appropriate optical channel on the OMD according to the parameter setting in the command. The provisioned values remain active until modified (for example, by another **ENT-OCH** command).

Execution of this command, whether successful or denied, is recorded in the Security log.

This command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-180. ENT - OCH Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> determines the interface for which the provisioning is being requested. The <i>aid</i> is a required parameter. See Appendix A - AID Table for valid AIDs. Valid AIDs include: OCH AID.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>pst</i>	Primary State. This parameter is used to set the primary state of the optical channel addressed by the <i>aid</i>. Setting this parameter defines the signal monitoring state of the optical channel. The primary state parameter is position defined. Provisionable values are: ● IS In Service. In this state, alarm reporting and performance monitoring are enabled. ● OOS-MA-AS Out Of Service, Memory Administration, Assigned. This is known as AUTO. When the optical channel is provisioned to the AUTO state, it will automatically transition to the in-service (IS) state upon detection of valid input in the demux direction. In this state, alarm reporting and performance monitoring are disabled. ● OOS Out Of Service. ("for Memory Administration" is implied.) This is known as NMON (Not MONitored). In this state, alarm reporting and performance monitoring of incoming signals in the demux direction are disabled. The port exits this state to the AUTO state through another ENT - OCH command.
<i>spec_block</i>	The <i>spec_block</i> parameters are covered in the following table.

Table 2-181. ENT - OCH Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tcamd</i>	TCA Monitoring Mode. This parameter specifies whether performance monitoring Threshold Crossing Alert reporting is enabled or disabled for the Optical Channel addressed by the <i>aid</i>. This parameter will have one of the following values: ● ENABLE TCA reporting is enabled. This is the initial default value for monitored optical channels. (Initial default) ● DISABLE TCA reporting is disabled. If the optical channel is not monitored, the value of <i>tcamd</i> will be DISABLE. TCA reporting will not begin until there is Performance Monitoring on the Optical Channel.

OUTPUT FORMAT

Refer to the **RTRV - HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **ENT - OCH** command. If the requested command does not alter the existing condition, the NE will not deny the command. Instead the NE will respond with a COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

EXAMPLE INPUT/OUTPUT

The following example changes the primary state of an optical channel.

```
ENT-OCH:LT-TID123:b1-9260:123456:::OOS;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **ENT-OCH** command without an **aid** or with an **aid** that is not valid, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

If the NE receives an **ENT-OCH** command with a valid **aid** value, but one for which the corresponding equipment is provisioned to be unequipped, the following error response is returned:

```
sid date time
M ctag DENY
ENEQ
/* Equipage, Not Equipped */
;
```

If the Network Element receives an **ENT-OCH** command with an invalid parameter value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid */
;
```

If the NE receives a command with both the ***spec_block*** and ***pst*** parameters, the following error response is returned:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, spec_block and pst cannot both be specified
in one command */
;
```

RELATED TL1 MESSAGES

RTRV-OCH

NAME

ENT - OSACMAP: Enter OS Application Context ID Map

The **ENT - OSACMAP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT - OSACMAP:*tid:aid:ctag::[vc]:spec_block;*

DESCRIPTION

This command can be used to assign application context IDs (ACIDs) to the serial ports. Assigning an **acid** to a serial port determines the TL1 autonomous message types to be output by the local network element (NE), and any TL1-RNEs (remote NEs) accessed through that serial port.

This command can also be used to provision an X.25 permanent virtual circuit (PVC) logical channel number (LCN), or switched virtual circuit (SVC) data terminal equipment (DTE) calling address, and to assign an ACID to the specified virtual circuit (VC). Assignment of an ACID determines the TL1 autonomous message types output by the TL1/X.25 GNE and subtending TL1-RNEs. The default assignment of ACIDs to VCs should suffice in most cases.

Note: This command is allowed at all NEs, but only the assignment of ACIDs to VCs at the TL1/X.25 gateway NE (GNE) actually affects the TL1 autonomous message output on the X.25 interface. When this command changes the value of a parameter associated with an X.25 VC, the TL1/X.25 GNE resets the specified VC which causes all currently active logins on that VC to be dropped.

Starting in Release 6.0, X.25 is not supported.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - OSACMAP** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-182. ENT - OSACMAP Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> can only have the value CIT-{1,2,ALL} or X25. Starting in Release 6.0, the <i>aid</i> can only have the value CIT-{1,2,ALL}
<i>ctag</i>	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>vc</i>	X.25 virtual circuit (<i>vc</i>) type. If the <i>aid</i> value is X25, this parameter must have one of the following values: ■ PVC Permanent Virtual Circuit ■ SVC Switched Virtual Circuit. Starting in Release 6.0, <i>vc</i> is not supported
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-183. ENT - OSACMAP Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>snpa</i>	X.25 Subnetwork Point of Attachment (SNPA). This is the X.25 address for an OS. For a PVC, this is the logical channel number (LCN) 1, 2, 3, 4, 5, 6, 7, 8 or 9. For an SVC, this is the Data Terminal Equipment (DTE) calling address, which is 1 to 15 digits. Up to a total of nine VCs can be mapped to any combination of PVCs and SVCs (that is, PVCs can be removed and replaced by SVCs). If the <i>aid</i> value is X25, this is a required parameter.

Table 2-183. ENT - OSACMAP Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
	Starting in Release 6.0, <i>snpa</i> is not supported
<i>acid</i>	Application Context Identifier (ACID). This parameter can have one of the following values: ■ TL1PEERCOMM ■ TL1MAINTENANCE ■ TL1MEMORYADMINISTRATION ■ TL1TEST ■ TL1OTHER1 ■ TL1OTHER2 ■ TL1CR The default <i>acid</i> depends on the port type, i.e, the <i>aid</i>, and for the X.25 port, the value of <i>snpa</i> as follows: <i>aid</i> =x25, <i>snpa</i>=1: default <i>acid</i>=tl1PeerComm" <i>aid</i> =x25, <i>snpa</i>=2,default <i>acid</i>=tl1Maintenance" <i>aid</i> =x25, <i>snpa</i>=3,default <i>acid</i>=tl1MemoryAdministration" <i>aid</i> =cit-1, default <i>acid</i>=tl1Test" <i>aid</i> =cit-2, default <i>acid</i>=tl1PeerComm" Starting in release 6.0, the default <i>acid</i> for aid=x25 are not supported The same ACID value can be assigned more than once. Because the related TL1 command ENT - TL1MSGMAP doesn't allow TL1 autonomous message types to be assigned to <i>acid</i> TL1CR, TL1CR never reports any TL1 autonomous messages.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<
    sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

```
ent-osacmap:LT-DMX:x25:123456::svc:acid=tl1cr,snpa= 12345678901234;  
  
IP 123456  
<  
    LT-DMX 00-03-22 16:12:11  
M 123456 COMPLD  
;
```

Starting in Release 6.0, the previous example is OBSOLETE.

Starting in Release 6.0, the previous example is OBSOLETE.

Starting in Release 6.0, the following is an example of the input and output.

```
ent-osacmap:LT-ABC:cit-1:123456:::acid=tl1peercomm;  
  
IP 123456  
<  
    LT-ABC 06-01-24 16:12:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there also apply to this command.

The NE returns the following error response if the **aid** value is missing or is invalid:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess Identifier */
;
```

The NE returns the following error response if the **vc** value is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid VC */
;
```

Starting in Release 6.0, the previous error response is OBSOLETE.

The NE returns the following error response if the **snpa** value in the **spec_block** is missing or is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, SNPA invalid or not found */
;
```

Starting in Release 6.0, the previous error response is OBSOLETE.

The NE returns the following error response if the **acid** value in the **spec_block** is invalid or if it is missing and not already assigned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid ACID */
;
```

The NE returns the following error response if a user attempts to enter an additional X.25 **snpa** (PVC LCN or SVC DTE calling address) when the maximum total of nine VCs has already been provisioned:

```
sid date time
M ctag DENY
SLEM
/* Status, List Exceeds Maximum, maximum SNPA entries
already reached */
;
```

The NE returns the following error response if a user attempts to enter an **snpa** (PVC LCN or SVC DTE calling address) for a serial port **aid**:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, no SNPA assignment allowed. */
;
```

Starting in Release 6.0, the following error response is returned if the NE receives an **ENT-OSACMAP** command with a value for **vc** specified:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, VC not supported */
;
```

Starting in Release 6.0, the following error response is returned if the NE receives an **ENT-OSACMAP** command with a value for **snpa** specified:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, SNPA not supported */
;
```

RELATED TL1 MESSAGES

ENT-TL1MSGMAP

RTRV-OSACMAP

NAME

ENT-OTPE: Enter provisioning for OTPE Ports.

The **ENT-OTPE** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

The syntax of **ENT-OTPE** command is:

ENT-OTPE:*tid:aid:ctag::signaltype;*

DESCRIPTION

This command provisions the signal type associated with a specific OTPE (Optical Translator Port Entity) port within the Muxponder or Transponder pack. The OTPE port is sometimes also referred to as a Client port. Once the signal type of a port is provisioned to a value other than STNA, that port will follow the rules associated with the provisioned port type, including: initial default values, fault monitoring, and provisioning. The TL1 commands associated with the provisioned port type will be used to provision the port. When a port is provisioned to an OCn value, the port becomes an OCn line, however no tributaries within that line are addressable. When a port is provisioned to a 1GE or FC, VCGs are addressable, but not VCG tributaries. When provisioning the **signaltype** parameter, it can only be changed between STNA and non-STNA values. Requests to change directly between non-STNA signaltypes are denied.

Provisioning a port to STNA will disable the previously provisioned functionality. Provisioning a port to STNA will be denied if a loopback exists on that port.

For Muxponder packs, each port has fixed bandwidth (24 tributaries) and tributary allocation on the STS-192 OTU2 line. Tributary assignment is such that port 1 is assigned the first 24 tributaries, port 2 is assigned tributaries 25 through 48, etc. If a port is provisioned to a type that requires more than 24 tributaries, the client signal will also use the tributaries assigned to the adjacent, higher port number, until all client-signal-carrying tributaries are mapped to the STS-192. For example, if port 3 is provisioned to FC200, then the client payload will be mapped to tributaries 49-85 and thus use ports 3 and 4.

The following is a table representing this information for different signaltypes that may be supported within a Muxponder pack:

Table 2-184. *signaltype/Bandwidth Used*

Value of <i>signaltype</i>	Bandwidth Used (STS)	Number of Ports assigned
FC100	19 STS1s	1
FC200	37 STS1s	2
FC400	74 STS1s	4
FICON	19 STS1s	1
FICON_EXP	37 STS1s	2
1GE	21 STS1s	1
OC48	48 STS1s	2
OC12	12 STS1s	1
OC3	3 STS1s	1
STNA	STNA	1

Execution of this command, whether successful or denied, is recorded in the Security log.

This command generates a **REPT DBCHG** message.

The **ENT - OTPE** command, when used to change the *signaltype* parameter from **STNA** to a non-**STNA** value, generates a **REPT DBCHG** message with a *ccb* value of **ENT - OTPE**, indicating that a client port has been created. The *aid* of the client port is a port *aid*.

INPUT PARAMETERS

Table 2-185. ENT - OTPE Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> determines the interface for which the provisioning is being requested. The <i>aid</i> is a required parameter. See Appendix A - AID Table for valid AIDs. Valid AIDs include: Client Port AID.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>signaltype</i>	The OTPE Client Port Signal Type. This parameter specifies the type of client interface for the OTPE port on a Muxponder pr Transponder circuit pack. The OTPE Port is addressed by the OTPE Port <i>aid</i>. See Table 1 for the number of ports used for each <i>signaltype</i>. This parameter will have one of the following values: ■ STNA Signal Type Not Available (Initial Default) ● OC48 Client port is provisioned to support a SONET OC48 signal. On the Muxponder pack, only ports 1, 3, 5, or 7 are provisionable to OC48 and only if the next higher port (2, 4, 6, or 8 respectively) has a signal type of STNA. Provisioning the port to OC48 sets the Application to 0x1. This rate applies to client ports on a Muxponder pack. ● OC12 Client port is provisioned to support a SONET OC12 signal. Provisioning the port to OC12 sets the Application to 0x1. This rate applies to client ports on a Muxponder pack. ● OC3 Client port is provisioned to support a SONET OC3 signal. Provisioning the port to OC3 sets the Application to 0x1. This rate applies to client ports on a Muxponder pack.

Table 2-185. ENT -OTPE Input Parameters (cont 2 of 2)

Parameter Name	Description
• 1GE Client port is provisioned to support a Private Line Gigabit Ethernet. This rate applies to client ports on a Muxponder pack. • FC200 Client port is provisioned to support a 2G Fibre Channel port. Only ports 1, 3, 5, or 7 are provisionable to FC200 and only if the next higher port (2, 4, 6, or 8 respectively) has a signal type of STNA. This rate applies to client ports on a Muxponder pack. • FC100 Client port is provisioned to support a 1G Fibre Channel port. This rate applies to client ports on a Muxponder pack. • FICON Client port is provisioned to support a 1G Fibre CONnection. This rate applies to client ports on a Muxponder pack. • FICON_EXP Client port is provisioned to support a 2G Fibre CONnection EXPress. Only ports 1, 3, 5, or 7 are provisionable to FICON_EXP and only if the next higher port (2, 4, 6, or 8 respectively) has a signal type of STNA. This rate applies to client ports on a Muxponder pack.	

OUTPUT FORMAT

Refer to the **RTRV -HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **ENT -OTPE** command. If the requested command does not alter the existing condition, the NE will not deny the command. Instead the NE will respond with a COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV -HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

EXAMPLE INPUT/OUTPUT

The following example changes the signal type of a client port.

```
ENT-OTPE:LT-TID123:d1-8:123456::1GE;
```

```
IP 123456  
<
```

```
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **ENT-OTPE** command without an *aid* or with an *aid* that is not valid, the following error response is returned:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier, AID is missing, wrong or  
inconsistent with modifier */  
;
```

If the NE receives an **ENT-OTPE** command with a valid *aid* value, but one for which the corresponding equipment is provisioned to be unequipped, the following error response is returned:

```
sid date time  
M ctag DENY  
ENEQ  
/* Equipage, Not EQuipped */  
;
```

If the Network Element receives an **ENT-OTPE** command provisioning a port that does not have available bandwidth due to:

- the use of the bandwidth by another port - example: a lower port is provisioned to **OC48**
- the location of the provisioned port and the port type they are trying to provision - example: provisioning port 8's signaltype to **OC48**.

the following error response is returned:

```
sid date time
M ctag DENY
SARB
/* Status, All Resources Busy, bandwidth already allocated */
;
```

If the NE receives an **ENT-OTPE** command requesting a change of a port from one non-STNA signal type to another non-STNA signal type, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, change between non-STNA signal types not
allowed */
;
```

If the NE receives a request to change the **signaltype** to STNA and that port has a loopback active, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, can't change signaltype of port(s)/line(s)
in use */
```

RELATED TL1 MESSAGES

RTRV-OTPE

NAME

ENT-OTS: Enter provisioning for an OTS Port.

The **ENT-OTS** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

When using the **ENT-OTS** command, either the *spec_block* or *pst* parameter may be used; they are never used together. Since all the provisionable values are specified through the *spec_block* and *pst* parameters, an **ENT-OTS** command without *pst* or *spec_block* parameters will result in no action by the NE.

The syntax of **ENT-OTS** using *spec_block* parameters:

ENT-OTS:*tid:aid:ctag:::spec_block;*

The syntax of **ENT-OTS** using the *pst* parameter:

ENT-OTS:*tid:aid:ctag:::pst;*

DESCRIPTION

This command provisions the various parameters of an OTS port. An OTS port is comprised of multiplexed optical channels (OCH). It is referred to as an OTS to indicate that it is the Optical Transport Section layer of an OTN system. When the system receives an **ENT-OTS** command from the user, it will provision the appropriate OTS port according to the parameter settings in the command. The provisioned values remain active until modified (for example, by another **ENT-OTS** command). This command creates and/or provisions the addressed OTS port according to the parameters included in the command.

The **ENT-OTS** command is used to set the parameters of an optical line:

- the outside plant fiber type
- the transmission characteristics of the optical line transmit fiber
- the Dispersion Compensation Module equipage

Execution of this command, whether successful or denied, is recorded in the Security log.

This command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-186. ENT -OTS Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV -HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> determines the interface for which the provisioning is being requested. The <i>aid</i> is a required parameter. See Appendix A - AID Table for valid AIDs. Valid AIDs include: OTS port AID.
<i>ctag</i>	Correlation Tag. Refer to the RTRV -HDR command for the input parameter syntax and description of this parameter.
<i>pst</i>	Primary State. The system allows the user to provision the primary state for an OTS port. The <i>pst</i> applies to the input signal (demux side). It may also apply to the output signal (mux side) - TBD. Valid values are: ● IS In Service. In this state, alarm reporting and performance monitoring are enabled. ● OOS-MA-AS Out Of Service, Memory Administration, Assigned. This is known as AUTO. When a good signal is received (not OTS LOS), the line state is automatically transitioned to IS. In this state, alarm reporting and performance monitoring are disabled. (default) ● OOS Out Of Service. ("for Memory Administration" is implied). This is known as NMON (Not MONitored). In this state, alarm reporting and performance monitoring are disabled.
<i>spec_block</i>	The <i>spec_block</i> parameters are covered in the following table.

Table 2-187. ENT -OTS Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tcamd</i>	TCA Monitoring Mode. This parameter specifies whether performance monitoring Threshold Crossing Alert reporting is enabled or disabled for the OTS port addressed by the <i>aid</i>. This parameter will have one of the following values: ● ENABLE TCA reporting is enabled. This is the initial default value for the monitored OTS port. (Initial default) ● DISABLE TCA reporting is disabled. If the OTS port is not monitored, the value of <i>tcamd</i> will be DISABLE. TCA reporting will not begin until there is Performance Monitoring on the OTS port.
<i>tx_ftype</i>	Transmit Fiber Type. This parameter denotes the transmit optical fiber type in this span. Valid values are: ■ SSMF Standard Single-Mode Fiber (Initial value)
<i>rx_ftype</i>	Receive Fiber Type. This parameter denotes the receive optical fiber type in this span. Valid values are: ■ SSMF Standard Single Mode Fiber (Initial value)

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **ENT -OTS** command. If the requested command does not alter the existing condition, the NE will not deny the command. Instead the NE will respond with a COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

EXAMPLE INPUT/OUTPUT

The following example disables TCA Reporting on the OTS port associated with an OMD pack in fn-d-1.

```
ENT-OTS:LT-TID123:d1-ots:123456:::tcamd=DISABLE;
```

```
IP 123456
```

```
<
```

```
LT-TID123 07-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **ENT-OTS** command with an *aid* that is not valid, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

If the NE receives an **ENT-OTS** command, but one for which the corresponding equipment is provisioned to be unequipped, the following error response is returned:

```
sid date time
M ctag DENY
ENEQ
/* Equipage, Not EQuipped */
;
```

If the Network Element receives an **ENT-OTS** command with an invalid parameter value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid */
;
```

If the NE receives a command with both the ***spec_block*** and ***pst*** parameters, the following error response is returned:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, spec_block and pst cannot both be specified
in one command */
;
```

RELATED TL1 MESSAGES

RTRV-OTS

NAME

ENT-OTU2: Enter provisioning for OTU2 (Optical Channel Transport Unit) ports.

The **ENT-OTU2** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

When using the **ENT-OTU2** command, either the *spec_block* or *pst* parameter may be used: they are never used together. Since all the provisionable values are specified through the *spec_block* and *pst* parameters, an **ENT-OTU2** command without *pst* or *spec_block* parameters will result in no action by the NE.

The syntax of **ENT-OTU2** using *spec_block* parameters:

```
ENT-OTU2:tid:aid:ctag[:::spec_block];
```

The syntax of **ENT-OTU2** using the *pst* parameter:

```
ENT-OTU2:tid:aid:ctag[:::pst];
```

DESCRIPTION

This command provisions the various parameters associated with the OTU2 (Optical Channel Transport Unit 2 - 2 for 10G) port.

When the system receives an **ENT-OTU2** command from the user, it will provision the appropriate OTU2 port according to the parameter settings in the command. The provisioned values remain active until modified (for example, by another **ENT-OTU2** command).

Execution of this command, whether successful or denied, is recorded in the Security log.

This command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-188. ENT - OTU2 Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> determines the interface for which the provisioning is being requested. The <i>aid</i> is a required parameter. See Appendix A - AID Table for valid AIDs. Valid AIDs include: OTU2 port AID.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>pst</i>	Primary State. This parameter is used to set the primary state of the OTU2 Port addressed by the <i>aid</i>. Setting this parameter defines the signal monitoring state of the port. The primary state parameter is position defined. Provisionable values are: ● IS In Service. In this state, alarm reporting and performance monitoring are enabled. ● OOS-MA-AS Out Of Service, Memory Administration, Assigned. This is known as AUTO. When the OTU2 port is provisioned to the AUTO state, it will automatically transition to the in-service (IS) state upon detection of valid input. In this state, alarm reporting and performance monitoring are disabled. ● OOS Out Of Service. ("for Memory Administration" is implied). This is known as NMON (Not MONitored). In this state, alarm reporting and performance monitoring of incoming signals are disabled. The port exits this state to the AUTO state through another ENT - OTU2 command.
<i>spec_block</i>	The <i>spec_block</i> parameters are covered in the following table.

Table 2-189. ENT - OTU2 Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tcamd</i>	TCA Monitoring Mode. This parameter specifies whether performance monitoring Threshold Crossing Alert reporting is enabled or disabled for the OTU2 Port addressed by the <i>aid</i>. This parameter will have one of the following values: ● ENABLE (Initial default) TCA reporting is enabled. This is the initial default value for monitored OTU2 port. ● DISABLE TCA reporting is disabled. If the OTU2 port is not monitored, the value of <i>tcamd</i> will be DISABLE. TCA reporting will not begin until there is Performance Monitoring on the OTU2 Port.
<i>fectype</i>	Forward Error Correction Type. This parameter denotes the Forward Error Correction used. Valid values are: ■ EFEC (Initial value for Line Side) Enhanced FEC - Lucent Standard FEC. This parameter value is provisionable only on the Line side port.

OUTPUT FORMAT

Refer to the **RTRV - HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **ENT - OTU2** command. If the requested command does not alter the existing condition, the NE will not deny the command. Instead the NE will respond with a COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

EXAMPLE INPUT/OUTPUT

The following example changes the primary state of an OTU2 port.

```
ENT-OTU2:LT-TID123:d1-9:123456:::00S;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **ENT-OTU2** command with an **aid** that is not valid, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

If the NE receives an **ENT-OTU2** command with a valid **aid** value, but one for which the corresponding equipment is provisioned to be unequipped, the following error response is returned:

```
sid date time
M ctag DENY
ENEQ
/* Equipage, Not Equipped */
;
```

If the Network Element receives an **ENT-OTU2** command with an invalid parameter value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid */
;
```

If the NE receives a command with both the ***spec_block*** and ***pst*** parameters, the following error response is returned:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, spec_block and pst cannot both be specified
in one command */
;
```

RELATED TL1 MESSAGES

RTRV-OTU2

NAME

ENT - RADIUS - SERVER: Enter RADIUS Server

The **ENT - RADIUS - SERVER** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged or Administration access.

INPUT FORMAT

ENT - RADIUS - SERVER:*tid::ctag:::spec_block;*

DESCRIPTION

The **ENT - RADIUS - SERVER** command can be used to provision RADIUS server information on the NE, including the IP address of the RADIUS server, the UDP port number for RADIUS, the primary or secondary role of the RADIUS server and the shared secret between the RADIUS client and the RADIUS server.

Up to two RADIUS servers can be provisioned by using this command multiple times.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - RADIUS - SERVER** command generates a **REPT DBCHG** message.

The configured shared secret between the RADIUS client and the RADIUS server will not be displayed on the **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-190. ENT - RADIUS - SERVER Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

Table 2-190. ENT - RADIUS - SERVER Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-191. ENT - RADIUS - SERVER Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>ipaddr</i>	IP Address. It identifies the IP address of the RADIUS server. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The value 0.0.0.0 is invalid. This is a required parameter.
<i>port</i>	Port Number. It identifies the UDP port number for RADIUS. The valid values are integers from 1 to 65535. This is an optional parameter. The initial value is 1812.
<i>role</i>	Role. It identifies the role of the RADIUS server, functioning as a primary server or a secondary server. Valid values are PRIMARY and SECONDARY. Only one primary and one secondary RADIUS servers are allowed to be provisioned. This is a required parameter.
<i>secret</i>	Secret. It identifies the shared secret between the RADIUS client and the RADIUS server. Valid values are case-sensitive strings of 1 to 128 characters, with characters @ , : = " ; * \ ! ? not being allowed due to their special TL1 meanings. This is a required parameter.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time  
M ctag COMPLD  
;
```

If the requested command does not change the existing parameter values, the NE does not deny the command. Instead the NE responds with the normal completion shown above.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example provisions a RADIUS server information on the NE:

```
ENT-RADIUS-SERVER:ALT-TID123::123456::ipaddr=210.10.10.1,role=primary,  
secret=wer#76%ioplk>897;  
  
IP 123456  
<  
  
LT-TID123 07-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an error is detected in any of the command parameters, the entire command is denied; the command cannot be partially completed.

If there are errors in more than one command parameter, an error is detected and reported in only one of the parameters. The parameter for which the error is detected may not be the first parameter in the command that is in error.

The NE returns the following error response if an **aid** value is entered:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier */
;
```

The NE returns the following error response if the same parameter is repeated in the **spec_block**:

```
sid date time
M ctag DENY
  IISP
  /* Input, Invalid Syntax or Punctuation, parameter(s)
  multiply defined */
;
```

The NE returns the following error response if the **ipaddr** value in the **spec_block** is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid IPADDR value */
;
```

The NE returns the following error response if the **port** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid PORT value */
;
```

The NE returns the following error response if the **role** value in the **spec_block** is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid ROLE value */
;
```

The NE returns the following error response if the **secret** value in the **spec_block** is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid SECRET value */
;
```

The NE returns the following error response if the command would have provisioned more than one primary RADIUS server for the NE:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cannot provision more than one
  primary RADIUS server */
;
```

The NE returns the following error response if the command would have provisioned more than one secondary RADIUS server for the NE:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cannot provision more than one
  secondary RADIUS server */
;
```

RELATED TL1 MESSAGES

DLT - RADIUS - SERVER

ENT-RADIUS-SERVER
TL1 Message Details

ENT-RADIUS-SERVER
Alcatel-Lucent 1665 DMX, R9.0

RTRV - RADIUS - SERVER

ENT - SYS

RTRV - SYS

NAME

ENT-RC-NEIGHBOR: Enter Routing Controller Neighbor

The **ENT-RC-NEIGHBOR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT-RC-NEIGHBOR:*tid::ctag:::spec_block;*

DESCRIPTION

The **ENT-RC-NEIGHBOR** command adds an E-NNI Level 1 Routing Controller (RC) to the list of neighboring routing controllers for the local node.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT-RC-NEIGHBOR** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-192. ENT-RC-NEIGHBOR Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-193. ENT - RC - NEIGHBOR Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>remrcid</i>	Remote Routing Controller Identifier. The RC ID of neighboring routing controller. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The value 0.0.0.0 is invalid. More than one neighbor can be provisioned by executing the command multiple times. A maximum of 20 neighbors can be provisioned. This is a required parameter.
<i>remrcscn</i>	Remote Routing Controller SCN IP address. The SCN IP address of a neighboring routing controller. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The value 0.0.0.0 is invalid. When an existing remote RC ID, but different remote RC SCN IP address is entered, the command treats it as a modification to the remote RC SCN IP address. This is a required parameter.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the requested command does not change the existing parameter values, the NE does not deny the command. Instead the NE responds with the normal completion shown above.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example adds a neighboring RC:

```
ENT-RC-NEIGHBOR:LT-TID123::12345:::remrcid=10.10.10.1,remrcscn=220.10.10.1;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an error is detected in any of the command parameters, the entire command is denied; the command cannot be partially completed.

If there are errors in more than one command parameter, an error is detected and reported in only one of the parameters. The parameter for which the error is detected may not be the first parameter in the command that is in error.

The NE returns the following error response if an **aid** value is entered:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier */  
;
```

The NE returns the following error response if the same parameter is repeated in the **spec_block**:

```
sid date time  
M ctag DENY  
IISP  
/* Input, Invalid Syntax or Punctuation, parameter(s)  
multiply defined */  
;
```

The NE returns the following error response if the **remrcid** value in the **spec_block** is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid REMRCID value */
;
```

The NE returns the following error response if the **remrcscn** value in the **spec_block** is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid REMRCSCN value */
;
```

The NE returns the following error response if more than the maximum number of neighbors are entered:

```
sid date time
M ctag DENY
  SROF
/* Status, Requested Operations Failed, more than the maximum
number of neighbors entered */
;
```

RELATED TL1 MESSAGES

RTRV-RC-NEIGHBOR

DLT-RC-NEIGHBOR

NAME

ENT-ROLL-rr: Enter Roll

The **ENT-ROLL-rr** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 3.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT-ROLL-modifier:tid:src_aid,dest_aid:ctag:::spec_block;

Beginning in Release 6.0, the following input format is applicable.

ENT-ROLL-modifier:tid:src_aid,dest_aid:ctag::[cct[,src2_aid]]:spec_block;

DESCRIPTION

The **ENT-ROLL** command can be initiated by a user to roll the input of an existing leg of a cross-connection from a given channel to another channel, while leaving the output unchanged. The **modifier** in the **ENT-ROLL** command indicates the rate on which the **ENT-ROLL** command acts.

When rolling a cross-connection input to a channel or ring channel on an OLIU,

- If the command mode is set to normal (**cmdmde=NORM**), the NE will deny the roll if certain path level defects exist on the new input. Otherwise, the roll completes.
- If the command mode is set to forced (**cmdmde=FRCD**), the NE completes the roll without checking for path defects.

When rolling a cross-connection input to channel not on an OLIU,

- If the command mode is set to normal (**cmdmde=NORM**), the NE will deny the roll.
- If the command mode is set to forced (**cmdmde=FRCD**), the NE completes the roll without checking for path defects.

By definition, a locked cross-connection is one in which traffic is dropped from a single UPSR ring channel to a DS1 or DS3 interface. The cross-connection is locked in the sense that the drop traffic is not path protected and is always selected from the specified UPSR ring channel.

Beginning in Release 5.0, the definition of a locked cross-connection is expanded to include one in which traffic is dropped from a single UPSR ring channel to a 0x1Sn interface.

Beginning in Release 7.0, in systems equipped with VLF mains, the 0x1 application replaces the 0x1Sn application. Consequently, the definition of a locked cross-connection is expanded to include one in which traffic is dropped from a single UPSR ring channel to a 0x1 interface.

Beginning in Release 7.1, this command does not apply for WDM packs (OMDs, Muxponders), which do not have addressable tributaries. For optical channel cross-connections, see **ENT-CRS-0CH**. For a description of how client ports are handled, see **ENT-OTPE**.

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

In response to the **ENT-ROLL-rr** command, the NE issues two or more **REPT DBCHG** messages as follows in the order indicated:

1. The NE issues a **REPT DBCHG** message, with *ccb*=DLT-CRS-rr, for the deletion of the cross-connection which existed prior to the execution of the **ENT-ROLL-rr** command (i.e. the rolled-from cross-connection).
2. If the execution of the **ENT-ROLL-rr** command results in the creation of a 2-way cross-connection, the NE issues a **REPT DBCHG** message, with *ccb*=DLT-CRS-rr, for the deletion 1-way cross-connection which was combined with the resultant rolled cross-connection to form the 2-way cross-connection.
3. The NE issues a **REPT DBCHG** message, with *ccb*=ENT-CRS-rr, for the creation of the cross-connection which results from the execution of the **ENT-ROLL-rr** command whether it be a 1-way cross-connection or a 2-way cross-connection.
4. If the execution of the **ENT-ROLL-rr** command results in the splitting of a 2-way cross-connection, the NE issues a **REPT DBCHG** message, with *ccb*=ENT-CRS-rr, for the creation of the 1-way cross-connection which is the remaining leg of the original 2-way cross-connection.

Beginning in Release 6.0, support for 2-way cross-connections is discontinued. Consequently, in response to the **ENT-ROLL-rr** command, the NE only issues the following **REPT DBCHG** messages in the order indicated.

1. The NE issues a **REPT DBCHG** message, with *ccb*=DLT-CRS-rr, for the deletion of the cross-connection which existed prior to the execution of the **ENT-ROLL-rr** command (i.e. the rolled-from cross-connection).
2. The NE issues a **REPT DBCHG** message, with *ccb*=ENT-CRS-rr, for the creation of the cross-connection which results from the execution of the **ENT-ROLL-rr** command.

Beginning in Release 6.0, in the **REPT DBCHG** message for a **1WAYPR** atomic cross-connection, the slot 1 ring channel input is reported as the *src_aid* and the slot 2 ring channel input is reported as the *src2_aid*, regardless of the order in which the AIDs were specified in the command.

Beginning in Release 6.0, when rolling the input(s) of a cross-connection for which the destination is a UPSR ring channel, if there is a cross-connection bridged from the same input(s) to the complementary UPSR ring channel, then in response to the **ENT-ROLL-rr** command to roll the input(s) of one of the bridged cross-connections, the NE rolls the input(s) of both cross-connections and issues separate **REPT DBCHG** messages for each.

In response to an **ENT-ROLL-rr** command which results in two bridged 1WAY cross-connections whose outputs are on complementary UPSR ring channels, the NE issues the following **REPT DBCHG** notifications in the order specified.

1. The NE issues a **REPT DBCHG** message, with *ccb*=DLT-CRS-rr, for the deletion of the cross-connection which existed prior to the execution of the **ENT-ROLL-rr** command (i.e. the rolled-from cross-connection).
2. The NE issues a **REPT DBCHG** message with *ccb*=DLT-CRS-rr for the deletion of the pre-existing 1WAY cross-connection to one of the ring channels.
3. The NE issues **REPT DBCHG** notification with *ccb*=ENT-CRS-rr for the creation of a 1WAYPR cross-connection whose output aid is the corresponding UPSR channel AID.

In response to an **ENT-ROLL-rr** command which results in a two bridged 1WAYPR cross-connections whose outputs are on complementary UPSR ring channels, the NE issues the following **REPT DBCHG** notifications in the order specified.

1. The NE issues a **REPT DBCHG** message, with *ccb*=DLT-CRS-rr, for the deletion of the cross-connection which existed prior to the execution of the **ENT-ROLL-rr** command (i.e. the rolled-from cross-connection).
2. The NE issues a **REPT DBCHG** message with *ccb*=DLT-CRS-rr for the deletion of the pre-existing 1WAYPR cross-connection to one of the ring channels.
3. The NE issues **REPT DBCHG** notification with *ccb*=ENT-CRS-rr for the creation of a 1WAYPR cross-connection whose output aid is the corresponding UPSR channel AID.

Beginning in Release 6.0, in response to the **ENT-ROLL-rr** command, the NE does not issue any additional **REPT DBCHG** messages as the result of creating a bridged cross-connection. It only issues the **REPT DBCHG** messages described previously.

In response to **ENT-ROLL-rr** command on a path-protected cross-connection, the NE issues the following **REPT DBCHG** messages in the order indicated

1. The NE issues a **REPT DBCHG** message, with *ccb*=DLT-PROTN-GRP, for the deletion of the path protection group which existed prior to the execution of the **ENT-ROLL-rr** command,
2. The NE issues a **REPT DBCHG** message, with *ccb*=ENT-PROTN-GRP, for the creation of the path protection group which results from the execution of the **ENT-ROLL-rr** command.

INPUT PARAMETERS

Table 2-194. ENT-ROLL-rr Input Parameters (cont 1 of 3)

Parameter Name	Description
<i>modifier</i>	Modifier: The <i>modifier</i> indicates the cross-connection rate on which the enter roll command is to act. Values: STS1 STS3c STS12c STS48c VT1
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-194. ENT-ROLL-rr Input Parameters (cont 2 of 3)

Parameter Name	Description
<i>src_aid</i>	Source Access Identifier. See Appendix A - AID Tables. The <i>src_aid</i> is a required parameter and must address a valid channel. ALL is not allowed in the <i>src_aid</i> for this command if the <i>modifier</i> is STS1 or greater, but is allowed at the VTG or VT1.5 level when the <i>modifier</i>=VT1. Beginning in Release 6.0, <i>src_aid</i> identifies the input of a 1WAY cross-connection or the first input of a 1WAYPR cross-connection. ALL is not allowed in the <i>src_aid</i> for this command at the VTG or VT1.5 level when rolling cross-connections involving the LNW74 pack Supported AID formats: STS-n channel STS-n ring channel VT1.5 channel VT1.5 ring channel A 2-way UPSR pass-through cross-connection has an identical channel aid for both the <i>src_aid</i> and <i>dest_aid</i>. In order to specify the direction of a UPSR pass-through cross-connection that is to be rolled, a ring channel <i>src_aid</i> and a ring channel <i>dest_aid</i> are used in the ENT-ROLL-rr command. STS-n logical ring channels VT1.5 logical ring channels Beginning in Release 6.0, logical ring channel aids are used to specify the source and destination of a cross-connection. Refer to Appendix A - AID Tables for the definition of the logical ring channel aids. Beginning in Release 6.0, 2-way UPSR pass-through connectivity is achieved by provisioning 2 independent 1-way cross-connections using logical ring channel aids.

Table 2-194. ENT-ROLL-rr Input Parameters (cont 3 of 3)

Parameter Name	Description
<i>dest_aid</i>	Destination Access Identifier. See Appendix A - AID Tables. The <i>dest_aid</i> is a required parameter and must address a valid channel. ALL is not allowed in the <i>dest_aid</i> for this command if the <i>modifier</i> is STS1 or greater, but is allowed at the VTG or VT1.5 level when the <i>modifier</i>=VT1. Supported AID Formats: same as in <i>src_aid</i> A 2-way UPSR pass-through cross-connection has an identical channel aid for both the <i>src_aid</i> and <i>dest_aid</i>. In order to specify the direction of a UPSR pass-through cross-connection that is to be rolled, a ring channel <i>src_aid</i> and a ring channel <i>dest_aid</i> are used in the ENT-ROLL-rr command. Beginning in Release 6.0, 2-way UPSR pass-through connectivity is achieved by provisioning 2 independent 1-way cross-connections using logical ring channel aids.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>cct</i>	cross-connection Type. <i>cct</i> specifies the type of the existing cross-connection and will be null, or will have one of the following values: 1WAY (Default) A 1-way point-to-point cross-connection between the <i>src_aid</i> to the <i>dest_aid</i>. 1WAYPR A 1-way path-protected cross-connection connection with two inputs, <i>src_aid</i> and <i>src2_aid</i>, and one output, <i>dest_aid</i>.
<i>src2_aid</i>	Second Source Access Identifier. See "Appendix A - AID Tables". <i>src2_aid</i> identifies the second input of a 1WAYPR cross-connection. It is supported only for rolling existing 1WAYPR cross-connections. In Release 6.0, rolling only one input of a 1WAYPR cross-connection is not supported. Consequently <i>src2_aid</i> is a required parameter when rolling a 1WAYPR cross-connection. See <i>src_aid</i> for the list of supported aid values and formats.
<i>spec_block</i>	The following are the <i>spec_block</i> parameters.

Table 2-195. ENT-ROLL-rr Input *spec_block* Parameters

Parameter Name	Description of Spec_Block Parameters
chappl	Channel Application. chappl specifies that the cross-connection is an unswitched cross-connection. For these cross-connections, internal equipment protection is disabled. If the parameter is omitted from the ENT-ROLL-rr command, internal equipment protection is enabled. Values include: ■ UNSWITCHED Setting chappl=UNSWITCHED on supported path-protected cross-connections from UPSR interfaces also disables path switching. Beginning in Release 6.0, support for the chappl parameter is discontinued. The ability to change the channel application via the ENT-ROLL-rr command is no longer supported. Instead, the channel application is inherited from the existing cross-connection.
circuitid	Circuit Identifier. circuitid is a quoted text string of up to 36 ASCII characters. The permitted character set consists of the 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language), with the following exceptions: the ; (semicolon), " (double quote), and \ (backslash) characters are not permitted within the quoted string. Setting circuitid="" (i.e. specifying a null string) in the command is the equivalent of deleting the circuitid parameter value. If circuitid is not specified, then the circuitid parameter value of the resultant cross-connection is inherited from the original cross-connection. circuitid is a provisionable attribute of an STSn rate cross-connection. Beginning in Release 5.0 circuitid is a provisionable attribute of a VT1 rate cross-connection.
cmdmde	Command Mode. cmdmde determines whether or not the ENT-ROLL-rr command completes in the presence of faults on the specified newsrsrc_aid input. If cmdmde is not specified the command operates in NORM mode. Values: NORM deny roll to faulty input FRCD force roll to faulty input

Table 2-195. ENT-ROLL-rr Input *spec_block* Parameters

Parameter Name	Description of Spec_Block Parameters
<i>newcct</i>	cross-connection Type. This parameter specifies the type of the resultant cross-connection. Values: 1WAY (Default) - A 1-way point-to-point cross-connection from the <i>newsrc_aid</i> to the <i>dest_aid</i>. 1WAYPR - A 1-way path-protected cross-connection with two inputs, <i>newsrc_aid</i> and <i>newsrc2_aid</i>, and one output, <i>dest_aid</i>.
<i>newsrc_aid</i>	New Source AID: This parameter specifies the new input channel AID to which the cross-connection has to be rolled from its existing input AID. Beginning in Release 6.0, <i>newsrc_aid</i> identifies the input of a 1WAY cross-connection or the first input of a 1WAYPR cross-connection. Supported AID Formats: same as in <i>src_aid</i> In a multi-shelf DCS system utilizing a single TID, <i>newsrc_aid</i> may specify a tributary (ring channel) of a customer interfacing port in a subshelf. See Appendix A for the list supported subshelf ring channel AIDs.
<i>newsrc2_aid</i>	Second New Source Access Identifier. See "Appendix A - AID Tables". <i>newsrc2_aid</i> identifies the second input of a 1WAYPR cross-connection. It is required and supported only when <i>newcct=1WAYPR</i>. Supported Formats and values: See <i>src_aid</i>
<i>newloca</i>	New loca: This parameter specifies the new source TID and, unless otherwise noted, is required if the <i>newsrc_aid</i> is in a BLSR protection group. For non-BLSR connections, this parameter does not apply. Values: See <i>tid</i> in the RTRV-HDR command. <i>newloca</i> shall not be entered when rolling unswitched cross-connections. (See <i>chapp=UNSWITCHED</i> in RTRV-CRS-rr.) Beginning in Release 4.0, if automatic squelch map generation is enabled (see <i>rcmode=AUTO</i> in RTRV-PROTN-GRP), <i>newloca</i>, as required above, may be omitted.

Table 2-195. ENT-ROLL-rr Input *spec_block* Parameters

Parameter Name	Description of Spec_Block Parameters
<i>newvtacc</i>	VT Accessed: <i>newvtacc</i> is an attribute of a STS1 BLSR pass-through cross-connection. It specifies whether or not the STS1 transports VTs which are cross-connected at the VT1 rate at other nodes in the circuit. Values: YES - VT-accessed This parameter is omitted for cross-connections which are not VT-accessed. If automatic squelch map generation is enabled (see <i>rcmode</i>=AUTO in RTRV-PROTN-GRP), <i>newvtacc</i>, as required above, may be omitted.
<i>newvtloca</i>	VT loca: <i>newvtloca</i> is the source node tid of a VT1 BLSR cross-connection. A non-Null <i>newvtloca</i> is required for VT1 cross-connections if and only if <i>newsrcaid</i> is a VT1.5 in a BLSR protection group, subject to the following exceptions: <i>newvtloca</i> must not be provisioned for VT1 pass-through cross-connections and VT1 UNSWITCHED cross-connections. Values: See <i>tid</i> in the RTRV-HDR command. If automatic squelch map generation is enabled (see <i>rcmode</i>=AUTO in RTRV-PROTN-GRP), <i>newvtloca</i>, as required above, may be omitted.
<i>newxcappl</i>	Cross-connection Application: <i>xcappl</i> is provided as a means to identify the application in which the cross-connection is used. The management system can use <i>xcappl</i> in conjunction with <i>xcnum</i> to uniquely identify a set of cross-connections associated with one instance of an application. If <i>newxcappl</i> is not specified, then the <i>xcappl</i> parameter value of the resultant cross-connection is inherited from the original cross-connection. Values: 0-255 The mapping of applications to numeric values is a management system function.

Table 2-195. ENT-ROLL-rr Input *spec_block* Parameters

Parameter Name	Description of Spec_Block Parameters
<i>newxcnum</i>	Cross-Connection Number: <i>xcnum</i> is provided as a means to identify the instance of the application (<i>xcappl</i>) in which the cross-connection is used. The management system can use <i>xcnum</i> in conjunction with <i>xcappl</i> to uniquely identify a set of cross-connections associated with one instance of an application. If <i>newxcnum</i> is not specified, then the <i>xcnum</i> parameter value of the resultant cross-connection is inherited from the original cross-connection. Values: Any 9-digit number is acceptable. The suggested format of the 9 digits is as follows: 2 digits for the slot, 2 digits for the port, 3 digits for the STS tributary and 2 digits for the VT tributary.

OUTPUT FORMAT

If the **ENT-ROLL-rr** command completes successfully, the following normal completion response is returned.

```
IP ctag
<
    sid date time
M  ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, all cross-connections must be provisioned using logical ring channel aids. In addition, support for the ***chappl*** parameter is discontinued. Consequently, unless otherwise specified, the following examples should be considered invalid in Release 6.0.

The following example rolls an **STS1** point-to-point cross-connection from one BLSR channel to another.

```
ENT-ROLL-STs1:LT-DMX-1:m1-1-2,a-1-1:123456::newsrc_aid=m1-1-4,  
newloca=LT-DMX-2;  
LT-DMX-1 02-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example rolls an **STS3c** path-protected cross-connection from one UPSR channel to another.

```
ENT-ROLL-STs3c:LT-DMX-1:m-1-1,a-1-1:123456::newsrc_aid=m-1-10;  
LT-DMX-1 02-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example rolls an **STS12c** pass-through cross-connection to an add cross-connection.

```
ENT-ROLL-STs12c:LT-DMX-1:a2-1-1,a1-1-1:123456::newsrc_aid=b-1-1;  
LT-DMX-1 02-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following is an example of a **ENT-ROLL-rr** command containing the *chappl* parameter.

```
ENT-ROLL-STs1:LT-DMX-1:m-1-2,a-1-1:123456::newsrc_aid=m-1-4,  
chappl=UNSWITCHED;  
LT-DMX-1 02-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following example rolls a **VT1** cross-connection from one BLSR ring channel to another.

```
ENT-ROLL-VT1:LT-DMX-1:m1-1-2-1-1,a-1-1-1-1:123456:::newsrc_aid=m1-1-4-1-1,newloca=LT-DMX-2,newvtloca=LT-DMX-2;  
LT-DMX-1 02-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following examples are valid beginning in Release 6.0.

The following example rolls an **STS1** point-to-point cross-connection from one BLSR channel to another.

```
ENT-ROLL-ST1:LT-DMX-1:m1-1-2,a1-1-1:123456:::newsrc_aid=m1-1-4,  
newloca=LT-DMX-2;  
LT-DMX-1 05-12-30 08:00:00  
M 123456 COMPLD  
;
```

The following examples roll both inputs of two path-protected cross-connections that provide one direction of transmission in a UPSR inter-ring application.

```
ENT-ROLL-ST1:LT-123-1:m1-1-2,d1-1-1:123456:::1WAYPR,m2-1-2:  
newcct=1WAYPR,newsrc_aid=m1-1-4,newsr2_aid=m2-1-4;  
LT-123 05-12-30 08:00:00  
M 123456 COMPLD  
;
```

```
ENT-ROLL-ST1:LT-123-1:m1-1-2,d2-1-1:123457:::1WAYPR,m2-1-2:  
newcct=1WAYPR,newsrc_aid=m1-1-4,newsr2_aid=m2-1-4;  
LT-123 05-12-30 08:01:00  
M 123457 COMPLD  
;
```

The following example rolls an **STS1** pass-through cross-connection on the main to an add cross-connection.

```
ENT-ROLL-STS1:LT-DMXT-1:m1-1-1,m2-1-1:123456::newcct=1WAY,  
newsrsrc_aid=d1-1-1,newxcpl=70,newxcnum=0901000100;  
LT-DMXT-1 05-12-30 08:00:00  
M 123456 COMPLD  
;
```

The following example rolls the input of an existing VT1 cross-connection between the DS1 tributary on a subshelf and a DS1 tributary (of an LNW20) on the main shelf.

```
ENT-ROLL-VT1:TID123:2-a1-1-1-1,b1-1-1-1:123456::newcct=1WAY,  
newsrsrc_aid=2-c1-1-1-1;  
  
IP 123456  
<  
LT-DMXT-1 05-12-30 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the error responses in **RTRV-HDR**. The error response listed there may also apply.

If the NE receives an **ENT-ROLL-rr** command in which one or more of the input parameter values does not belong to the set of allowable parameter values for that specific parameter, the following error response is returned.

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid <parameter_name> parameter value */  
;
```

If the NE receives an **ENT-ROLL-rr** command without a valid **aid**, the following error response is returned.

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID is missing, wrong or
    inconsistent with modifier */
;
```

If a system receives an **ENT-ROLL-rr** command with an invalid **cct** value, the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid cct */
;
```

If the NE receives an **ENT-ROLL-rr** command with an invalid **newcct** value, the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid newcct */
;
```

If the NE receives an **ENT-ROLL-rr** command in which one or more of the required input parameters is missing, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, missing required input parameter(s) */
;
```

If the NE receives an **ENT-ROLL-rr** command with the same parameter specified more than once, the following error response is returned.

```
sid date time
M ctag DENY
IISP
/* Input, Invalid Syntax or Punctuation, parameter(s) multiply
defined */
;
```

If the NE receives an otherwise valid **ENT-ROLL-rr** command for which the specified cross-connection does not exist, the following error response is returned.

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, cross-connection does not exist */
;
```

If the NE receives an otherwise valid **ENT-ROLL-rr** command for which the specified rate is not equivalent to the rate of the existing cross-connection, the following error response is returned.

```
sid date time
M ctag DENY
IPNC
/* Input, Parameter Not Consistent, rate mismatch */
;
```

If the NE receives an **ENT-ROLL-rr** command to roll a cross-connection input to an unsupported VCG channel of 1 GbE or 10/100 Fast Ethernet cards, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, entered VCG cannot be
provisioned by the user */
;
```

If the NE receives an otherwise valid **ENT-ROLL-rr** command for which the resultant cross-connection is not supported, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, cross-connection not supported between
the specified AIDs */
;
```

If the NE receives an otherwise valid **ENT-ROLL-rr** command but the requested cross-connection is not supported in combination with one or more existing cross-connections, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, unsupported cross-connection
combination */
;
```


If the NE receives an otherwise valid **ENT-ROLL-rr** command, but the target interfaces do not support the specified rate, then the following error response is returned.

```
sid date time
M ctag DENY
ENSI
/* Equipage, shelf equipage does not allow requested
   cross connection */
;
```

In systems equipped with LNW26 type mains, if the NE receives an otherwise valid **ENT-ROLL-VT1** command to roll an existing cross-connection to a VT pass-through cross-connection and the resultant cross-connection would conflict with an existing add/drop or hairpin cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, only VT add/drop cross-
   connections allowed */
;
```

If the network element receives an otherwise valid **ENT-ROLL-rr** command, but for which the system is not properly equipped, the following error response is returned.

```
sid date time
M ctag DENY
ENSI
/* Equipage, shelf equipage does not allow requested
   cross connection */
;
```

The following provides some sample cases where the above error would result.

- The system receives an otherwise valid cross-connection command, but the slot pair addressed by at least one of the aids in the input command is equipped with a mix of incompatible circuit packs.

If the NE receives an **ENT-ROLL-rr** command to provision a cross-connection to the channel or ring channel of a pluggable optical port on an OC-n pack or on an Ethernet or Data pack operating in a private line mode, and an optical module for

that port does not appear in the equipment list, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, shelf equipage does not allow requested
    cross connection */
;
```

Note, for OC-n packs that are part of a protection group, the command is accepted if the pluggable transmission module for the specified port or its companion appears in the equipment list.

If the NE receives an otherwise valid **ENT-ROLL-rr** command, but the number of cross-connections originating from the specified *newsrc_aid* is already at the limit supported by the system, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SACC
  /* Status, Already Cross Connected */
;
```

If the NE receives an otherwise valid **ENT-ROLL-rr** command but the entered command, if executed, would exceed its VT1.5 cross-connection capacity on the system, the following error response is returned.

```
sid date time
M ctag DENY
  SROF
  /* Status, Requested Operation Failed, cross-connect
    capacity is not available */
;
```

If the NE receives an otherwise valid **ENT-ROLL-rr** command, but the entered command, if executed, would exceed its DS1 cross-connection capacity of the system, the following error response is returned.

```
sid date time
M  ctag DENY
   SROF
/* Status, Requested Operation Failed, cross-connect
   capacity is not available */
;
```

If the NE receives an otherwise valid **ENT-ROLL-VT1** command but the command, if executed, would access an unavailable VT1.5, the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SROF
/* Status, Requested Operation Failed, VT is not available */
;
```

If the NE receives an otherwise valid **ENT-ROLL-STS1** command to establish an STS-1 cross-connection to a 28-port DS1 pack, but the command, if executed, would access unavailable bandwidth to the DS1 pack, the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SROF
/* Status, Requested Operation Failed, STS-1 cross-connect
   capacity to DS1 pack is not available */
;
```

If the NE receives an otherwise valid **ENT-ROLL-rr** command to roll a cross-connection input to a channel of a port in a BLSR port protection group, and a

valid ring map for the specified BLSR port protection group is not stored in NVM, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, Invalid Ring Map */
;
```

For BLSR protection groups requiring manual squelch map provisioning, If the NE receives an otherwise valid **ENT-ROLL-rr** command where the value of the **newloca** parameter is not compliant with the following rules,

- a non-NULL Source TID (**newloca**) is required if the new input (**newsrc_aid**) is a ring channel on a port in a BLSR port protection group
- a non-NULL Source TID (**newloca**) is a TID in the active ring map
- the Source TID (**newloca**) is NULL if new input (**newsrc_aid**) is not a ring channel on a port in a BLSR port protection group

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, newloca not valid */
;
```

Beginning in Release 4.0, If the NE receives an **ENT-ROLL-rr** command where the value of the **newloca** parameter is not compliant with the following rules,

- a non-NULL **newloca** parameter is required if the **newsrc_aid** is a ring channel on a port in a BLSR port protection group requiring manual squelch map provisioning, and the cross-connection is NOT one of the following types:
 - a multipoint cross-connection
 - an unswitched cross-connection
- a non-NULL **newloca** parameter is permitted if the **newsrc_aid** is a ring channel on a port in a BLSR port protection group with automatic squelch map generation enabled, and the cross-connection is NOT one of the following types:
 - a multipoint cross-connection
 - an unswitched cross-connection
- a non-NULL **newloca** parameter is a TID in the active ring map.

- if the **modifier=VT1**, the value of **newloca** must be the same as the value of **loca** associated with any existing VT1 cross-connection whose input is the same STS1
- the **newloca** parameter is NULL if the **newsrc_aid** is not a ring channel on a port in a BLSR port protection group

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, newloca not valid */
;
```

If the NE receives an **ENT-ROLL-rr** command where the value of the **newvtloca** parameter is not compliant with the following rules,

- a non-NULL **newvtloca** parameter is required if and only if the **modifier=VT1** and the **newsrc_aid** is a VT1 ring channel on a port in a BLSR port protection group requiring manual squelch map provisioning, and the cross-connection is NOT one of the following types:
 - a pass-through cross-connection
 - an unswitched cross-connection
- a non-NULL **newvtloca** parameter is permitted if and only if the **modifier=VT1** and the **newsrc_aid** is a VT1 ring channel on a port in a BLSR port protection group with automatic squelch map generation enabled, and the cross-connection is NOT one of the following types:
 - a pass-through cross-connection
 - an unswitched cross-connection
- a non-NULL **newvtloca** parameter is a TID in the active ring map
- if the **modifier=VT1**, the value of **newloca** must be the same as the value of **loca** associated with any existing VT1 cross-connection which is carrying traffic dropped from **newsrc_sid**
- the **newvtloca** parameter is NULL if the **newsrc_aid** is not a VT1 ring channel on a port in a BLSR port protection group

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, unexpected or invalid newvtloca */
;
```

If the NE receives an **ENT-ROLL-rr** command where the value of the *newvtacc* parameter is not compliant with the following rule,

- A non-NULL *newvtacc* parameter is permitted if and only if the *modifier*=**STS1** and the resultant cross-connection is a BLSR pass-through cross-connection

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, unexpected or invalid newvtacc */
;
```

In systems not supporting VT1.5 grooming of switched BLSR channels, If the NE receives an **ENT-ROLL-rr** command, with the *modifier* = **VT1** and a *newsrsrc_aid* which is a channel on a port in a BLSR protection group, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, VT1.5 grooming of BLSR tributaries
not supported */
;
```

In systems not supporting protection access, If the NE receives an **ENT-ROLL-rr** command in which *newsrsrc_aid* specifies a protection channel of a port in a BLSR protection group, the command is denied and the following error response is returned.

the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, protection access not supported */
;
```

In systems not supporting BLSR TSI cross-connections, If the NE receives an **ENT-ROLL-rr** command to roll to such a cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, TSI cross-connections not supported
*/
;
```

In systems not supporting UPSR TSI cross-connections, If the NE receives an **ENT-ROLL-rr** command to roll to such a cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  ENSI
/* Equipage, shelf equipage does not allow requested
   cross-connection */
;
```

If the NE receives an **ENT-ROLL-rr** command to roll a multipoint cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, rolling of mltpt cross-connections
not supported */
;
```

Beginning in Release 7.0, the previous error check is discontinued and the cross-connection is accepted.

In systems supporting Non-preemptible Unprotected Traffic (NUT), If the NE receives an **ENT-ROLL-rr** command to roll a cross-connection input, for which the associated output is a BLSR channel whose NUT attribute is set to **PROT** or

PREE, to an unswitched channel, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, NUT attribute not consistent with
cross-connections to unswitched channel */
;
```

In systems supporting Non-preemptible Unprotected Traffic (NUT), If the NE receives an **ENT-ROLL-rr** command to roll an STS-Nc cross-connection to a BLSR channel or ring channel, and there is a mix of protected (*nutatr*=PROT/PREE) and unprotected (*nutatr*=NOTPR/NPRE or *nutatr*=TNOTP/TNPRES) STS-1 timeslots within the specified STS-Nc channel or ring channel, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, NUT attribute not consistent across
all timeslots */
;
```

If the NE receives an **ENT-ROLL-rr** command to roll an **STS48c** rate cross-connection to a channel of an OC-48 port in a BLSR protection group, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid rate */
;
```

In systems in which the main is equipped with OC-48 pack(s) with limited bandwidth to function slots a, b or c, it is permissible for the system to deny an otherwise valid **ENT-ROLL-rr** command to roll a cross-connection input to any

channel in the range STS #25 to STS #48 on a LS OC48 pack in any fna, fnb or fnc slot. For any denied command, the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Input, Data Not Valid, cross-connect not supported between
  specified AIDs */
;
```

If the NE receives an otherwise valid **ENT-ROLL-rr** command in which a specified **newsrsrc_aid** is not consistent with the provisioned value of the application parameter of the port identified in the aid, then the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, aid not consistent with provisioned
  port application */
;
```

If the NE receives an **ENT-ROLL-rr** command, to roll the input of an existing cross-connection, for which there is no specified value of the **chappl** parameter, to a UPSR ring channel and any of the following conditions exist,

- the resultant cross-connection is a drop cross-connection and there is an existing 1WAY drop cross-connection sourced from the associated ring channel on the opposite UPSR port
- the resultant cross-connection is a drop cross-connection and there is an existing cross-connection destined to the associated ring channel on the opposite UPSR port
- the resultant cross-connection is a VT drop cross-connection and there is an existing 1WAY drop cross-connection sourced from any VT within the associated STS1 ring channel on the opposite UPSR port
- the resultant cross-connection is a VT drop cross-connection and there is an existing cross-connection destined to any VT within the associated STS1 ring channel on the opposite UPSR port

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, associated ring channel already
cross-connected */
;
```

Beginning in Release 6.0.2, the following check replaces the previous check.

If the NE receives an **ENT-ROLL-rr** command to roll the input of an existing cross-connection, for which there is no specified value of the **chappl** parameter, to a UPSR ring channel and any of the following conditions exist,

- the specified cross-connection is a drop cross-connection and there is an existing 1WAY drop cross-connection sourced from the associated ring channel on the opposite UPSR port
- the specified cross-connection is a drop cross-connection and there is an existing cross-connection destined to the associated ring channel on the opposite UPSR port
- the specified cross-connection is a VT drop cross-connection and there is an existing 1WAY drop cross-connection sourced from the associated VT ring channel on the opposite UPSR port
- the specified cross-connection is a VT drop cross-connection and there is an existing 1WAY cross-connection destined to the associated VT ring channel on the opposite UPSR port

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, associated ring channel already
cross-connected */
;
```

Beginning in Release 7.0, when equipped with VLF mains (see Appendix D), the above restriction is removed, and the request is accepted. With VLF mains, associated UPSR ring channels may be independently cross-connected on all lines (main, function unit, and growth pairs).

If the NE receives an otherwise valid **ENT-ROLL-rr** command to roll a cross-connection to an input that would result in a bridge between traffic being dropped

from a UPSR channel and traffic being dropped from a UPSR ring channel, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, requested bridge not supported */
;
```

Beginning in Release 6.0, the previous error check is replaced by the following one.

If the NE receives an **ENT-ROLL-rr** command that would result in a bridge between a **1WAY** drop cross-connection sourced from a UPSR ring channel and one input of a **1WAYPR** cross-connection sourced from the same UPSR ring channel, the command is denied and the following error response is returned. This error check does not prohibit the ability to provision a **1WAY** pass-through cross-connection together with a **1WAYPR** drop cross-connection.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, requested bridge not supported */
;
```

Beginning in Release 7.0, the previous error check does not apply in shelves equipped with VLF mains.

If the NE receives an otherwise valid **ENT-ROLL-rr** command to establish a 1-way cross-connection that would result in a bridge where one output is a ring channel on one rotation of a UPSR and the other output is a different ring channel

on the opposite rotation of the same UPSR, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, requested bridge not supported */
;
```

Beginning in Release 6.0, the previous error check is discontinued and the cross-connection is accepted.

If the NE receives an otherwise valid **ENT-ROLL-rr** command that would result in a bridge between a VT UPSR drop cross-connection and a VT UPSR pass-through cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, requested bridge not supported */
;
```

Beginning in Release 7.0, the previous error check does not apply in shelves equipped with VLF mains.

If the NE receives an otherwise valid **ENT-ROLL-rr** command that would result in a bridge of unswitched cross-connections from a VCG tributary where one output is any slot1 ring channel and the other output is any slot2 ring channel, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, requested bridge not supported */
;
```

Beginning in Release 7.0, the previous error check is discontinued and the cross-connection is accepted.

If the NE receives an otherwise valid **ENT-ROLL-rr** command and there is an existing cross-connection with **newsrc_aid** as its output and at a rate which is different from the rate of the cross-connection being rolled, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, asymmetric rate cross-connections
not supported */
;
```

If the NE receives an **ENT-ROLL-rr** command to roll to a bridged cross-connection at a rate which is different from that of the other cross-connection sharing the same input, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNC
  /* Input, Data Not Consistent, rate not consistent with existing
cross-connection */
;
```

If the NE receives an **ENT-ROLL-rr** command to establish a bridged cross-connection between a signal with switched traffic and a signal with unswitched traffic, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, bridging of switched and unswitched
cross-connections not supported */
;
```

If the NE receives an otherwise valid **ENT-ROLL-rr** command in which the specified channel application is not supported between the specified ports identified by the **newsrc_aid** and **dest_aid**, for example, a unswitched cross-

connection to a 1+1 port, then the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, channel application not supported
  between specified ports */
;
```

Beginning in Release 6.0, the previous error check is replaced by the following one to reflect the fact that the channel application is an inherited value and not a provisionable value.

If the NE receives an otherwise valid **ENT-ROLL-rr** command in which the existing channel application is not supported between the specified ports identified by the *newsrc_aid* and *dest_aid*, for example, a unswitched cross-connection to a 1+1 port, then the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, channel application not supported
  between specified ports */
;
```

If the NE receives an otherwise valid **ENT-ROLL-VT1** command in which the resultant connection uses an STS-1 on a LS UPSR port or port pair, and the specified or default channel application is different from the channel application used to establish another VT1 cross-connection to the same LS STS-1, then the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, channel application different than
  existing VT cross-connection */
;
```

Beginning in Release 6.0, the previous error check is replaced by the following one.

If the NE receives an **ENT-ROLL-VT1** command in which the resultant cross-connection is a VT1 add or drop cross-connection within an STS-1 on a LS UPSR port, and the inherited channel application is different from the channel application associated with an existing VT1 add or drop cross-connection within the same LS STS-1, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, channel application different than
existing VT cross-connection */
;
```

Beginning in Release 7.0, the previous error check does not apply in shelves equipped with VLF mains. Mixing of VT1s with different channel applications in the same STS-1 within a UPSR application is allowed.

If the NE receives an **ENT-ROLL-rr** command to roll an unswitched cross-connection and the following condition exists,

- the **newsrsrc_aid** is a UPSR ring channel and there is a cross-connection sourced from the associated ring channel on the opposite UPSR port that is not an UNSWITCHED cross-connection

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, chappl conflicts with existing
cross-connection */
;
```

Beginning in Release 7.0, the previous error check does not apply in shelves equipped with VLF mains.

The NE denies all **ENT-ROLL-rr** commands that result in a cross-connection, with no specified value of the **chappl** parameter, and an UNSWITCHED cross-connection on the same VCG. The following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, chappl conflicts with existing
cross-connection */
;
```

The NE denies all **ENT-ROLL-rr** commands that result in a cross-connection, with no specified value of the **chappl** parameter, on one VCG of a VCG pair (see Appendix A), and an UNSWITCHED cross-connection on the other VCG of the VCG pair, on an LNW66, LNW67, LNW68 or LNW71 pack. The following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, chappl conflicts with existing
cross-connection */
;
```

If the NE receives an **ENT-ROLL-rr** command, to roll the input of an existing cross-connection, with **chappl**=UNSWITCHED, to a tributary of an RPR VCG, and the same tributary on the companion VCG of the RPR VCG pair is cross-connected, with **chappl**=UNSWITCHED, to or from an OC-n ring channel, then if the destination of the cross-connection being rolled is not the companion OC-n ring channel of the cross-connection to/from the companion VCG, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, unsupported cross-connection
combination */
;
```

Beginning in Release 6.0.1, the previous error check is discontinued and the cross-connection is accepted.

If the NE receives an otherwise valid **ENT-ROLL-STSn** command in which **cmdmde** is **NORM**, and one or more of the following fault conditions exists on the input specified by the **newsrc_aid** parameter,

- AIS-P
- Loss of Pointer (LOP)
- STS UNEQ
- B3 Signal Fail

then the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, fault condition on new input */
;
```

Beginning in Release 6.0, the previous error check is replaced by the following one.

If the NE receives an **ENT-ROLL-STSn** command, in which **cmdmde=NORM**, and one or more of the following fault conditions exists on the **newsrc_aid** input, AND one or more of the following fault conditions exists on the **newsrc2_aid** input, if specified,

- AIS-P
- Loss of Pointer (LOP)
- STS UNEQ
- B3 Signal Fail

then the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, fault condition on new input */
;
```

If the NE receives an otherwise valid **ENT-ROLL-VT1** command in which **cmdmde** is **NORM**, and one or more of the following fault conditions exists on the STS-1 containing the VT1.5 input specified by the **newsrc_aid** parameter,

- AIS-P
- Loss of Pointer (LOP)
- STS UNEQ
- B3 Signal Fail

then the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, fault condition on new input */
;
```

Beginning in Release 4.0, the previous error response is superseded by the following one.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, fault condition on new input -
<fault condition> */
;
```

where <fault condition> identifies one of the above conditions.

Beginning in Release 6.0, the previous error check is replaced by the following one.

If the NE receives an otherwise valid **ENT-ROLL-VT1** command in which **cmdmde=NORM**, and one or more of the following fault conditions exists on the STS-1 containing the VT1.5 input specified by the **newsrc_aid**, AND on the STS-1 containing the VT1.5 specified by the **newsrc2_aid** parameter (if included),

- AIS-P
- Loss of Pointer (LOP)
- STS UNEQ
- B3 Signal Fail

then the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, fault condition on new input -
<fault condition> */
;
```

where <fault condition> identifies one of the above conditions.

If the NE receives an **ENT-ROLL-rr** command in which the new input (**newsrc_aid**) is the same as the original input (**src_aid**), the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, cannot roll to input of original cross-
connection */
;
```

Beginning in Release 6.0, the previous error check is replaced by the following one.

If the NE receives an **ENT-ROLL-rr** command in which either of the new inputs (**newsrc_aid**, **newsrc2_aid**) is the same as either of the original inputs (**src_aid**, **src2_aid**), the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, cannot roll to input of original cross-
connection */
;
```

If the NE receives an otherwise valid **ENT-ROLL-rr** command and at least one of the specified aids is used in a test access connection, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, existing test access connection */
;
```

In systems not supporting rolling of UPSR pass-through cross-connections, if the NE receives an **ENT-ROLL-rr** command to roll such a cross-connection, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDN
/* Input, Data Not Valid, rolling of specified cross-connection is
not supported */
;
```

If the NE receives an **ENT-ROLL-rr** command to roll a cross-connection input to an input not on an OLIU and **cmdmde=NORM**, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, rolling of specified cross-connection is
not supported */
;
```

The NE denies all **ENT-ROLL-rr** commands which would result in mixing of a locked (VT1 or STS1) cross-connection with any cross-connection other than

another locked cross-connection sourced from the same STS1 timeslot of a UPSR. The following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, connection not supported because of
constraints on locked cross-connections */
;
```

Beginning in Release 6.0.2, the previous error check is discontinued. Mixing of locked and non-locked cross-connections on different VTs within the same STS1 is supported.

The NE denies all **ENT-ROLL-rr** commands to establish a cross-connection which uses the companion timeslot of an existing locked (VT1 or STS1) cross-connection. The following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, connection not supported because of
constraints on locked cross-connections */
;
```

Beginning in Release 6.0, the previous error check is discontinued. The associated check for locked cross-connections is covered by another error check which results in a different error response.

If the NE receives an otherwise valid **ENT-ROLL-rr** command to establish a cross-connection and the required connection bandwidth is not available at the backplane interface of the specified pack(s), the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SARB
   /* Status, All Resources Busy, required cross-connection bandwidth
is not available */
;
```

The required bandwidth may not be available in the following situations

- the I/O capacity of the pack exceeds the backplane capacity to the slot in which the pack is equipped
- a portion of the available bandwidth is provisioned to be allocated for VT cross-connections only (thus limiting the number of supported STS cross-connections)
- contiguous bandwidth is not available to support higher STSn rate cross-connections where $n > 1$

If the NE receives an otherwise valid **ENT-ROLL-rr** command and the system is provisioned to be in ring upgrade mode (see **RTRV-SYS**, *nemode*=RING-UPGRADE), the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, command Not allowed in Ring Upgrade
mode */
;
```

Beginning in Release 6.0, the previous error response is replaced with the following one.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, command not allowed in Ring Upgrade
mode */
;
```

If the NE receives an otherwise valid **ENT-ROLL-rr** command but the command cannot complete because the target pack requires a software upgrade, the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SROF
   /* Status, Requested Operation Failed, APPLY command needed first
*/
;
```

If the NE receives an otherwise valid **ENT-ROLL-rr** command to roll a cross-connection input to a tributary of a VCG that supports virtual concatenation and both of the following conditions exist,

- There is an existing cross-connection on another tributary of the specified VCG

- Virtual concatenation is disabled on the specified VCG (see **RTRV-VCG**, *vcat=DISABLE*)

the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, multiple cross-connections not
   supported when vcat is disabled */
;
```

If the NE receives an **ENT-ROLL-rr** command to roll only one input of a path-protected cross-connection, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   SROF
   /* Input, Data Not Valid, rolling one input of 1waypr is not
   supported */
;
```

If the NE receives an **ENT-ROLL-rr** command in which **src2_aid** is missing or unexpected, based on the specified **cct**, the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, missing or unexpected src2_aid */
;
```

If the NE receives an **ENT-ROLL-rr** command in which *newsrc2_aid* is missing or unexpected, based on the specified *newcct*, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, missing or unexpected newsrc2_aid */
;
```

If the NE receives an **ENT-ROLL-rr** command addressed to a ring channel associated with an unavailable T3 port (**RTRV-T3**, *pmd*=UNAVAIL), the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, cannot cross-connect UNAVAIL T3 */
;
```

If the NE receives an **ENT-ROLL-rr** command addressed to a ring channel associated with an optical line which has *signaltype* set to STNA (see **RTRV-rr**), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed when
signaltype=STNA */
;
```

If the NE receives an **ENT-ROLL-rr** command addressed to a ring channel associated with an optical line which has *portclass* set to ENNI (see **RTRV-CPORT**), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed when portclass
is ENNI */
;
```


If the NE receives an **ENT-ROLL-rr** command addressed to a ring channel in an EDGE port (see **RTRV-CPORT**), and the ring channel is already involved in a control plane cross-connection, the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, tributary has existing control plane
connection */
;
```

If the NE receives an **ENT-ROLL-rr** command to roll a cross-connection to a tributary of a multi-shelf DCS OC-n inter-shelf interface, the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, cross-connection not supported on
multi-shelf DCS */
;
```

If the NE receives an **ENT-ROLL-rr** command to roll a cross-connection on a tributary in a subshelf of a multi-shelf DCS and there is a TIM-S-D alarm on the OC-n inter-shelf interface, the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, subshelf optical link mismatch */
;
```

RELATED TL1 MESSAGES

ENT-CRS-rr

NAME

ENT - ROUTE - SCN: Enter manual IP route for Signaling Communications Network (SCN)

The **ENT - ROUTE - SCN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT - ROUTE - SCN:*tid:[aid]:ctag:::spec_block;*

DESCRIPTION

The **ENT - ROUTE - SCN** command can be initiated by users to provision the manual IP route for the Signaling Communications Network (SCN). SCN is a data communications network for carrying optical control plane signaling and routing messages.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - ROUTE - SCN** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-196. ENT - ROUTE - SCN Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> value may be ALL or null. Specifying the <i>aid</i> is optional.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

Table 2-196. ENT - ROUTE - SCN Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-197. ENT - ROUTE - SCN Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>dest_ip</i>	Destination IP address. This is a destination IP address. It consists of four dot-separated decimal numbers ranging from 0 to 255. The combination of this parameter, <i>dest_mask</i> and <i>outgoing_intf</i> identifies an unique manual route entry. It is a required parameter, and there is no default value. More than one manual route entry can be provisioned by executing the command multiple times. A maximum of 20 different manual route entries can be provisioned.
<i>dest_mask</i>	Destination IP Subnet Mask. This is the 32-bit IP subnet mask, consisting of four dot-separated decimal numbers ranging from 0 to 255. It is a required parameter, and there is no default value.
<i>outgoing_intf</i>	Outgoing Interface. This is the outgoing interface used to send the IP packets to the destination IP address. It specifies a LAN or DCC AID address, excluding AIDs ending with "-all". Refer to the AID Table for valid values. It is a required parameter, and there is no default value. For LAN, only LAN-3 is allowed.
<i>nexthop_ip</i>	Next Hop IP Address. This is the IP address of the next hop (router) to reach the destination IP address. It consists of four dot-separated decimal numbers ranging from 0 to 255. It is a required parameter if the outgoing interface is a LAN.
	It must not be specified if the outgoing interface is a DCC.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the requested command does not change the existing parameter values, the NE does not deny the command. Instead the NE responds with the normal completion shown above.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example specifies a manual IP route using LAN as the outgoing interface:

```
ENT-ROUTE-SCN:LT-TID123::123456::DEST_IP=198.200.10.1,
DEST_MASK=255.255.255.0,OUTGOING_INTF=LAN-3,NEXTHOP_IP=198.200.10.10;

IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```

The following example specifies a manual IP route using DCC as the outgoing interface:

```
ENT-ROUTE-SCN:LT-TID123::123456::DEST_IP=198.200.10.2,
DEST_MASK=255.255.255.255,OUTGOING_INTF=dcc-m-1;

IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an error is detected in any of the command parameters, the entire command is denied; the command cannot be partially completed.

If there are errors in more than one command parameter, an error is detected and reported in only one of the parameters. The parameter for which the error is detected may not be the first parameter in the command that is in error.

The NE returns the following error response if the **aid** value is invalid:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier */
;
```

The NE returns the following error response if the same parameter is repeated in the **spec_block**:

```
sid date time
M ctag DENY
  IISP
  /* Input, Invalid Syntax or Punctuation, parameter(s)
  multiply defined */
;
```

The NE returns the following error response if the **dest_ip** value in the **spec_block** is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid DEST_IP value */
;
```

The NE returns the following error response if the **dest_mask** value in the **spec_block** is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid DEST_MASK value */
;
```

The NE returns the following error response if the **outgoing_intf** value in the **spec_block** is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid OUTGOING_INTF value */
;
```

The NE returns the following error response if the **nexthop_ip** value in the **spec_block** is invalid or missing when the outgoing interface is a LAN:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid NEXTHOP_IP value */
;
```

The NE returns the following error response if the **nexthop_ip** is specified in the **spec_block** when the outgoing interface is a DCC:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, NEXTHOP_IP is not applicable */
;
```

The NE returns the following error response if the command would exceed the maximum number of manual entries in the IP routing table:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, too many manual entries in IP
routing table */
;
```

RELATED TL1 MESSAGES

RTRV - ROUTE - SCN

DLT - ROUTE - SCN

ENT - FECOM - SCN

RTRV - FECOM - SCN

NAME

ENT-rr: Enter rr

The **ENT-rr** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

When using the **ENT-rr** command, either the **spec_block** or **pst** parameter may be used, they are never used together. Since all the provisionable values are specified through the **spec_block** and **pst** parameters, an **ENT-rr** command without **pst** or **spec_block** parameters will result in no action by the NE.

The syntax of **ENT-rr** using **spec_block** parameters:

ENT-modifier:tid:aid:ctag[:::spec_block];

The syntax of **ENT-rr** using the **pst** parameter:

ENT-modifier:tid:aid:ctag[::::pst];

DESCRIPTION

When the NE receives an **ENT-rr** command, it will provision the addressed entity according to the parameter settings in the command.

The provisioned values will remain active until modified (for example, by another **ENT-rr** command).

A given object entity has several provisionable attributes. They are addressed by using several optional parameters in one TL1 command.

Beginning in Release 3.1, the user may provision the **tcamd** parameter without the existence of a channel state.

Starting in Release 3.1, execution of this command, whether successful or denied, is recorded in the Security log.

The **ENT-rr** command generates a **REPT DBCHG** message.

Beginning in Release 4.0, any statement about 1+1 applications applies to both **1+1** and **1+1_OPTM**, unless explicitly stated otherwise (or specifying the differences between the two).

Beginning in Release 5.1, any statement about 1+1 applications also applies to **1+1_BIDIR**, unless explicitly stated otherwise (or specifying the differences between the applications).

The **ENT-rr** command, when used to change the *application* parameter to a unidirectional **1+1** application (if both packs are equipped) or **2F**, generates a **REPT DBCHG** message with a *ccb* value of **ENT-PROTN-GRP**, indicating that a protection group has been created. The *aid* of the line protection group is a line pair *aid*.

Beginning in Release 6.0, the *aid* used for the **REPT DBCHG** message is the line *aid* of the slot 1 line in the pair.

Beginning in Release 4.0, the bidirectional **1+1_OPTM** protection group is created when the application parameter is changed. At least one of the packs in the group must be equipped for the application request to be accepted.

Beginning in Release 5.1, the bidirectional **1+1_BIDIR** protection group is created when the application parameter is changed if both packs have been equipped. At least one of the packs in the group must be equipped for the application request to be accepted.

The **ENT-rr** command, when used to change the *application* parameter from a 1+1 application (if both sides had been equipped in a unidirectional **1+1** group) or **2F**, generates a **REPT DBCHG** message with a *ccb* value of **DLT-PROTN-GRP**, indicating that a protection group has been deleted. The *aid* of the line protection group is a line pair *aid*.

Beginning in Release 6.0, the *aid* used for the **REPT DBCHG** message is the line *aid* of the slot 1 line in the pair.

When the last line on a low-speed OLIU has been changed such that all lines on the OLIU have *application=0x1*, a **REPT DBCHG** message with a *ccb* value of **ED-EQPT** is issued on any equipped slot in the group, indicating that *prot_state* has changed to UNPROT.

When all lines on a low-speed OLIU were *application=0x1*, and a line is changed to a different *application* value, a **REPT DBCHG** message with a *ccb* value of **ED-EQPT** is issued on any equipped slot in the group, indicating that *prot_state* has changed to PROT.

When the last line on a multi-rate low-speed OLIU has been changed such that all lines on the OLIU have *application=0x1* or *signaltype=STNA*, a **REPT DBCHG**

message with a *ccb* value of **ED-EQPT** is issued on any equipped slot in the group, indicating that *prot_state* has changed to UNPROT.

When all lines on a multi-rate low-speed OLIU were **application=0x1** or **signaltype=STNA**, and a line is changed to a non-**STNA** value and/or a protected **application**, a **REPT DBCHG** message with a *ccb* value of **ED-EQPT** is issued on any equipped slot in the group, indicating that *prot_state* has changed to PROT.

Beginning in Release 9.0, when the line 4 on an LNW504 has a **signaltype** change, a **REPT DBCHG** message is issued for lines 4 through 8.

When the **REPT DBCHG** messages for both **ENT-PROTN-GRP** and **DLT-PROTN-GRP** are generated, the **REPT DBCHG** message for **DLT-PROTN-GRP** precedes the **REPT DBCHG** message for **ENT-PROTN-GRP**.

Beginning in Release 7.1, this command also applies to lines associated with client ports set to one of the OCn values (see **RTRV-OTPE:signaltype**). Some OCn parameters do not apply; see the individual parameter descriptions for exceptions.

INPUT PARAMETERS

Table 2-198. ENT-rr Input Parameters (cont 1 of 8)

Parameter Name	Description
modifier	This is the command modifier for the ENT-rr command. The modifier is a required field and must have only one of the following values: ■ T1 This is for DS1 ports. ■ E1 This is for E1 ports. ■ T3 This is for DS3 ports. ■ EC1 This is for electrical STS-1 ports. ■ OC3 This is for optical OC-3 lines. ■ OC12 This is for optical OC-12 lines. ■ OC48 This is for optical OC-48 lines. ■ OC192 This is for optical OC-192 lines. ■ STNA This is for changing the rate of an optical line on a multirate pack to unprovisioned. This value does not apply for OCn client ports.

Table 2-198. ENT - rr Input Parameters (cont 2 of 8)

Parameter Name	Description
	■ STS1 This is for STS-1 channels. ■ STS3c This is for STS-3c channels. ■ STS12c This is for STS-12c channels. ■ STS48c This is for STS-48c channels. ■ VT1 This is for VT1.5 channels. ■ VC12 This is for VC12 channels. For all of the remaining parameters, the modifier must match the entity addressed by aid, and all parameters set by the command must be applicable to the modifier type.
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
aid	Access Identifier. This is the address of the entity for which the ENT-rr command is intended. The aid is a required parameter and must reference a valid entity of the NE in order to be accepted. For the valid aids, refer to the AID Table in Appendix A. Access identifier (aid) guidelines: ■ Port aid is used when addressing a T1 port. ■ Port aid is used when addressing an E1 port. ■ Port aid is used when addressing a T3 port. ■ Port aid is used when addressing an EC1 port. ■ OC-n Line Pair aids are used when addressing OC-n line pairs. Beginning in Release 6.0, line pair aids are no longer supported. ■ OC-n Line aids are used when addressing OC-n lines. ■ Beginning in Release 6.0, Ring Channel aids are used when addressing any channel in any application. In 1+1 or switched UPSR applications, the Ring Channel aid of either side may be used; otherwise, the Logical Ring Channel aid is used. All the remaining statements about channel aid usage in this section are no longer valid. ■ STS-n Channel aids are used when addressing STS channels in 1+1 or UPSR OC-n interfaces. ■ STS-n Channel aids are used when addressing STS channels in 0x1Sn OC-n interfaces.

Table 2-198. ENT - rr Input Parameters (cont 3 of 8)

Parameter Name	Description
	■ STS-n Ring Channel aids are used when addressing channels associated with cross-connects without path protection in UPSR interfaces. ■ STS-n Ring Channel aids are used when addressing STS channels in 2F BLSR OC-n interfaces. ■ STS-n Channel or Ring Channel aids are used when addressing STS channels in 2F BLSR OC-n interfaces. ■ VT1.5 Channel aids are used when addressing VT channels in 1+1 or UPSR OC-n interfaces. ■ VT1.5 Channel aids are used when addressing VT channels in 0x1Sn OC-n interfaces. ■ VT1.5 Ring Channel aids are used when addressing channels associated with cross-connects without path protection in UPSR interfaces. ■ VT1.5 Ring Channel aids are used when addressing VT channels in 2F BLSR OC-n interfaces. ■ VC12 Channel aids are used when addressing VC channels. ALL is not allowed in the aid for this command except for the stated specific cases. ALL is the only aid allowed when the modifier is VT1 and the spec_block only contains the parameter sfthr, or when the modifier is an STS-n and the spec_block only contains the parameter sfthr and/or sfail. “-all” is allowed unless specified otherwise. When the aid contains a “-all”, the NE will modify as many of the parameters as possible, and will issue DBCHG notifications for effected changes. The NE response will indicate COMPLD even if all entities in the requested range were not changed.
ctag	Correlation Tag. Refer to RTRV - HDR command for input parameter syntax and description of this parameter. Since all the provisionable values are specified through the spec_block and pst parameters, an ENT - rr command without pst or spec_block parameters will result in no action by the NE.
pst	Primary State. This parameter is used to set the primary state of the low-speed port(s), the channel(s), and the OC-n low-speed line(s) addressed by the aid field.

Table 2-198. ENT - rr Input Parameters (cont 4 of 8)

Parameter Name	Description
	Beginning in Release 7.0, this parameter also applies to high-speed lines. This optional parameter is only allowed when spec_block parameters are not specified. Low-Speed Port Primary State: The system allows for user provisioning of two primary states for the low-speed ports: AUTO and NMON. Beginning in Release 7.0, the user may also provision the primary state to IS. When a low-speed port is provisioned in the AUTO state, it will automatically transition to the in-service (IS) state upon detection on the low-speed port of a valid input. AUTO is the <i>default</i> primary state. The port may exit this state to the AUTO or NMON state through another ENT - rr command, or to the AUTO state through the UPD - SYS command. ■ OOS-MA-AS (default) Out Of Service, Memory Administration, Assigned. This is known as AUTO. If pst = OOS-MA-AS, then alarm reporting and PM are disabled. ■ OOS Out Of Service. ("for Memory Administration" is implied). This pst value will effectively place the addressed low-speed port in the service state known as NMON. If pst = OOS, then alarm reporting is disabled. Beginning in Release 3.1, if pst = OOS or OOS-MA-AS, then PM is disabled. For EC-1, this disables alarm and event reporting, as well as Line PM. Beginning in Release 6.0, when there's an STS1 cross-connection from an EC1 line (where the EC1 line is the source) to a SONET interface, the EC1 state also controls performance monitoring on that STS1 channel. ■ IS In Service. This value is allowed beginning in Release 7.0. In this state, alarm reporting and PM are enabled. This value is not allowed for T1 ports in LNW20 T3 ports where pmd=PORTLESS.

Table 2-198. ENT - rr Input Parameters (cont 5 of 8)

Parameter Name	Description
	Setting the pst of a channelized ingress T3 port (e.g. on an LNW18 12TMUX) also sets the pst of all constituent T1 ports. This parameter does not apply to LNW20 T3 ports when pmd=PORTLESS or UNAVAIL. This parameter applies to LNW20 T1 interfaces when the T3 port is set to pmd=PORTLESS, or pmd=PORTED and tribmd=CHAN. When the pst of an STS1 channel changes (due to provisioning, or autonomously) on an STS1 cross-connected to a T3 port with pmd=PORTLESS, the pst of all constituent T1 ports of that T3 also transition to the new state. Channel Primary State: The system allows for user provisioning of two primary states for channels: AUTO and NMON. Provisioning the channel state of an STS1 also provisions the pst of the constituents (if any) of the STS1 that have channel states. When a channel state is provisioned to the AUTO state, it will automatically transition to the in-service (IS) state upon detection on the channel of a valid signal. Beginning in Release 6.0, each of the channels in a UPSR path protection group has a channel state that is coupled to the state of the companion—they will both transition to in-service when a valid signal is received on either path, and when provisioning the state of either path, the state of both paths are changed. This coupling also occurs for STS paths that contain path-protected VTs. Beginning in Release 6.0, for channels within 1+1 applications, the channels within both lines have a channel state coupled to the state of the companion; the coupled channel state is provisioned using either ring channel aid (slot 1 or 2). The channel may exit the IS state to the AUTO or NMON state through another ENT - rr command, or to the AUTO state through the UPD - SYS command. Channel States may be provisioned on channels with cross-connections that are path switched, or for which the path is terminated. Beginning in Release 3.1.1, channel states may be provisioned on UPSR VT or STSn pass-through cross-connections. Beginning in Release 3.1.1, channel states may be provisioned on BLSR STSn pass-through cross-connections.

Table 2-198. ENT - rr Input Parameters (cont 6 of 8)

Parameter Name	Description
	Beginning in Release 5.0, an STSn path has a single pst, regardless of how many constituents it contains (see crstat in RTRV-rr); a change to pst applies to all constituent signals (e.g. alarms on all constituents are cleared). If the current primary state is AUTO, pst transitions to IS upon detection of a valid signal on the first constituent. ■ OOS-MA-AS Out Of Service, Memory Administration, Assigned. This is known as AUTO. (initial state for switched or terminated channels) ■ OOS Out Of Service. ("for Memory Administration" is implied). This OOS value will effectively place the addressed channel in the service state known as NMON. This disables alarm reporting. For path-switched applications, Path APS is functional, even if pst = OOS. OOS is the initial state for pass-through channels. Beginning in Release 3.1.1, in UPSR or 1+1 applications, STS LOP is reported on all cross-connected channels, regardless of the channel state. Beginning in Release 5.0, in 0x1Sn applications, STS LOP is reported on all active-side cross-connected channels, regardless of the channel state. Beginning in Release 3.1.1, in BLSR applications, STS LOP is reported on all working and protection tributaries, regardless of the channel state or whether there's a cross-connection. In 0x1 applications, STS LOP is reported on all cross-connected channels, regardless of the channel state. If pst = OOS or OOS-MA-AS, then Path PM is disabled. OC-n Primary State: The system allows the user to provision primary states for OC-n low-speed lines. Beginning in Release 7.0, the user may also provision primary states for OC-n high-speed lines.

Table 2-198. ENT - rr Input Parameters (cont 7 of 8)

Parameter Name	Description
	Beginning in Release 3.1, AUTO and NMON are the provisionable states. When a line is provisioned in the AUTO state, it will automatically transition to the in-service (IS) state upon detection of a valid input. AUTO is the <i>default</i> primary state. The port may exit the IS state to the AUTO or NMON state through another ENT - rr command, or to the AUTO state through the UPD - SYS command. Beginning in Release 7.0, the user may also provision the primary state to IS. The pst parameter must always be set using Line aid, and is always applied by Line. Otherwise, the command is denied. Beginning in Release 3.0, the pst parameter may be set using the Line aid or Line Pair aid. Beginning in Release 6.0, the pst parameter may only be set using the Line aid. Beginning in Release 7.0, the pst parameter may not be set for a line corresponding to a socket that is configured to be unequipped. Beginning in Release 5.0, for 0x1Sn applications, the pst may only be set on the active line (using a Line aid). Requests to change the pst on the unused line in the pair are denied. If the unused line is equipped, its pst is OOS. Beginning in Release 3.1, if the line has a FACILITY loopback active with <i>cmdmode=NORM</i> (see RTRV - LPBK), transitioning the line state from NMON is denied. ■ IS In Service. Beginning in Release 3.1, IS is no longer a provisionable value for OC-n lines. This value is allowed beginning in Release 7.0. In this state, alarm reporting and performance monitoring are enabled. ■ OOS-MA-AS Out Of Service, Memory Administration, Assigned. (default) This is known as AUTO.

Table 2-198. ENT - rr Input Parameters (cont 8 of 8)

Parameter Name	Description
	■ OOS Out Of Service. ("for Memory Administration" is implied). This OOS value will effectively place the addressed line in the service state known as NMON. This disables alarm reporting. For 1+1, Line APS is functional, even if pst = OOS. RTRV-rr will display <i>switch-state</i>, but switch priority will not indicate an APS Line fail. If pst = OOS, then Line PM is disabled. Beginning in Release 3.1, if pst = OOS or OOS-MA-AS, then PM on the line is disabled. For 2F BLSR, Line APS is functional, even if pst = OOS.
spec_block	Specific Block. The spec_block parameters are described in the following table.

Table 2-199. ENT - rr Input **spec_block** Parameters (cont 1 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	For each of the parameters listed in this table there are one or more parameter values listed. The use of the word NULL in these descriptions implies that the parameter does not appear, or appears with no value specified with the command (e.g., ais=, bpv=).
rdi-l	Line Remote Defect Indicator. This parameter is removed beginning in Release 6.0. See ENT-ASAP-ASGNMT and ED-ASAP-PROF. This parameter is used to set the alarm level that is used to indicate a Line Remote Defect Indicator (RDI-L). Beginning in Release 3.1, this parameter is used to set the alarm level that is used to indicate a Line Remote Failure Indicator (RFI-L). This parameter is allowed when the modifier is an OCn line. This parameter is allowed when the modifier is an EC1 line. When performing optical line provisioning, this parameter is provisioned using a Line Pair aid or a Line aid. The value will always be applied to the Line Pair.

Table 2-199. ENT - rr Input *spec_block* Parameters (cont 2 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	Beginning in Release 6.0, when performing optical line provisioning, this parameter may only be provisioned using a Line <i>aid</i>. The value will always be applied to the Line Pair. When performing EC1 port provisioning, this parameter is provisioned using an EC1 Port <i>aid</i>. This parameter can be omitted, or it can have one of the following values: ■ MJ Major Alarm level ■ MN Minor Alarm Level ■ NA Not Alarmed (Initial Default)
<i>eof</i>	Electrical Interface type. This parameter sets the electrical interface type of the addressed port(s). If the actual received signal type is different from the current value, a signal type mismatch will be detected, and an alarm will be raised to that effect. This parameter applies to T3 and EC1, on xDS3EC1 circuit packs. The EC1 modifier is used to set the <i>eof</i> to EC1, and the T3 modifier is used to set the <i>eof</i> to DS3. On the LNW16, all ports default to the same setting, either EC1 or DS3, depending on the setting of the circuit pack jumper when the function group is first equipped. On the LNW19, all ports default to DS3. This parameter also applies to the LNW20 48TMUX/DS3/EC1 circuit pack. All ports default to DS3. This parameter may not be changed when <i>portclass</i> is not set to TRADITIONAL in ENT-CP0RT. When provisioning the <i>eof</i> parameter with the T3 or EC1 modifier, only individual ports are allowed to be addressed. ALL, whether it is a standalone or part of an <i>aid</i> structure, is not allowed (e.g., d-all or all are not allowed). Beginning in Release 5.0, ALL is allowed on a per-group/pack basis. The request only completes if all ports in the requested range that are not already the new interface type are in the right state, e.g. they have no cross-connects, there's no test access, and there are no loopbacks. For changing the electrical interface usage of an LNW8 56DS1E1, see the <i>intfstd</i> parameter of the ED-EQPT command.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 3 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	For changing the electrical interface usage of an LNW801 56DS1E1, see the <i>intfstd</i> parameter of the ED-EQPT command. When changing the <i>EIF</i> value of an electrical port, the following rules apply: If the addressed electrical interface was previously provisioned with a different <i>EIF</i> value, then all its valid parameters are ignored and replaced with the valid parameters for the newly-provisioned <i>EIF</i> type. All the valid parameters for the newly-provisioned port type (<i>EIF</i>) are set to their initial default values; unless the addressed interface was already provisioned to the same <i>EIF</i> value, then no provisioning change is done on those parameters. If the <i>EIF</i> changes, other provisioning parameters in this command line are ignored. Beginning in Release 3.1, when the <i>EIF</i> changes, other provisioning parameters in this command line are processed. Values for T3 include: ■ DS3 To accept a DS3 formatted signal. Values for EC1 include: ■ EC1 To accept an EC-1 formatted signal. This parameter may not be changed to EC1 on LNW20 DS3 ports when <i>pmd</i>= UNAVAIL.
ais	Alarm Indication Signal. The <i>ais</i> parameter is used to specify if AIS should be inserted toward the optical fiber when LOS from the DSX is encountered at the port addressed by the <i>aid</i>. This parameter is valid only when the <i>modifier</i> is T1 or T3. Beginning in Release 3.1, <i>ais</i> is a valid parameter only when the <i>modifier</i> is T3. When the <i>modifier</i> is T1 and <i>bpv</i> is set to Y, the NE will internally set <i>ais</i>=N. When the <i>modifier</i> is T1 and <i>bpv</i> is set to N, the <i>ais</i> parameter has no effect, as a DS1 AIS will automatically be inserted toward the fiber for a DS1 LOS at the DSX-1. When the <i>modifier</i> is T3, the value received by the NE for this parameter is used only if the <i>linecde</i> is CCHAN (AIS is always inserted when the DS3 <i>linecde</i> is B3ZS). Beginning in Release 5.0, <i>ais</i> is used when <i>frame</i> or <i>linecde</i> is CCHAN. This parameter may be omitted or have one of the following values:

Table 2-199. ENT - rr Input *spec_block* Parameters (cont 4 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	■ Y Insert AIS. Setting <i>ais=Y</i> when <i>frame</i> is CCHAN will cause the following behavior: An OC-N signal fail or STS Path AIS incoming from the fiber will result in the NE inserting DS3 AIS toward the DSX output port. A DS3 LOS incoming from the DSX will result in the NE inserting DS3 AIS downstream (toward the fiber). This is the initial default value for T1. ■ N Do not insert AIS. This is the initial default value for T3 if in CCHAN; otherwise the parameter is not applicable. Setting <i>ais=N</i> when <i>frame</i> is CCHAN will cause the following behavior: An OC-N signal fail or STS Path AIS incoming from the fiber will result in a pattern loss at the DSX output port. A DS3 LOS incoming from the DSX will result in a pattern loss downstream (toward the fiber). This parameter does not apply to LNW20 T3 ports when <i>pmd=</i> PORTLESS or UNAVAIL.
<i>aisnc</i>	Alarm Indication Signal Notification Code. This is for Non-Service Affecting (NSA) conditions. This parameter is allowed when the <i>modifier</i> is an optical line or a channel. This parameter is removed beginning in Release 6.0. See ENT - ASAP - ASGNMT and ED - ASAP - PROF. This parameter does not apply to VC12 channels. When performing optical line provisioning, this parameter may be provisioned using a Line Pair <i>aid</i> or a Line <i>aid</i>. The value will always be applied to the Line Pair. This parameter is used to set the alarm level that will be used to indicate an incoming line or path AIS that is not service affecting. This parameter can be omitted or have one of the following values ■ CR Applies only when the <i>modifier</i> is an optical line. ■ MJ Applies only when the <i>modifier</i> is an optical line. ■ MN Applies when the <i>modifier</i> is an optical line or a channel. (Initial Default for Channels)

Table 2-199. ENT - rr Input *spec_block* Parameters (cont 5 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	■ NA Applies when the <i>modifier</i> is an optical line. (Initial Default for optical Lines) ■ NR Applies when the <i>modifier</i> is a channel.
aisnca	Alarm Indication Signal Notification Code for Service Affecting conditions. This parameter is used to set the Alarm Level that will be used to indicate an incoming path AIS that is service affecting. This parameter is removed beginning in Release 6.0. See ENT - ASAP - ASGNMT and ED - ASAP - PROF. This parameter is omitted or has one of the following values: ■ CR Applies when the <i>modifier</i> is an STS channel. (Initial Default for STS Channels) ■ MJ Applies when the <i>modifier</i> is a VT channel. This is the default value for VT channels. Applies when the <i>modifier</i> is a VC12 channel. This is the default value for VC12 channels. ■ NA Applies when the <i>modifier</i> is a channel.
bpv	DS1 Bipolar Violations consequent actions. This parameter is valid only when the <i>modifier</i> is T1. It is used to determine if, at the DS1 port addressed by the <i>aid</i>, incoming Near-End DS1 BiPolar Violations (bpv) threshold crossing will be translated to outgoing Far-End DS1 signal LOS or LOF. Note: The bpv parameter does not apply to the LNW18 12TMUX circuit pack. Note: The bpv parameter does not apply to the LNW20 48TMUXDS3EC1 circuit pack. Note: The bpv parameter does not apply to the LNW8 56DS1E1 circuit pack. Note: Beginning in Release 8.0, the bpv parameter does apply to the LNW8 56DS1E1 circuit pack. Note: The bpv parameter does apply to the LNW801 56DS1E1 circuit pack.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 6 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	GR-8 compliant Digital Loop Carrier (DLC) equipment requires either a DS1 LOS or a DS1 LOF in order to effect a protection switch. This parameter is omitted or has one of the following values: ■ N (Initial Default) Incoming BPVs at the DS1 port are corrected by the port unit circuitry before the DS1 is mapped into the VT1.5 payload, and are not translated in the outgoing direction. This value should be used if not connected to a GR-8 compliant DLC. ■ Y If <i>linecde=B8ZS</i>, incoming bpv threshold crossings detected on the provisioned port will be translated to LOF before the DS1 is mapped into the VT1.5 payload. If <i>linecde=AMI</i>, incoming bpv threshold crossings detected on the provisioned port will be translated to LOS before the DS1 is mapped into the VT1.5 payload. Note: <i>bpv</i> should be set to Y for a DS1 port connected to a GR-8 compliant DLC terminal. This permits the DLC system to detect LOS or LOF and switch to protection.
<i>application</i>	This parameter is used to set the protection mode of line interfaces in the system. This parameter is provisioned using a Line Pair <i>aid</i> or a Line <i>aid</i>. The value will always be applied to the Line Pair. Beginning in Release 6.0, this parameter may only be provisioned using a Line <i>aid</i>. The value will always be applied to the Line Pair. Beginning in Release 5.0, when <i>application</i> changes, <i>syncmsg</i> is set to its default value for the line and its companion (if any). Beginning in Release 7.1, <i>application</i> and <i>signaltype</i> may be changed in the same request. The system will first attempt to change the <i>application</i>. If, based on existing system value(s), the change is applicable, the system will then attempt to change the <i>signaltype</i>, based on the rules associated with the <i>application</i> in the provisioning request. Low-Speed Interfaces: For low-speed interfaces, this parameter is used to specify the protection mode of the OC-n low-speed interface. The parameter's initial default value is 1+1. Note: This parameter cannot be changed if a cross-connection exists within this line pair. Note: Beginning in Release 9.0, this parameter can be changed from 1+1 to 1+1_BIDIR and vice versa even if a cross-connection exists within this line pair.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 7 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	Note: This parameter cannot be changed if an external switch request exists within this line pair. Note: This parameter cannot be changed if any tributary within this line pair is involved in a test access connection (see CONN - TACC: <i>tatrib1</i>, <i>tatrib2</i>, <i>etrib</i>, and <i>ftrib</i>). Note: This parameter may not be set for client ports. The <i>application</i> for those lines is always 0x1 (regardless of whether the main slots are equipped with VLF or non-VLF packs). Setting the parameter to UPSR will automatically set the default value of the channels within the OC-n line to the same value. This parameter may be omitted, or it may have one of the following values: ■ 1+1 (Initial default) Unidirectional 1+1 line protection switching is provided. In this mode the K-bytes (K1 and K2 Bytes used for protection) are configured for the 1+1 protection mode, and DCCs are configured for 1+1. - Beginning in Release 7.0, 1+1 is the initial default when an OLIU is inserted into an unconfigured group (such that RTRV - EQPT prot_state is PROT for the slot). - Beginning in Release 7.1, for multirate packs (e.g. the LNW55), <i>application</i> may not be changed to any of the protected values if <i>signaltype</i> for the companion line (if the slot is provisioned to be equipped) is not the same as that of the requested line. ■ 1+1_OPTM Beginning in Release 4.0, bidirectional optimized1+1 protection switching is supported, as described in ITU-T G.841 Annex B, 10/98 (including Corrigendum 1, 08/02). ■ 1+1_BIDIR Beginning in Release 5.1, SONET bidirectional 1+1 protection switching is supported. ■ UPSR This is a protected ring interface option, where path protection takes place. This option helps support ring closure by providing path protection switching, and by allowing the fn pass-through cross-connect option. The path in slot 1 is designated Working, and the path in slot 2 is designated Protection. ■ 2F This value is used to provision a pair of ports in a group to operate as a 2-Fiber BLSR Protection group, where the line (port) in slot 1 is the west port and the line (port) in slot 2 is the east port. This mode is only allowed for OC-48 lines.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 8 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	Beginning in Release 9.0, this mode is also allowed for OC-192 lines. ■ 0x1S1 This is an unprotected option. All traffic is transmitted and received on the line in slot 1 of the group. Line 2 is not monitored; if equipped, the system idle signal (STS UNEQ-P or AIS-P) is transmitted (see ENT-SYS). This option is available beginning in Release 5.0. ■ 0x1S2 This is an unprotected option. All traffic is transmitted and received on the line in slot 2 of the group. Line 1 is not monitored; if equipped, the system idle signal (STS UNEQ-P or AIS-P) is transmitted (see ENT-SYS). This option is available beginning in Release 5.0. Beginning in Release 7.0, the two 0x1Sn applications are only allowed when the main slots are equipped with non-VLF packs (see Appendix D). ■ 0x1 Beginning in Release 7.0, unprotected 0x1 operation is supported when the main slots are equipped with VLF packs (see Appendix D). The two OC-n low-speed lines of the OC-n pair are independent of one another, and they are both unprotected. Beginning in Release 7.0, 0x1 is the initial default when an OLIU is inserted into an unprotected slot (where RTRV-EQPT prot_state is UNPROT). High-Speed Interfaces: For high-speed interfaces, this parameter is only valid when the <i>modifier</i> is a high-speed line. For high-speed interfaces, this parameter is used to specify the protection mode of the line. This parameter's initial value is UPSR. On the LNW504, the application for lines 1-3 defaults to UPSR and the application for lines 4-8 defaults to 0x1. Note: This parameter cannot be changed if an external switch request exists within this line pair. Note: This parameter cannot be changed if any cross-connection exists within this line pair. Note: Beginning in Release 9.0, this parameter can be changed from 1+1 to 1+1_BIDIR and vice versa even if a cross-connection exists within this line pair.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 9 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	Note: This parameter cannot be changed if any tributary within this line pair is involved in a test access connection (see CONN-TACC: <i>tatrib1</i>, <i>tatrib2</i>, <i>etrib</i>, and <i>ftrib</i>). The supported values are: ■ 1+1 For OCn lines, unidirectional linear 1+1 line protection switching is supported. ■ 1+1_OPTM Beginning in Release 4.0, bidirectional optimized 1+1 protection switching is supported, as described in ITU-T G.841 Annex B, 10/98 (including Corrigendum 1, 08/02). ■ 1+1_BIDIR Beginning in Release 5.1, SONET bidirectional 1+1 protection switching is supported. ■ UPSR Unidirectional Path Switched Ring. This is a protected ring interface option, where independent path protection switching takes place. The path in slot 1 is designated Working, and the path in slot 2 is designated Protection. Beginning in Release 4.0, this also applies to cross-connects without path protection. ■ 2F This value is used to provision a pair of lines in a group to operate as a 2-Fiber BLSR Protection group, where the line (port) in slot 1 is the west port and the line (port) in slot 2 is the east port. Note, 2F BLSR protection switching is not supported for OC12. ■ 0x1 Beginning in Release 7.1, this value is added for VLF mains only, for use in unprotected applications.
<i>fmt</i>	Format. This parameter is used to specify the digital signal format incoming from the DSX to the specified low-speed port. For T1, this parameter is used to specify the DS1 digital signal format incoming from the DSX-1 to the specified low-speed port. This parameter applies to all DS1 packs; the PM descriptions below apply only to those packs that support the applicable type of PM. The LNW18 12TMUX circuit pack supports DS1 path PM; it does not support DS1 line PM. This parameter applies to LNW20 T1 interfaces when the T3 port is set to <i>pmd=PORTLESS</i>, or if <i>pmd=PORTED</i> and <i>tribmd=CHAN</i>. The port supports DS1 path PM; it does not support DS1 line PM.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 10 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	This parameter is omitted, or has one of the following values for T1: ■ SF Super Frame. SF supports near-end DS1 path and line PM only. ■ ESF Extended Super Frame. ESF supports near-end and far-end DS1 path and line PM. (Initial default) ■ ESFN Extended Super Frame Near-end. ESFN supports near-end DS1 path and line PM only. ■ UF Unframed. This value is available beginning in Release 4.0. In this mode, no LOF alarm is reported, and only DS1 near-end line PM is supported. For T3, this parameter is used to specify the DS3 performance monitoring scheme to be used (when monitoring for code violations) on the signals incoming from the HS fiber and DSX to the specified DS3 port(s). This parameter is valid for the modifier T3 only if the linecde is not set to CCHAN. Beginning in Release 5.0, this parameter is valid for the modifier T3 only if frame and linecde are not set to CCHAN. This parameter is omitted, or has one of the following values for T3: ■ PBIT Parity Bit. The PBIT scheme is used for DS3 PM. The parity bits (P bits) will be monitored for detecting code violations. (Initial Default) ■ FMBIT The FMBIT scheme is used for DS3 PM. The F and M bits will be monitored for detecting code violations. ■ CPBIT C-Bit Parity. This scheme is used for end-to-end DS3 path PM. The C parity bits will be monitored for detecting code violations. The value of CPBIT for fmt parameter is not allowed when the frame parameter has been set to M13 for the same DS3 port. The values specified by this fmt parameter take effect only if the PM mode has been enabled by setting the pmmd parameter to ON for the port specified by the aid. This parameter does not apply to LNW20 T3 ports when pmd= UNAVAIL. This parameter is omitted, or has one of the following values for E1:

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 11 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	■ FAS Frame Alignment Signal. When set to this value, the incoming CRC-4 MFA (multiframe alignment) mismatch condition is not detected, and E1 path performance monitoring is based solely on basic framing. ■ CRC4 (Initial Default) Cyclic Redundancy Check-4 multiframe alignment. E1 path performance monitoring is based on basic and CRC-4 multiframe alignment framing, and the incoming CRC-4 MFA mismatch condition is detected and reported.
frame	The frame parameter specifies the framing format of the signal at the specified port. The signal will contain framing bits. This parameter is used when the modifier is T3. The value of frame is ignored if linecde=CCHAN for T3. Beginning in Release 5.0, for T3, CCHAN becomes a valid value for frame. Either the linecde or frame parameter may be used to put the port in CCHAN mode. If linecde is changed to CCHAN, frame is also automatically changed to CCHAN. If linecde is changed to B3ZS, frame is automatically changed to M13. If frame is changed to CCHAN, linecde is also automatically changed to CCHAN. If frame is changed to M13 or CBIT, linecde is automatically changed to B3ZS. This parameter can have the following values: ■ M13 (Initial default for T3) Specifies that the DS3 signal is M13 formatted with the C-bits serving the traditional stuffing indicator function. The fmt parameter can have the values PBIT or FMBIT. Line and near-end path PM are supported; far-end path PM is not supported. This format is valid for T3 signals. ■ CBIT For T3 signals, this value specifies that the DS3 signal is C-bit formatted with the C-bits serving the end-to-end path functions. The fmt parameter can have the values PBIT, FMBIT or CPBIT. Line, near-end, and far-end path PM are supported.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 12 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	■ CCHAN For T3 signals, this value specifies that the DS3 signal is formatted to be unframed and unchannelized. The fmt parameter is ignored, and the F, M, X, P, and C bits are not available. Line PM is available since line PM looks at bipolar violations when monitoring for coding violations. Path PM is not available. This value is valid beginning in Release 5.0. If linecde was set to CCHAN using an earlier release, frame will be set to CCHAN upon upgrade. CCHAN is not a valid value for the LNW18 12TMUX. CCHAN is not a valid value for T3 ports when tribmd=CHAN. This parameter does not apply to LNW20 T3 ports when pmd= UNAVAIL.
syncmsg	Synchronization Messaging. This parameter is only used when the modifier is an optical line. If application mode is provisioned to UPSR or 2F mode, then syncmsg is provisioned by Line if a single Line aid was entered, and it is provisioned by Line pair if a Line pair was entered. If application mode is set to a 1+1 application, then syncmsg is provisioned by Line pair (regardless of whether a Line or Line pair aid is entered). Beginning in Release 6.0, this parameter may only be provisioned using a Line aid. In 1+1 applications, the change applies to both lines in the pair; in all other applications, the change applies only to the requested line. If application mode is provisioned to a 0x1Sn application, then syncmsg is provisioned by Line if the active side Line aid was entered. If a Line pair aid was entered, the active side is provisioned. The unused side syncmsg is always DISABLED. If the unused side aid was entered, the command is denied. If application mode is provisioned to 0x1, then syncmsg is provisioned independently for each line in the pair. Beginning in Release 5.0, whenever application changes, syncmsg is automatically set to the default value(s) for both lines in the line pair. To disable syncmsg, SyncAutoreconfiguration must be disabled (see SET - SYNCN, the auto parameter). Synchronization messaging allows timing to be reconfigured in a network upon a node or fiber failure. The parameter value is one of the following:

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 13 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	■ SBYTE (Initial default) S1 byte is selected; the S1 byte is sent and received for sync messaging. ■ DISABLED When this option is selected, interpretation of S1 bytes is disabled, and a "Do Not Use" message will be transmitted at all times.
<i>linecde</i>	Line coding. When the <i>modifier</i> is T1, the <i>linecde</i> parameter may be used in combination with the <i>bpv</i> parameter to effect a protection switch by some Digital Loop Carriers (see the description for <i>bpv</i>). Note: The T1 modifier does not apply to the LNW18 12TMUX circuit pack. Note: The T1 modifier does not apply to the LNW20 48TMUXDS3EC1 circuit pack. For a T1 modifier value, the valid values are: ■ AMI Alternate Mark Inversion. To monitor coding violations (other than bipolar violations) of the DS1 port addressed by the <i>aid</i>, the <i>linecde</i> parameter must be set to AMI. ■ B8ZS (Initial Default) Bipolar 8 Zero Substitution. To monitor the DS1 port addressed by the <i>aid</i> for incoming bipolar violations, the <i>linecde</i> parameter must be set to B8ZS. For T3, the line coding is always Bipolar 3 Zero Substitution (B3ZS). Beginning in Release 5.0, either the <i>linecde</i> or <i>frame</i> parameter may be used to put the port in CCHAN mode. If <i>linecde</i> is changed to CCHAN, <i>frame</i> is also automatically changed to CCHAN. If <i>linecde</i> is changed to B3ZS, <i>frame</i> is automatically changed to M13. If <i>frame</i> is changed to CCHAN, <i>linecde</i> is also automatically changed to CCHAN. If <i>frame</i> is changed to M13 or CBIT, <i>linecde</i> is automatically changed to B3ZS. When the <i>modifier</i> is T3, the <i>linecde</i> parameter is used in combination with the <i>ais</i> and <i>pbit</i> parameters to determine the NE's VMR mode. For a T3 modifier value, the valid values are: ■ B3ZS (Initial default) Bipolar 3 Zero Substitution. To monitor the DS3 port addressed by the <i>aid</i> monitoring for P-bit violations (either VMR or VM mode), the <i>linecde</i> parameter must be set to B3ZS.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 14 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	Note: The T3 linecde parameter value for LNW18 12TMUX DS3 ports is always B3ZS. ■ CCHAN Clear CHANnel. To operate the DS3 port addressed by the aid in clear channel mode (either CC with AIS or CC without AIS mode), the linecde parameter is set to CCHAN. This mode still uses B3ZS, but the F, M, X, P, or C bits are not available. Line PM is still available since Line PM looks at bipolar violations when monitoring for coding violations. This parameter does not apply to LNW20 T3 ports when pmd=PORTLESS or UNAVAIL. For E1, the line coding is always HDB3 (high-density bipolar order 3), and this parameter is not provisionable or retrievable.
ntfcncde	Notification Code. The ntfcncde parameter is used to set the alarm level of the entity failures serviced by the addressed (aid). This parameter is removed beginning in Release 6.0. See ENT-ASAP-ASGNMT and ED-ASAP-PROF. This parameter is valid only when the modifier is an electrical (excluding data) port. The ntfcncde parameter will be null or have one of the following values: ■ CR Critical Alarm. This is the initial default value if the modifier is T3. This is the initial default value if the modifier is EC1. This value is not permissible if the modifier is T1. This value is not permissible if the modifier is E1. ■ MJ Major Alarm. ■ MN Minor Alarm. ■ NA Not Alarmed. This is the initial default value if the modifier is T1. This is the initial default value if the modifier is E1.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 15 of 33)

Parameter Name	Descriptions of Spec Block Parameters
<i>pbit</i>	This parameter is only allowed when the <i>modifier</i> is T3. The <i>pbit</i> parameter is used in combination with the <i>linecde</i> and <i>ais</i> parameters to determine the Violation Monitoring and Removal (VMR) mode. The <i>pbit</i> parameter only has an effect when the <i>linecde</i> is not set to CCHAN for the specified DS3 port. Beginning in Release 5.0, <i>pbit</i> only has an effect when <i>frame</i> or <i>linecde</i> is not CCHAN. ■ ON (Initial default) To monitor for, and remove P-bit violations in the DS3 signal addressed by the <i>aid</i> (VMR mode), the <i>pbit</i> parameter must be set to ON. Monitoring and correction is performed in both the “from DSX” and “from fiber” direction. ■ OFF To not remove the P-bit violations in the DS3 signal addressed by the <i>aid</i> (VM mode), the <i>pbit</i> parameter must be set to OFF. This parameter does not apply to LNW20 T3 ports when <i>pmd</i>= UNAVAIL.
<i>pmmd</i>	Performance Monitoring Mode. Beginning in Release 3.1, the <i>pmmd</i> parameter is no longer supported. This parameter specifies whether PM is enabled or disabled for the port addressed by the <i>aid</i>. This parameter is only allowed when the <i>modifier</i> is T1 or T3. When the <i>modifier</i> is T1, this parameter is allowed for T1 or DS1 port(s) in DS1 Performance Monitoring capable Circuit Pack(s). The LNW18 12TMUX circuit pack is a DS1 PM-capable Circuit Pack. This parameter will be null, or it will have one of the following values: ■ OFF PM is turned off. ■ ON (Initial default) PM is turned on. Setting <i>pmmd</i> to ON enables Performance Monitoring. If the value of <i>pmmd</i> is ON, then the expected digital signal format is specified by the <i>fmt</i> parameter.
<i>tcamd</i>	TCA Monitoring Mode. This parameter specifies whether performance monitoring Threshold Crossing Alert reporting is enabled or disabled for the port, channel, or OCn line addressed by the <i>aid</i>.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 16 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	When performing optical line provisioning, this parameter is provisioned using a Line aid. The value will be applied to the addressed Line only. This parameter will have one of the following values: ■ ENABLE TCA reporting is enabled. This is the initial default value for monitored ports, lines, and channels. (Initial default) ■ DISABLE TCA reporting is disabled. If the line, port, or channel is not monitored, the value of tcamd will be DISABLE. TCA reporting will not begin until there is Performance Monitoring on the port, line, or channel. Beginning in Release 6.0, each of the channels in a UPSR path protection group has a tcamd that is coupled to the state of the companion—when provisioning the tcamd of either path, both paths are changed. This coupling also occurs for STS paths that contain path-protected VTs. Beginning in Release 6.0, for channels within 1+1 applications, the channels within both lines have a tcamd coupled to the state of the companion; the coupled tcamd is provisioned using either ring channel aid (slot 1 or 2). This parameter does not apply to LNW20 T3 ports when pmd= UNAVAIL. This parameter applies to LNW20 T1 interfaces when in a T3 port set to pmd=PORTLESS, or if pmd=PORTED and tribmd=CHAN.
sfthr	Soft Fail (Signal degrade) Threshold. This parameter is used to set the signal degrade threshold in terms of Bit Error Rate (BER) for the entities addressed by the aid. When the modifier is a channel (tributary), the only valid aid is ALL. When the modifier is an electrical port, this parameter may be provisioned using a port aid. When performing optical line provisioning, this parameter may be provisioned using a Line Pair aid or a Line aid. The value will always be applied to the Line Pair. Beginning in Release 6.0, when performing optical line provisioning, this parameter may only be provisioned using a Line aid. The change always applies to both lines in the pair in protected applications. Beginning in Release 7.0, in 0x1 applications, sfthr is independently provisioned for the two lines in the pair. When application is changed from 0x1 to a protected value, sfthr for the line and its companion (if any) is set to the default value.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 17 of 33)

Parameter Name	Descriptions of Spec Block Parameters								
	This parameter will be null or have one of the following values: ■ -3 This sets the signal degrade threshold at a BER of 1E -3. ■ -4 This sets the signal degrade threshold at a BER of 4E -4. ■ -5 This sets the signal degrade threshold at a BER of 1E -5. ■ -6 This sets the signal degrade threshold at a BER of 1E -6. ■ -7 This sets the signal degrade threshold at a BER of 1E -7. ■ -8 This sets the signal degrade threshold at a BER of 1E -8. ■ -9 This sets the signal degrade threshold at a BER of 1E -9. <u>Parameter values by port type:</u> <table border="0"> <tr> <td style="vertical-align: top; padding-right: 20px;">T1</td><td> -3, -6, -7, -8 A signal fail condition is reported based on BPVs. The initial default value is -3. Note: The T1 parameter does not apply to the LNW18 12TMUX. Note: The T1 parameter does not apply to the LNW20 48TMUXDS3EC1. </td></tr> <tr> <td style="vertical-align: top; padding-right: 20px;">E1</td><td> -3, -6, -7, -8 A signal fail condition is reported based on BPVs. The initial default value is -3. </td></tr> <tr> <td style="vertical-align: top; padding-right: 20px;">T3</td><td> -4, -6 A signal fail condition is reported based on BPVs. -4 represents 4E-4. The initial default value is -6. This parameter does not apply to LNW20 T3 ports when <i>pmd</i>=PORTLESS or UNAVAIL. </td></tr> <tr> <td style="vertical-align: top; padding-right: 20px;">EC-1</td><td> -3, -5, -6, -7, -8, -9 When -3 is detected, a signal fail condition is reported based on B2. When -5, -6, -7, -8, or -9 is detected, a signal degrade condition is reported. The initial default value is -6. </td></tr> </table>	T1	-3, -6, -7, -8 A signal fail condition is reported based on BPVs. The initial default value is -3. Note: The T1 parameter does not apply to the LNW18 12TMUX. Note: The T1 parameter does not apply to the LNW20 48TMUXDS3EC1.	E1	-3, -6, -7, -8 A signal fail condition is reported based on BPVs. The initial default value is -3.	T3	-4, -6 A signal fail condition is reported based on BPVs. -4 represents 4E-4. The initial default value is -6. This parameter does not apply to LNW20 T3 ports when <i>pmd</i>=PORTLESS or UNAVAIL.	EC-1	-3, -5, -6, -7, -8, -9 When -3 is detected, a signal fail condition is reported based on B2. When -5, -6, -7, -8, or -9 is detected, a signal degrade condition is reported. The initial default value is -6.
T1	-3, -6, -7, -8 A signal fail condition is reported based on BPVs. The initial default value is -3. Note: The T1 parameter does not apply to the LNW18 12TMUX. Note: The T1 parameter does not apply to the LNW20 48TMUXDS3EC1.								
E1	-3, -6, -7, -8 A signal fail condition is reported based on BPVs. The initial default value is -3.								
T3	-4, -6 A signal fail condition is reported based on BPVs. -4 represents 4E-4. The initial default value is -6. This parameter does not apply to LNW20 T3 ports when <i>pmd</i>=PORTLESS or UNAVAIL.								
EC-1	-3, -5, -6, -7, -8, -9 When -3 is detected, a signal fail condition is reported based on B2. When -5, -6, -7, -8, or -9 is detected, a signal degrade condition is reported. The initial default value is -6.								

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 18 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	OC-3 -5, -6, -7, -8, -9 A signal degrade condition is reported based on B2. The initial default value is -6. OC-12 -5, -6, -7, -8, -9 A signal degrade condition is reported based on B2. The initial default value is -6. OC-48 -5, -6, -7, -8, -9 A signal degrade condition is reported based on B2. The initial default value is -6. OC-192 -5, -6, -7, -8, -9 A signal degrade condition is reported based on B2. The initial default value is -6. <u>Rates</u> <u>Parameter values by Rates:</u> VT1.5 -5, -6, -7, -8 A signal degrade condition is reported based on V5. Note that the condition is only reported on VTs cross-connected from OLIUs. The initial default value is -6. Beginning in Release 7.0, the STS-1 and STS-3c thresholds must be the same. When one is changed, the other is also changed (with REPT DBCHG messages for both). If they are different when upgrading to Release 7.0, the STS-3c threshold is set to the current STS-1 threshold value. STS-1 -5, -6, -7, -8, -9 A signal degrade condition is reported based on B3. The initial default value is -6. STS-3c -5, -6, -7, -8, -9 A signal degrade condition is reported based on B3. The initial default value is -6.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 19 of 33)

Parameter Name	Descriptions of Spec Block Parameters										
	STS-12c -5, -6, -7, -8, -9 A signal degrade condition is reported based on B3. The initial default value is -6. STS-48c -5, -6, -7, -8, -9 A signal degrade condition is reported based on B3. The initial default value is -6.										
<i>sfail</i>	Signal Failure threshold. This parameter is used to set the signal fail threshold in terms of a Bit Error Rate (BER) for the entities addressed by the <i>aid</i>. This parameter applies to STS-n channels, and to OC-n lines. When the <i>modifier</i> is a channel, this parameter is set at the NE level and ALL is the only <i>aid</i> allowed. When performing optical line provisioning, this parameter may be provisioned using a Line Pair <i>aid</i> or a Line <i>aid</i>. The value will always be applied to the Line Pair. Beginning in Release 6.0, when performing optical line provisioning, this parameter may only be provisioned using a Line <i>aid</i>. The change always applies to both lines in the pair in protected applications. Beginning in Release 7.0, in 0x1 applications, <i>sfail</i> is independently provisioned for the two lines in the pair. When <i>application</i> is changed from 0x1 to a protected value, <i>sfail</i> for the line and its companion (if any) is set to the default value. This parameter will be null or have one of the following values: ■ -3 This sets the signal fail threshold at a BER of 1E -3. ■ -4 This sets the signal fail threshold at a BER of 1E -4. ■ -5 This sets the signal fail threshold at a BER of 1E -5. ■ -6 This sets the signal fail threshold at a BER of 1E -6. NOTE: As of Release 3.1, -6 is no longer a supported value. <table> <tr> <th>Rates</th><th>Parameter values by Rates:</th></tr> <tr> <td>STS-1</td><td>-3, -6</td></tr> <tr> <td>STS-3c</td><td>-3, -6</td></tr> <tr> <td>STS-12c</td><td>-3, -6</td></tr> <tr> <td>STS-48c</td><td>-3, -6</td></tr> </table>	Rates	Parameter values by Rates:	STS-1	-3, -6	STS-3c	-3, -6	STS-12c	-3, -6	STS-48c	-3, -6
Rates	Parameter values by Rates:										
STS-1	-3, -6										
STS-3c	-3, -6										
STS-12c	-3, -6										
STS-48c	-3, -6										

Table 2-199. ENT - rr Input *spec_block* Parameters (cont 20 of 33)

Parameter Name	Descriptions of Spec Block Parameters																				
	Note: As of Release 3.1, the following is the list of parameter values by rate: <table> <tr> <td><u>Rates</u></td><td><u>Parameter values by Rates:</u></td></tr> <tr> <td>STS-1</td><td>-3, -4, -5</td></tr> <tr> <td>STS-3c</td><td>-3, -4, -5</td></tr> <tr> <td>STS-12c</td><td>-3, -4, -5</td></tr> <tr> <td>STS-48c</td><td>-3, -4, -5</td></tr> </table> Beginning in Release 7.0, the STS-1 and STS-3c thresholds must be the same. When one is changed, the other is also changed (with REPT DBCHG messages for both). If they are different when upgrading to Release 7.0, the STS-3c threshold is set to the current STS-1 threshold value. The initial default value for channels is -3. <table> <tr> <td><u>Rates</u></td><td><u>Parameter values by Line type:</u></td></tr> <tr> <td>OC-3</td><td>-3, -4, -5 The initial default value is -3.</td></tr> <tr> <td>OC-12</td><td>-3, -4, -5 The initial default value is -3.</td></tr> <tr> <td>OC-48</td><td>-3, -4, -5 The initial default value is -3.</td></tr> <tr> <td>OC-192</td><td>-3, -4, -5 The initial default value is -3.</td></tr> </table>	<u>Rates</u>	<u>Parameter values by Rates:</u>	STS-1	-3, -4, -5	STS-3c	-3, -4, -5	STS-12c	-3, -4, -5	STS-48c	-3, -4, -5	<u>Rates</u>	<u>Parameter values by Line type:</u>	OC-3	-3, -4, -5 The initial default value is -3.	OC-12	-3, -4, -5 The initial default value is -3.	OC-48	-3, -4, -5 The initial default value is -3.	OC-192	-3, -4, -5 The initial default value is -3.
<u>Rates</u>	<u>Parameter values by Rates:</u>																				
STS-1	-3, -4, -5																				
STS-3c	-3, -4, -5																				
STS-12c	-3, -4, -5																				
STS-48c	-3, -4, -5																				
<u>Rates</u>	<u>Parameter values by Line type:</u>																				
OC-3	-3, -4, -5 The initial default value is -3.																				
OC-12	-3, -4, -5 The initial default value is -3.																				
OC-48	-3, -4, -5 The initial default value is -3.																				
OC-192	-3, -4, -5 The initial default value is -3.																				
<i>lbo</i>	Line Build Out. Valid modifiers for this command are: T1 T3 EC1 For T1, the values are: <table> <tr> <td><u>lbo Value</u></td><td><u>1161A Cable Length (feet)</u></td></tr> <tr> <td>20</td><td>0-133 (Initial Default)</td></tr> <tr> <td>40</td><td>133-267</td></tr> <tr> <td>60</td><td>267-420</td></tr> </table>	<u>lbo Value</u>	<u>1161A Cable Length (feet)</u>	20	0-133 (Initial Default)	40	133-267	60	267-420												
<u>lbo Value</u>	<u>1161A Cable Length (feet)</u>																				
20	0-133 (Initial Default)																				
40	133-267																				
60	267-420																				

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 21 of 33)

Parameter Name	Descriptions of Spec Block Parameters												
	80 420-550 100 550-655 Note: The T1 <i>modifier</i> does not apply to the LNW18 12TMUX circuit pack. Note: The T1 <i>modifier</i> does not apply to the LNW20 48TMUXDS3EC1 circuit pack. For T3 and EC1 the values are: <u>728A/B Cable</u> <table> <tr> <td><u>/bo Value</u></td><td><u>Cable Length (feet)</u></td></tr> <tr> <td>IN</td><td>0-225 (Initial Default)</td></tr> <tr> <td>OUT</td><td>225-450</td></tr> </table> <u>735A Cable</u> <table> <tr> <td><u>/bo Value</u></td><td><u>Cable Length (feet)</u></td></tr> <tr> <td>IN</td><td>0-112 (Initial Default)</td></tr> <tr> <td>OUT</td><td>112-225</td></tr> </table> This parameter does not apply to LNW20 T3 ports when <i>pmd</i>=PORTLESS or UNAVAIL.	<u>/bo Value</u>	<u>Cable Length (feet)</u>	IN	0-225 (Initial Default)	OUT	225-450	<u>/bo Value</u>	<u>Cable Length (feet)</u>	IN	0-112 (Initial Default)	OUT	112-225
<u>/bo Value</u>	<u>Cable Length (feet)</u>												
IN	0-225 (Initial Default)												
OUT	225-450												
<u>/bo Value</u>	<u>Cable Length (feet)</u>												
IN	0-112 (Initial Default)												
OUT	112-225												
<i>pjcmom</i>	PJC Monitor Point. For optical ports, this parameter indicates the tributary within the optical Line that will be used to monitor the PJC (Pointer Justification Count) parameters. Monitoring will not begin until there is a valid signal and a cross-connection on the line. When performing optical line provisioning, this parameter is provisioned using a Line <i>aid</i>. The value will be applied to the addressed Line only. Beginning in Release 7.1, when a line's <i>signaltype</i> is changed, the <i>pjcmom</i> value will change to its default value. This parameter does not apply for client ports. Values: ■ N Where N is the number of the first tributary in a signal to be monitored. TCAs are generated if the provisioned thresholds are exceeded (see RTRV-TH and Appendix B) and <i>tcamd</i>=ENABLE.												

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 22 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	Example: In an OC-12 line with 4 STS-3c signals, the possible values of N would be 1, 4, 7, or 10. ■ AUTO AUTO means that the system will monitor PJC parameters on the first tributary with no AIS-P or LOP-P. TCAs are generated if the provisioned thresholds are exceeded (see RTRV-TH and Appendix B) and tcamd=ENABLE. This is the initial value prior to Release 5.1. ■ AUTO-NO-TCA AUTO-NO-TCA means that the system will monitor PJC parameters on the first tributary with no AIS-P or LOP-P; however, no TCAs are generated for any of the PJC monitored counters (regardless of the value of tcamd). This is the initial value beginning in Release 5.1.
ssbits	SS bits. For OC-n lines, this parameter specifies the value of the outgoing SS bits in the H1 pointer byte of all outgoing STSn signals transported in the OC-n line (incoming SS bits are ignored). Provisioning changes to the SS bits of an OC-n line in a protected line pair automatically applies to the companion line. Values: When application is changed, ssbits for the line and its companion (if any) is set to the default value. ■ SS00 The outgoing SS bits are set to '00'. (Initial default) ■ SS10 The outgoing SS bits are set to '10'. This parameter is supported on the following circuit packs: ■ LNW55 ■ LNW59 ■ LNW62 ■ LNW82 ■ LNW504 ■ LNW603

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 23 of 33)

Parameter Name	Descriptions of Spec Block Parameters																				
<i>wlssel</i>	Wavelength Selection. For OLIUs that support tunable optics (see below), this parameter selects the wavelength to be used. This parameter may be provisioned using a Line Pair <i>aid</i> or a Line <i>aid</i>. The value will be applied to individual lines, and the two lines within a pair may have different values. Beginning in Release 6.0, this parameter may only be provisioned using a Line <i>aid</i>. Note: Once a request to change this parameter is accepted, it can take on the order of 35 seconds for the optics to tune to the new wavelength. During this time, the transmit laser is turned off. Legal values are: ■ CH1 see table below ■ CH2 see table below ■ CH3 see table below (Initial default) ■ CH4 see table below For the LNW523 OC192 OLIU: <table> <tr> <th><i>wlssel</i></th><th>wavelength (nm) / frequency (THz)</th></tr> <tr> <td>CH1</td><td>1560.606 / 192.1</td></tr> <tr> <td>CH2</td><td>1559.794 / 192.2</td></tr> <tr> <td>CH3</td><td>1558.983 / 192.3</td></tr> <tr> <td>CH4</td><td>1558.173 / 192.4</td></tr> </table> For the LNW527 OC192 OLIU: <table> <tr> <th><i>wlssel</i></th><th>wavelength (nm) / frequency (THz)</th></tr> <tr> <td>CH1</td><td>1557.363 / 192.5</td></tr> <tr> <td>CH2</td><td>1556.555 / 192.6</td></tr> <tr> <td>CH3</td><td>1555.747 / 192.7</td></tr> <tr> <td>CH4</td><td>1554.940 / 192.8</td></tr> </table>	<i>wlssel</i>	wavelength (nm) / frequency (THz)	CH1	1560.606 / 192.1	CH2	1559.794 / 192.2	CH3	1558.983 / 192.3	CH4	1558.173 / 192.4	<i>wlssel</i>	wavelength (nm) / frequency (THz)	CH1	1557.363 / 192.5	CH2	1556.555 / 192.6	CH3	1555.747 / 192.7	CH4	1554.940 / 192.8
<i>wlssel</i>	wavelength (nm) / frequency (THz)																				
CH1	1560.606 / 192.1																				
CH2	1559.794 / 192.2																				
CH3	1558.983 / 192.3																				
CH4	1558.173 / 192.4																				
<i>wlssel</i>	wavelength (nm) / frequency (THz)																				
CH1	1557.363 / 192.5																				
CH2	1556.555 / 192.6																				
CH3	1555.747 / 192.7																				
CH4	1554.940 / 192.8																				

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 24 of 33)

Parameter Name	Descriptions of Spec Block Parameters										
	For the LNW554 OC192 OLIU: <table> <tr> <th><i>wlsl</i></th><th>wavelength (nm) / frequency (THz)</th></tr> <tr> <td>CH1</td><td>1535.882 / 195.2</td></tr> <tr> <td>CH2</td><td>1535.036 / 195.3</td></tr> <tr> <td>CH3</td><td>1534.250 / 195.4</td></tr> <tr> <td>CH4</td><td>1533.465 / 195.5</td></tr> </table>	<i>wlsl</i>	wavelength (nm) / frequency (THz)	CH1	1535.882 / 195.2	CH2	1535.036 / 195.3	CH3	1534.250 / 195.4	CH4	1533.465 / 195.5
<i>wlsl</i>	wavelength (nm) / frequency (THz)										
CH1	1535.882 / 195.2										
CH2	1535.036 / 195.3										
CH3	1534.250 / 195.4										
CH4	1533.465 / 195.5										
<i>pmd</i>	Port Mode. This parameter applies only to the LNW20 pack when <i>elf=DS3</i>. <i>pmd</i> may not be changed for any port that has cross-connections, test access connections, or loopbacks. Valid values are: ■ PORTED A DS3 signal is received and transmitted on the backplane electrical interface to the DSX. This is the initial value for circuit packs in FN slots (but not in Growth slots). This value is not allowed for Growth slots. ■ PORTLESS The backplane electrical connector is not used. This mode is used to map a DS1 being received in a channelized DS3 within an STS1 into a VT, and vice versa. The DS1 is cross-connected at the VT level. In non-VLF main applications (see Appendix D), only odd ports may be set to PORTLESS; the corresponding even T3 port (n+1) is then automatically set to <i>pmd=UNAVAIL</i> (that is not a user-provisionable value). For example, if port 1 is set to PORTLESS, port 2 is UNAVAIL. No parameters may be provisioned on the UNAVAIL even port. When a port is changed from PORTLESS to PORTED, the corresponding even port is also changed to PORTED. REPT DBCHG messages are issued on both ports. In VLF main applications, all ports (odd or even) may be provisioned to PORTLESS, and no ports are set to UNAVAIL.										

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 25 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	PORTLESS/UNAVAIL are the initial values for odd/even ports in Growth slots in non-VLF main applications. PORTLESS is the initial (and only) value for ports in Growth slots in VLF main applications.
tribmd	Tributary Mode. This parameter applies only to the LNW20 pack when elf=DS3. tribmd may not be changed for any port that has cross-connections, test access connections, or loopbacks. Valid values are: ■ UNCHAN The DS3 is considered unchannelized (the signal may or may not contain DS1s; they are not processed). Only STS1 cross-connections are allowed. This value is not allowed if pmd=PORTLESS. When pmd=PORTED and tribmd=UNCHAN, the functionality is the same as a DS3 port on LNW16 or LNW19/19B, except that C-bit mismatch monitoring is not supported. This is the initial value for circuit packs in FN slots (but not in Growth slots). ■ CHAN The DS3 is terminated, and the DS1s within the DS3 may be cross-connected at the VT level. This is the only valid value when pmd=PORTLESS. When pmd=PORTED and tribmd=CHAN, the functionality is the same as a port on LNW18. This is the initial value for circuit packs in Growth slots.
strcwfmt	Transmit Section Trace Format. This parameter is available for OCn and EC1 modifiers, beginning in Release 7.0. This parameter does not apply for client ports. This parameter may have the following values:

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 26 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	■ 1 A single-byte section trace is to be transmitted, as provisioned by the <i>strcout</i> or <i>strcouttxt</i> parameters. ■ 2 A single-byte section trace value of hex 01 is transmitted. Provisioning the <i>strcout</i> or <i>strcouttxt</i> parameters are not allowed. (initial value) Note that this is the behavior of the NE prior to Release 7.0. ■ 16 A 16-byte section trace is to be transmitted, as provisioned by the <i>strcout</i> or <i>strcouttxt</i> parameters. This value is not allowed for EC1. ■ 64 A 64-byte section trace is to be transmitted, as provisioned by the <i>strcout</i> or <i>strcouttxt</i> parameters. This value is not allowed for EC1.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 27 of 33)

Parameter Name	Descriptions of Spec Block Parameters
<i>strcout</i>	Transmit Section Trace provisioned value—hexadecimal. This parameter is available for OCn and EC1 modifiers, beginning in Release 7.0. This parameter is only allowed if <i>strcwfmt</i> is 1, 16, or 64. This parameter is ignored if <i>strcouttxt</i> is also supplied, and is overridden by subsequent provisioning of either <i>strcouttxt</i> or <i>strcout</i>. The legal value is a hexadecimal string (consisting of the digits 0-9 and A-F) of up to twice the number specified by the <i>strcwfmt</i> (since there are two digits per byte). If an odd number of digits is entered, a leading 0 is added to the string, then if fewer digits than the maximum are specified, the value is padded with 0. When <i>strcwfmt</i>=1, the initial value is 00. When <i>strcwfmt</i>=16, the initial value is an initial byte of 89, followed by all 0. This represents a NULL string, with a valid CRC-7 header. Note that <i>strcout</i> and <i>strcouttxt</i> have the equivalent initial value. While the trace value is unrestricted, the recommended format is that the first byte have a CRC-7 value calculated over the remaining 15 bytes in the string, and a most-significant bit of 1. The remaining 15 bytes should have a most-significant bit of 0. When <i>strcwfmt</i>=64, the initial value is an initial byte of C8, followed by all 0. This represents a NULL string with a valid CRC-7 header. The recommended format is that the first byte have a CRC-7 value calculated over the remaining 63 bytes in the string, and a most-significant bit of 1. The remaining 63 bytes should have a most-significant bit of 0. When interworking with ANSI T1.269 Annex B compliant systems, the last 2 bytes of the string are recommended to be <carriage return><line feed>, or 0D0A, and there should be no CRC-7 byte. The NE puts no restriction other than length on the value, and does not calculate or prepend a CRC-7 byte. This parameter does not apply for client ports.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 28 of 33)

Parameter Name	Descriptions of Spec Block Parameters
<i>strcouttxt</i>	Transmit Section Trace provisioned value—ASCII. This parameter is available for OCn and EC1 modifiers, beginning in Release 7.0. This parameter is only allowed if <i>strcwfmt</i> is 1, 16 or 64. This parameter is overridden by subsequent provisioning of either <i>strcouttxt</i> or <i>strcout</i>. The legal value is a quoted ASCII text string. The permitted character set consists of the printable characters found in the English language, with the following exceptions: the semicolon (;), double quote (") and backslash (\) are not permitted. When <i>strcwfmt</i>=1, a single quoted character may be entered, the initial value is "" (the NULL string), and an ASCII NUL (00) is transmitted. When <i>strcwfmt</i> is 16 or 64, a string with a length of up to one less characters than the number specified by the <i>strcwfmt</i> (i.e. 15 or 63) may be entered. If fewer characters than the maximum are specified, the value is padded with 0. The system prepends a valid CRC-7 byte to the string, calculated from the newly-provisioned value. When <i>strcwfmt</i>=16 or 64, the initial value is "" (the NULL string). This parameter does not apply for client ports.
<i>strcfmt</i>	Expected Receive Section Trace Format. This parameter is available for OCn and EC1 modifiers, beginning in Release 7.0. This parameter may have the following values: ■ 1 A single-byte section trace is expected, as provisioned by the <i>exprstrc</i> or <i>exprstrctxt</i> parameters. ■ 2 A single-byte section trace value of hex 01 is expected. Provisioning the <i>exprstrc</i> or <i>exprstrctxt</i> parameters are not allowed, and monitoring the received trace (<i>rstimmon</i>) may not be enabled. (initial value) ■ 16 A 16-byte section trace is expected, as provisioned by the <i>exprstrc</i> or <i>exprstrctxt</i> parameters. This value is not allowed for EC1. ■ 64 A 64-byte section trace is expected, as provisioned by the <i>exprstrc</i> or <i>exprstrctxt</i> parameters. This value is not allowed for EC1. This parameter does not apply for client ports.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 29 of 33)

Parameter Name	Descriptions of Spec Block Parameters
<i>exprstrc</i>	Expected Receive Section Trace provisioned value—hexadecimal. This parameter is available for OCn and EC1 modifiers, beginning in Release 7.0. This parameter is only allowed if strcfmt is 1, 16, or 64. This parameter is ignored if exprstrctxt is also supplied, and is overridden by subsequent provisioning of either exprstrctxt or exprstrc. The legal value is a hexadecimal string (consisting of the digits 0-9 and A-F) of up to twice the number specified by strcfmt (since there are two digits per byte). If an odd number of digits is entered, a leading 0 is added to the string, then if fewer digits than the maximum are specified, the value is padded with 0. When strcfmt=1, the initial value is 00. When strcfmt=16, the initial value is an initial byte of 89, followed by all 0. This represents a NULL string, with a valid CRC-7 header. Note that exprstrctxt and exprstrc have the equivalent initial value. While the trace value is unrestricted, the recommended format is that the first byte have a CRC-7 value calculated over the remaining 15 bytes in the string, and a most-significant bit of 1. The remaining 15 bytes should have a most-significant bit of 0. When strcfmt=64, the initial value is an initial byte of C8, followed by all 0. This represents a NULL string with a valid CRC-7 header. The recommended format is that the first byte have a CRC-7 value calculated over the remaining 63 bytes in the string, and a most-significant bit of 1. The remaining 63 bytes should have a most-significant bit of 0. When interworking with ANSI T1.269 Annex B compliant systems, the last 2 bytes of the string are recommended to be <carriage return><line feed>, or 0D0A, and there should be no CRC-7 byte. The NE puts no restriction other than length on the value, and does not calculate or prepend a CRC-7 byte. This parameter does not apply for client ports.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 30 of 33)

Parameter Name	Descriptions of Spec Block Parameters
<i>exprstrctxt</i>	Expected Receive Section Trace provisioned value—ASCII. This parameter is available for OCn or EC1 modifiers, beginning in Release 7.0. This parameter is only allowed if strcfmt is 1, 16 or 64. This parameter is overridden by subsequent provisioning of either exprstrctxt or exprstrc. The legal value is a quoted ASCII text string. The permitted character set consists of the printable characters found in the English language, with the following exceptions: the semicolon (;), double quote (") and backslash (\) are not permitted. When strcfmt=1, a single quoted character may be entered, the initial value is "" (the NULL string), and an ASCII NUL (00) is expected. When strcfmt is 16 or 64, a string with a length of up to one less characters than the number specified by the strcfmt (i.e. 15 or 63) may be entered. If fewer characters than the maximum are specified, the value is padded with ASCII NUL characters (00). The system prepends a valid CRC-7 byte to the string, calculated from the newly-provisioned value. When strcfmt=16 or 64, the initial value is "" (the NULL string). This parameter does not apply for client ports.
<i>rstimmon</i>	Receive Section Trace Identifier Monitor. This parameter is available for OCn or EC1 modifiers, beginning in Release 7.0. Valid values are: ■ ENABLE The received section trace is compared to the expected section trace (exprstrc or exprstrctxt), and if there is a mismatch, a TIM defect is detected, and if alarm reporting is enabled, a TIM-S or TIM-S-D alarm is generated, as provisioned by rstimca. rstimmon may not be set to ENABLE if strcfmt=2, or if the expected trace is set to the initial (default) value. ■ DISABLE The received section trace is not monitored, and the received value may not be retrieved. Any existing TIM-S (and associated consequent action) or TIM-S-D alarm is cleared. (initial value) This parameter does not apply for client ports.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 31 of 33)

Parameter Name	Descriptions of Spec Block Parameters
<i>rstimca</i>	Receive Section Trace Identifier Mismatch Consequent Action. This parameter is available for OCn or EC1 modifiers, beginning in Release 7.0. This parameter must be DISABLE if <i>rstimmon</i> is DISABLE. Any change in this value immediately clears any existing TIM-S or TIM-S-D alarm and removes any associated consequent action. If the defect is present, a new alarm (with associated consequent actions, if ENABLE) is declared. Valid values are: ■ ENABLE When a section trace mismatch defect is detected, line AIS is inserted downstream (even if the line's <i>pst</i> is OOS), that triggers line or path switching. If alarming is enabled, a TIM-S alarm is reported. ■ DISABLE When a section trace mismatch defect is detected with alarming enabled, a TIM-S-D alarm is reported. No line AIS is inserted, and there is no line or path switching due to the mismatch. (initial value) This parameter does not apply for client ports.
<i>signaltype</i>	Signal type. This parameter is used to change the signal type of lines for multi-rate packs. The desired new value is also used for the <i>modifier</i>. Whenever <i>signaltype</i> is changed from one non-STNA value to another non-STNA value, the line's <i>pst</i> is set to OOS-MA-AS (AUTO), with a DBCHG message if the <i>pst</i> was not already OOS-MA-AS. Beginning in Release 9.0, while in ring upgrade mode (RTRV-SYS:nemode=RING-UPGRADE) on multi-port multi-rate circuit packs, changing the <i>signaltype</i> of the line in protected line pairs on multi-port multi-rate packs does not change the line's <i>pst</i> value. Any rules about when a <i>signaltype</i> change is accepted are applied separately to all lines that would be changed by the request before a request is accepted. <i>signaltype</i> may not be changed for any line (or line pair, in line- or path-protected applications) that has cross-connections, test access connections, or loopbacks. Beginning in Release 9.0, while in ring upgrade mode (RTRV-SYS:nemode=RING-UPGRADE) on multi-port multi-rate circuit packs, <i>signaltype</i> may be changed on lines in protected line pairs on multi-port multi-rate packs that have cross-connections.

Table 2-199. ENT - rr Input *spec_block* Parameters (cont 32 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	Beginning in Release 9.0, while in ring upgrade mode (RTRV - SYS:nemode=RING-UPGRADE) on multi-port multi-rate circuit packs, signaltype may not be changed on lines in protected line pairs on multi-port multi-rate packs if both the following conditions exist: ■ the PTM in the socket is missing or failed ■ the port has any provisioned cross-connects For protected applications, changing the signaltype of a line also changes the signaltype of its companion (with DBCHG messages for all modified lines in equipped slots). Beginning in Release 9.0, while in ring upgrade mode (RTRV - SYS:nemode=RING-UPGRADE), the signaltype of companion lines may be independently changed. The NE cannot exit the ring upgrade mode until both lines in each protected line pair on the multi-port multi-rate circuit packs have the same signaltype. This parameter applies to the following packs: LNW55 LNW82 LNW504 This parameter does not apply for client ports. Use ENT - OTPE:signaltype to change client ports. Valid values are: ■ STNA Signal Type Not Applicable. The line is unused. If the socket is equipped, the PTM is alarmed as unexpected. signaltype of a line may not be changed to STNA if the line is the synchronization source, or is the companion of the source when sync autoreconfiguration is enabled (see RTRV - SYNCN:sync_source and sync_autoreconfiguration). It may also not be changed if the line is looped back (see RTRV - LPBK). This is the initial value for all lines when the pack is accepted into a group with no expected pack type. If the companion is an accepted pack with the same pack type, for protected applications, the line is set to the signaltype of the companion, and for 0x1 applications, the line is set to STNA.

Table 2-199. ENT-rr Input *spec_block* Parameters (cont 33 of 33)

Parameter Name	Descriptions of Spec Block Parameters
	When a line is STNA, synchronization messaging (<i>syncmsg</i>) is DISABLED, DCC is DISABLED (and is not retrievable), and there is no line primary state (<i>pst</i>). No DBCHG messages are issued for those parameters that changed. No line parameters other than <i>signaltype</i> may be provisioned or retrieved. When the <i>signaltype</i> of a line is changed from STNA to any other value, the line's <i>application</i> is set to 0x1. All other line parameters are set to their default values. STNA lines are equivalent to 0x1 lines when determining the pack's <i>prot_state</i> on low-speed packs. Changing <i>signaltype</i> to or from STNA may cause the pack's <i>prot_state</i> to change. For the LNW504, only line 4 may be set to STNA. Setting line 4 to STNA is the equivalent of setting lines 5 through 8 to OC48. ■ OC3 This value is not allowed if the line's <i>application</i> is 2F. ■ OC12 This value is not allowed if the line's <i>application</i> is 2F. ■ OC48 For the LNW55, only lines 1, 4, 7, and 10 may be set to OC48. The two lines following the desired OC48 line must previously have been set to STNA. For the LNW82, only lines 1 and 5 may be set to OC48. The three lines following the desired OC48 line must previously have been set to STNA. ■ OC192 For the LNW504, only line 4 may be set to OC192. Setting line 4 to OC192 is the equivalent of setting lines 5 through 8 to STNA. All requirements associated with setting the <i>signaltype</i> to STNA apply to lines 5 through 8. For protected <i>application</i> values, the corresponding line on the companion pack (if provisioned to be equipped) must be available, and the lines following the corresponding companion line, as specified above for individual packs, must be STNA. Changing <i>signaltype</i> may cause PTM alarms to be set or cleared.

The following table illustrates the valid combinations of *linecde*, *ais*, and *pbit* values used to set the four VMR (Violation Monitoring and Removal) modes of the NE.

Table 2-200. DS3 Port VMR Provisioning

VMR Mode	<i>linecde</i>	<i>ais</i>	<i>pbit</i>
VMR	B3ZS	No Effect	ON
VM	B3ZS	No Effect	OFF
CC with AIS	CCHAN	Y	No Effect
CC without AIS	CCHAN	N	No Effect

Beginning in Release 5.0, [Table 2-200](#) is replaced by the following table.

Table 2-201. DS3 Port VMR Provisioning

VMR Mode	<i>frame</i>	<i>linecde</i>	<i>ais</i>	<i>pbit</i>
VMR	M13 or CBIT	B3ZS	No Effect	ON
VM	M13 or CBIT	B3ZS	No Effect	OFF
CC with AIS	CCHAN	CCHAN	Y	No Effect
CC without AIS	CCHAN	CCHAN	N	No Effect

Table 2-202. Alarm/PM/TCA reporting

	PST=IS	PST=AUTO	PST=NMON
RESULTING ALARMS/PM/TCA REPORTING			
TCAMD=ENABLE	Yes Alarm reporting Yes PM reporting Yes TCA reporting	No Alarm reporting No PM reporting No TCA reporting	No Alarm reporting No PM reporting No TCA reporting
TCAMD=DISABLE	Yes Alarm reporting Yes PM reporting No TCA reporting	No Alarm reporting No PM reporting No TCA reporting	No Alarm reporting No PM reporting No TCA reporting

NOTE: High-speed lines have no **pst**, and behave as if **pst=IS**; **pst** is not provisionable or retrievable.

NOTE: Beginning in Release 7.0, **pst** is added for high-speed lines.

Beginning in Release 9.0, the following table shows the allowed values for the 1+1 interface ports and subshelves in a Multi-Shelf DCS utilizing a single TID. These values will be automatically set when:

- the interface ports are provisioned with **application** = 1+1

and then either:

- a port on a Main shelf is provisioned to be an interface to a subshelf, or
- a shelf is provisioned to be a subshelf, respectively.

Any table entry that has a single value indicates that it is the only allowed value and is not provisionable. When a shelf is removed from a Multi-Shelf DCS configuration (de-provisioned), the NE will automatically reset any table entry that has a single value, excluding the application parameter, to their default values. Note, that since there is no STS or VT AID for the subshelf, that information is not applicable and not represented in the following table.

Table 12. Changes for Multi-Shelf DCs (cont 1 of 3)

Parameter	Entity: Parameter Values			
	1+1 Interface Ports in Main Shelf	1+1 Interface Ports in SubShelf	DS1s in Subshelf	DS3s in Subshelf
ais	not applicable	not applicable	not applicable	all values

Table 12. Changes for Multi-Shelf DCs (cont 2 of 3)

Parameter	Entity: Parameter Values			
	1+1 Interface Ports in Main Shelf	1+1 Interface Ports in SubShelf	DS1s in Subshelf	DS3s in Subshelf
<i>application</i>	1+1	1+1	not applicable	not applicable
<i>bpv</i>	not applicable	not applicable	all values	not applicable
<i>elf</i>	not applicable	not applicable	not applicable	DS3
<i>exprstrc</i>	not provisionable ^b	not provisionable ^b	not applicable	not applicable
<i>exprstrctxt</i>	NULL string	NULL string	not applicable	not applicable
<i>fmt</i>	not applicable	not applicable	all values	all values
<i>frame</i>	not applicable	not applicable	not applicable	M13,CBIT, CCHAN
<i>linecde</i>	not applicable	not applicable	all values	all values
<i>pbit</i>	not applicable	not applicable	not applicable	all values
<i>pjcmn</i>	AUTO-NO-TCA	AUTO-NO-TCA	not applicable	not applicable
<i>pmd</i>	not applicable	not applicable	not applicable	PORTED
<i>pst</i>	all values channel state: NMON ^a	IS ^a	all values	all values
<i>rstimca</i>	DISABLE	DISABLE	not applicable	not applicable
<i>rstimmon</i>	ENABLE	ENABLE	not applicable	not applicable
<i>sfail</i>	line: -3 tributary: follows sfail provisioning for all tributaries	line: -3	not applicable	not applicable
<i>sfthr</i>	line: -6 tributary: follows sfthr provisioning for all tributaries	line: -6	all values	all values
<i>signaltype</i>	fixed based on subshelf type	not applicable	not applicable	not applicable
<i>ssbits</i>	00	not applicable	not applicable	not applicable
<i>strcfmt</i>	16	16	not applicable	not applicable
<i>strcout</i>	not provisionable ^b	not provisionable ^b	not applicable	not applicable
<i>strcouttxt</i>	NULL string	NULL string	not applicable	not applicable
<i>strcwfmt</i>	16	16	not applicable	not applicable
<i>syncmsg</i>	SBYTE	SBYTE	not applicable	not applicable
<i>tcamd</i>	DISABLE	DISABLE	all values	all values

Table 12. Changes for Multi-Shelf DCs (cont 3 of 3)

Parameter	Entity: Parameter Values			
	1+1 Interface Ports in Main Shelf	1+1 Interface Ports in SubShelf	DS1s in Subshelf	DS3s in Subshelf
tribmd	not applicable	not applicable	not applicable	all values

- a. UPD-SYS does not transition the state to AUTO
- b. The NE uses the JO Section Trace Identifier Mismatch feature to verify that the optical cables are properly connected between the main shelf and each subshelf. Due to this, the corresponding parameters are not provisionable. They are, however, retrievable via rtrv-rr. A section trace mismatch on either end of the link indicates a misconnected cable or inconsistent subshelf provisioning and is reported as a TIM-S-D alarm.

OUTPUT FORMAT

Refer to the **RTRV - HDR OUTPUT FORMAT** section. The requirements listed there apply to this command also.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also.

EXAMPLE INPUT/OUTPUT

The following example sets the low-speed DS3 port address “b-1” provisioning to the following values:

- **sftthr** of 4E-4
- DS3 Failure Alarm Level of MN
- AIS = No

```
ENT-t3:LT-TID123:b-1:123456:::AIS=N,NTFCNCDE=MN,SFTHR=-4,LINECDE=CCHAN;
```

```
IP 123456
<
```

```
LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```

The following example sets the low-speed DS3 port address “b-1” provisioning to the following value(s):

- Primary State of NMON

```
ENT-t3:LT-TID123:b-1:123456:::00S;
```

```
IP 123456  
<
```

```
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following example sets the low-speed DS3 port address “b-1” provisioning to the following values:

- *sftthr* of 4E-4
- DS3 Failure Alarm Level of MJ
- Line Code is B3ZS
- Monitor performance using the F&M bit scheme

```
ENT-t3:LT-TID123:b-1:Z890Ab:::AIS=Y,FRAME=M13,FMT=FMBIT,NTFCNCDE=MJ,  
LINECDE=B3ZS,SFTHR=-4;
```

```
IP Z890Ab  
<
```

```
LT-TID123 00-10-26 16:45:23  
M Z890Ab COMPLD
```

The following example requests all low-speed DS3 ports in the range “b-all” have their *fnt* parameter value set to **CPBIT**. In this example, one of the DS3 ports has *frame* set to **M13**, so the NE will not be able to set its *fnt* parameter to **CPBIT**. The NE

will update all the other ports and generate a **REPT DBCHG** message for all of the updated ports.

```
ENT-t3:LT-TID123:b-all:123456:::FMT=CPBIT;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

Beginning in Release 5.0, the above example is replaced with the following.

The following example sets the low-speed DS3 port address “b-1” provisioning to the following values:

- *sftthr* of 4E-4
- DS3 Failure Alarm Level of MJ
- Monitor performance using the F&M bit scheme

```
ENT-t3:LT-TID123:b-1:Z890Ab:::AIS=Y,FRAME=M13,FMT=FMBIT,NTFCNCDE=MJ,SFTHR=-4;
```

```
IP Z890Ab
```

```
<
```

```
LT-TID123 00-10-26 16:45:23
```

```
M Z890Ab COMPLD
```

The following example sets the low-speed T1 or DS1 port address “a-1-2” for provisioning as follows:

- *sftthr* of 1E-3
- DS1 Failure Alarm Level of MJ
- Insert AIS toward fiber for incoming DS1 LOS
- Do not send all zeroes to DLC
- Line Code is B8ZS
- Monitor DS1 PM near and far-ends


```
ENT-t1:LT-TID123:a-1-2:Z890Ab:::AIS=Y,BPV=N,FMT=ESF,NTFCNCDE=MJ,  
LINECDE=B8ZS,SFTHR=-3;
```

```
IP Z890Ab  
<
```

```
LT-TID123 00-10-26 16:45:23  
M Z890Ab COMPLD
```

The following example sets the EC1 port address “b-1” for provisioning as follows:

- Soft Failure Threshold of 1E-7
- EC1 Failure Alarm Level of MJ

```
ENT-EC1:LT-TID123:b-1:Z890Ab:::NTFCNCDE=MJ,SFTHR=-7;
```

```
IP Z890Ab  
<
```

```
LT-TID123 00-10-26 16:45:23  
M Z890Ab COMPLD  
;
```

The following example sets the OC-48 interface attributes at the address “fn-b-1-1” for provisioning as follows:

- Soft Failure Threshold of 1E-9
- S-Byte used for Synchronization messaging
- Unidirectional 1+1 Application

```
ENT-oc48:LT-TID123:fn-b-1-1:Z890Ab:::SYNCSG=sbyte,SFTHR=-9,APPLICATION=1+1;
```

```
IP Z890Ab  
<
```

```
LT-TID123 00-10-26 16:45:23  
M Z890Ab COMPLD  
;
```

The following example sets the OC-48 interface attributes at the address “fn-b-1-1” for provisioning as follows:

- Soft Failure Threshold of 1E-9
- S-Byte used for Synchronization messaging
- Unidirectional 1+1 Application
- PJCMON of 4

```
ENT-oc48:LT-TID123:fn-b-1-1:Z890Ab::SYNMSG=sbyte,SFTHR=-9,APPLICATION=1+1,
PJCMON=4;
```

```
IP Z890Ab
<
```

```
LT-TID123 00-10-26 16:45:23
M Z890Ab COMPLD
```

The following ring example sets the OC-48 interface attributes at the address “main-1-1” provisioning as follows:

- Soft Failure Threshold of 1E-9
- S-Byte used for Synchronization messaging

```
ENT-oc48:LT-TID123:main-1-1:Z890Ab::SYNMSG=sbyte,SFTHR=-9;
```

```
IP Z890Ab
<
```

```
LT-TID123 00-10-26 16:45:23
M Z890Ab COMPLD
;
```

The following example sets the OC-3 interface attributes at the address “fn-d-1-1” for provisioning as follows:

- Soft Failure Threshold of 1E-9
- S-Byte used for Synchronization messaging
- Unidirectional 1+1 Application

```
ENT-oc3:LT-TID123:fn-d-1-1:Z890Ab:::SYNMSG=sbyte,SFTHR=-9,APPLICATION=1+1;
```

```
IP Z890Ab  
<
```

```
LT-TID123 00-10-26 16:45:23  
M Z890Ab COMPLD  
;
```

The following ring example at the address “fn-d-1-3” sets the OC-3 interface state to NMON:

```
ENT-oc3:LT-TID123:fn-d-1-3:Z890Ab:::OOS;
```

```
IP Z890Ab  
<
```

```
LT-TID123 00-10-26 16:45:23  
M Z890Ab COMPLD  
;
```

The following ring example sets the OC-192 interface attributes at the address “main-1-1” for provisioning as follows:

- Soft Failure Threshold of 1E-9
- S-Byte used for Synchronization messaging

```
ENT-oc192:LT-TID123:main-1-1:Z890Ab:::SYNMSG=sbyte,SFTHR=-9;
```

```
IP Z890Ab  
<
```

```
LT-TID123 00-10-26 16:45:23  
M Z890Ab COMPLD  
;
```

The following example sets the signal degrade protection switching threshold for all VT1.5 channels to 10^{-8} . Since only an *aid* of “all” is allowed, executing this command will affect the signal fail thresholds of ALL VT1.5 channels in the addressed system including the currently-existing VT1.5 channels.

- Signal Degrade Threshold of 1E-8

```
ENT-vt1:LT-TID123:all:Z890Ab::SFTHR=-8;
```

```
IP Z890Ab  
<
```

```
LT-TID123 00-10-26 16:45:23  
M Z890Ab COMPLD  
;
```

The following example sets the STS-1 Signal Fail Alarm/Path protection switching/downstream VT AIS insertion threshold at 1E-6, and the signal degrade threshold at 1E-8. Since only an *aid* of “all” is allowed, executing this command will affect all STS-1 channels in the addressed system including the currently-existing STS-1 channels.

```
ENT-sts1:LT-TID123:all:Z890Ab::SFTHR=-8,SFAIL=-6;
```

```
IP Z890Ab  
<
```

```
LT-TID123 00-10-26 16:45:23  
M Z890Ab COMPLD  
;
```

The following example sets the Signal Fail Alarm and protection switching threshold for all STS-3c channels to 10⁻⁹. Since only an *aid* of “all” is allowed, execution of this command will affect the signal fail thresholds of ALL STS-3c channels in the addressed system including the currently-existing STS-3c channels.

- Soft Failure Threshold of 1E-9

```
ENT-sts3c:LT-TID123:all:Z890Ab:::SFTHR=-9;
```

```
IP Z890Ab
```

```
<
```

```
LT-TID123 00-10-26 16:45:23
```

```
M Z890Ab COMPLD
```

```
;
```

The following two examples, that use Channel AIDs, are no longer valid in Release 6.0, in which only Ring Channel AIDs are allowed.

The following example sets the Channel State to NMON. The channel state, unlike the signal fail threshold, will affect only the addressed STS-3c channel. In the following example, the affected STS-3c channel is “m-1-1”.

- Primary state of NMON

```
ENT-sts3c:LT-LTD123:m-1-1:Z890Ab:::00S;
```

```
IP Z890Ab
```

```
<
```

```
LT-TID123 00-10-26 16:45:23
```

```
M Z890Ab COMPLD
```

```
;
```

The following example disables channel TCAs at the address “m-1-3”:

```
ENT-ST51:LT-TID123:m-1-3:Z890Ab:::TCAMD=DISABLE;
```

```
IP Z890Ab
```

```
<
```

```
LT-TID123 00-10-26 16:45:23
```

```
M Z890Ab COMPLD
```

```
;
```

The following example disables ring channel TCAs at the address “m2-1-3”:

```
ENT-STS1:LT-TID123:m2-1-3:Z890Ab:::TCAMD=DISABLE;
```

```
IP Z890Ab  
<
```

```
LT-TID123 00-10-26 16:45:23  
M Z890Ab COMPLD  
;
```

The following example sets the *ssbits* for an OC-3 line at address “fn-d-1-1”:

```
ENT-oc3:LT-TID123:fn-d-1-1:Z890Ab:::SSBITS=SS10;
```

```
IP Z890Ab  
<
```

```
LT-TID123 10-10-26 16:45:23  
M Z890Ab COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **ENT-rr** command with both the *spec_block* and *pst* parameters, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, spec_block and pst cannot both be specified  
in one command */  
;
```

If the NE receives an **ENT-rr** command with the same parameter specified more than once, the following error response is returned:

```
sid date time
M ctag DENY
IISP
/* Input, Invalid Syntax or Punctuation, parameter(s) multiply defined */
;
```

If the system receives an **ENT-rr** command with an invalid command code **modifier**, the following error response is returned:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

If the NE receives an **ENT-rr** command without an **aid** value, with an **aid** that is not supported by the NE for any **modifier**, or with an **aid** value that is invalid for the **modifier** provided (that is, because the **aid** refers to a different type of entity than is specified by the **modifier**, or the **modifier** is a channel and the **spec_block** contains the parameter **sftthr** but the **aid** is not ALL), the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

If the NE receives an **ENT-rr** command, and the equipage of either slot in the addressed group does not match the provisioned equipage for the group, or the

parameter doesn't apply for the provisioned equipage of the group, the following error response is returned:

```
sid date time
M ctag DENY
ENSI
/* Equipage, Not equipped for Setting specified Information */
;
```

If the NE receives an **ENT-rr** command with otherwise valid **spec_block** parameter values, but it is inconsistent with the **modifier** provided, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, parameter settings inconsistent with modifier */
;
```

If one or more of the input parameter values are not valid, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid */
;
```

If the system receives an **ENT-rr** command with a line **modifier**, and with the parameter **aisncsa** in the **spec_block**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, AISNCSA not allowed for lines */
;
```


If the system receives an **ENT-OCn** command for an OCn with parameter **syncmsg** having an invalid value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid */
;
```

When changing the Electrical Interface Type (**EIF**) value to EC1, the user must use the **ENT-EC1** command (regardless of whether the current **EIF** value for the addressed port is DS3 or EC1), otherwise the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, Inconsistent EIF value */
;
```

When changing the Electrical Interface Type (**EIF**) value to T3, the user must use the **ENT-T3** command, otherwise the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, Inconsistent EIF value */
;
```

When changing the Electrical Interface Type (EIF) value, no cross-connection, loopbacks or **TEST-TRMSN** (DS3 only) should be running on the addressed port, otherwise the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State */
;
```

If the NE receives a command for an **aid**, and the slot or group corresponding to that **aid** is not provisioned to be equipped, the following error response is returned:

```
sid date time
M ctag DENY
  ENEQ
  /* Equipage, Not EQuipped */
;
```

Beginning in Release 7.0, the above response is also returned if a request is made to change the **pst** of a line corresponding to a socket that is not configured to be equipped (**RTRV-EQPT**, *name=UNEQ*).

If the system receives an otherwise valid **ENT-rr** command to change the provisioned value of the **application** parameter, and there are existing cross-connections in the line or line pair, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cross-connect exists */
;
```

Beginning in Release 9.0, if the system receives an otherwise valid **ENT-rr** command to change the provisioned value of the **application** parameter from **1+1** to **1+1_BIDIR** or vice versa and there are existing cross-connections in the line or line pair, the command will not be denied.

If the NE receives an **ENT-STSn** command with a **modifier** that does not agree with the accepted cross-connect signal rate, the following error response is returned:

```
sid date time
M ctag DENY
  IPNC
  /* Input, Parameter Not Consistent, rate mismatch */
;
```

Beginning in Release 3.1, this message replaces the above message. If the addressed channel is a component of a higher-level cross-connection (for example, the VT1.5 being addressed is actually a part of an existing STS-1 cross-

connection or the STS-1 channel being addressed is actually a part of an existing STS-3C cross-connection), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, the specified path is not properly
cross-connected */
;
```

If the system receives an otherwise valid **ENT-rr** command to provision an OC-48 BLSR protection group in function slots a, b or c, and the shelf is equipped with OC-48 OLIUs with a 6 or 12 STS-1 VT fabric (LNW26, LNW26B, LNW28, LNW48, LNW50, LNW77, LNW121-LNW159, LNW121B-LNW159B, LNW421-LNW459) in the main group, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, BLSR not supported in fna - fnc with
current Main equipage */
;
```

If the NE receives a request to disable sync messaging while SyncAutoreconfiguration is enabled (**RTRV-SYNCN**, *sync_autoreconfiguration=DISABLED*), the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Disable Autoreconfig First */
;
```

If the NE receives an **ENT-rr** command with a **modifier** for which no channel state exists (and one or more of the parameters require a channel state) for the specific **aid**, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, address points to a non-existent channel */
;
```

If the NE receives an **ENT-rr** command with a **modifier** for which no cross-connect exists for the specific **aid**, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, address points to a non-existent cross-
connect */
;
```

If the NE receives an **ENT-rr** command with a **modifier** of **VT1** and parameter **tcamd** for an **aid** for which VT PM is not available, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, VT Path PM not available */
;
```

If the NE receives a request to change the state of a line from NMON (**pst=OOS**), and that line has a FACILITY loopback active with **cmdmode=NORM** (see **RTRV-LPBK**), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, line state must be OOS for NORM FACILITY
loopback */
;
```

If the NE receives a request to change the **application** of a line pair, and any tributary within the line pair is involved in a test access connection (see **CONN-TACC**: **tatrib1**, **tatrib2**, **etrib**, and **ftrib**), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, test access active */
;
```

If the NE receives a request to change the **application** of a line pair, and there is a line switch active for the pair (see **RTRV-PROTN-GRP**), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, line switch must be dropped to change
Application Mode */
;
```

If the NE receives a request to change the **elf** of all ports in a group, and any port(s) in the range which are not already the new interface type have a cross-connect, are involved in test access, or have a loopback active, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, can't change EIF of port(s) in use */
;
```

Beginning in Release 7.0, the above message is also returned for a request to change **elf** on multiple ports if a port within the requested range has **pmd=UNAVAIL**.

If the NE receives a request to change a T3 port configuration, and the values of **frame** and **linecde** conflict, such that one parameter would set the port to

CCHAN and the other would set the port to non-**CCHAN**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, FRAME inconsistent with LINECDE */
;
```

If the NE receives a request to change parameters on a line that is inactive in the current **application** (for example, the companion line in slot 2 in a **0x1S1** application), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, line not provisionable in this
application */
```

If the NE receives a request to change the **fmt** or **pbit** parameters on a CCHAN T3 port, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, FMT/PBIT not valid in CCHAN */
;
```

If the NE receives a request to change the **application** parameter from a 1+1 application to a non-1+1 application, or vice versa, and there are any static IP routes associated with the line pair—*owner*=MANUAL in a **RTRV - IP - ROUTE** report on the AID(s) associated with the DCC(s) of the line pair (if currently in a 1+1 application) or both lines (if currently in a non-1+1 application)— the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, can't change application until DCC static
IP routes are deleted */
```

If the NE receives a request to change a parameter to a value that conflicts with another parameter (whether both are included in the request, or the one which is being requested conflicts with the existing setting of another), for example setting **tribmd** to **UNCHAN** when **pmd** is **PORTLESS** on an LNW20 DS3 port, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, conflicting parameter values */
;
```

LNW20 T3 PORTLESS operation (**pmd=PORTLESS**) is not allowed with certain main packs. If the shelf is equipped with one of the these main packs—LNW26B, LNW28, LNW48, LNW50, LNW54, LNW77, LNW121B-LNW159B—and a request is received to set a T3 port to PORTLESS, the following error response is returned:

```
sid date time
M ctag DENY
ENSI
/* Equipage, Not equipped for Setting specified Information, main
equipage does not support PORTLESS T3 */
```

LNW20 T3 PORTLESS operation (**pmd=PORTLESS**) is the only mode allowed for packs in the growth slot (with even ports UNAVAIL for non-VLF mains). If a request is received to set a T3 PORTLESS port in growth to something other than T3 PORTLESS, the following error response is returned:

```
sid date time
M ctag DENY
ENSI
/* Equipage, Not equipped for Setting specified Information, growth only
supports PORTLESS T3 */
```

If a request is received to set a T3 port to **pmd**=PORTLESS for an even port in a shelf equipped with non-VLF mains, the following error response is returned:

```
sid date time
M ctag DENY
ENSI
/* Equipage, Not equipped for Setting specified Information, mains do
not support PORTLESS T3 on even ports */
```

If a request is received to change any parameter (including attempting to change **EIF** to EC1) for a T3 UNAVAIL port, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, T3 port is unavailable */
;
```

In shelves with non-VLF mains, if a request is received to change an odd port to PORTLESS, and the **EIF** of the corresponding even port is EC1, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, EIF of even port is EC1 */
;
```


If **strcwfmt** is 2, and **strcouttxt** or **strcout** are included in the request, or if **strcfmt** is 2, and **exprstrc** or **exprstrctxt** are included in the request, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, cannot set trace string when format is 2 */
;
```

If **strcouttxt** or **exprstrctxt** are included in the request, but the value is not enclosed in double quotes, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, text string must be within quotes */
;
```

If the request would result in **rstimmon**=ENABLE while **strcfmt**=2, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, RSTIMMON cannot be ENABLE when STRCFMT=2 */
;
```

If the request would result in **rstimca**=ENABLE while **rstimmon**=DISABLE, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, RSTIMCA cannot be ENABLE when RSTIMMON is
DISABLE */
```

If the request would result in *rstimmon*=ENABLE while *exprstrc/exprstsrtxt* are set to the initial (default) value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, RSTIMMON cannot be ENABLE when expected trace
is the default value */
```

Beginning in Release 7.0, the NE supports up to 15 BLSR rings. If a request is received to change application of an OCn line to 2F, and there are already 15 BLSR rings in the shelf, the following error response is returned:

```
sid date time
M ctag DENY
SSRE
/* Status, System Resources Exceeded, maximum number of 2F rings
exceeded */
```

Beginning in Release 7.0, if a request is received to change an OCn line application to **0x1Sn**, and the line is a line timing source (**RTRV-SYNCN**, *sync_source*=line AID), or the companion line is the line timing source and Sync Autoreconfiguration is enabled (**RTRV-SYNCN**, *sync_autoreconfiguration*=ENABLED), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, application incompatible with line timing
setting(s) */
```

Beginning in Release 7.0, if the NE receives a request to change the **application** of an OCn line, and that application is incompatible with the type of Main pack (for example: 0x1Sn with VLF mains or 0x1 with non-VLF mains), the following error response is returned:

```
sid date time
M ctag DENY
ENSI
/* Equipage, Not equipped for Setting specified Information, application
incompatible with main equipage */
```

If the NE receives an **ENT-rr** command to change **signaltype** from **STNA** to another value, and any other parameters are included in the request, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, other parameters not allowed when changing
signaltype from STNA */
;
```

If the NE receives a request to change the **signaltype** of a line (which applies to a line pair in protected applications), and any affected line(s) have a cross-connect, are involved in test access, or have a loopback active, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, can't change signaltype of port(s)/
line(s) in use */
```

If the NE receives a request to change the **signaltype** of a line with **application=2F**, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, 2F not supported for requested signaltype
*/
```

If a request is received that changes a line **signaltype** to **STNA**, and any line affected by the command is a line timing source (**RTRV-SYNCN**, **sync_source=line AID**), or its companion line is the line timing source and Sync Autoreconfiguration is enabled (**RTRV-SYNCN**, **sync_autoreconfiguration=ENABLED**), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, signaltype incompatible with line timing
setting(s) */
```

For multirate packs, only certain lines (as specified above per pack type) may have **signaltype** set to **OC48**. If a request is received to change **signaltype** to **OC48** on one of the other lines, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, requested line cannot be OC48 */
;
```

When changing **signaltype** of a line on a multirate pack to **OC48**, the next lines (as specified above per pack type) must have **signaltype=STNA**. If a request is received to change **signaltype** to **OC48** with any of these other lines (or companion lines in protected applications) not set to **STNA**, or if a request is received to change **signaltype** of a line required by the above rule to be **STNA**, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, lines following OC48 line must have
signaltype=STNA */
```

If a request is received with a value of **signaltype** that does not match the **modifier** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, modifier and signaltype must match */
;
```

If a request is received to change the **application** of a line from **0x1** to a protected application, and the **signaltype** of the requested line and its companion are different, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, line and companion signaltype must match
*/
```

If a request is received to change the **signaltype** of a line to **STNA**, and any other parameters are included in the request, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, parameter settings inconsistent with modifier
*/
```

If the NE receives a request to change the **pmd** of a port that has a cross-connect, is involved in test access, or has a loopback active, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, can't change pmd of port(s) in use */
;
```

If the NE receives a request to change the **tribmd** of a port that has a cross-connect, is involved in test access, or has a loopback active, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, can't change tribmd of port(s) in use */
;
```

If the NE receives a request to change the **application** of a line, and the line's *portclass* (see **RTRV - CPORT**) is not TRADITIONAL, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot change application of non-
traditional line */
```

If the NE receives a request to change the **signaltype** of a line to **STNA**, and the line's *portclass* (see **RTRV - CPORT**) is not TRADITIONAL, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot change signaltype of non-
traditional line */
```

If the NE receives a request to change the **EIF** of a port, and the line's *portclass* (see **RTRV - CPORT**) is not TRADITIONAL, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot change EIF of non-traditional port
*/
```

Beginning in Release 9.0, when the NE is in ring upgrade mode (**RTRV - SYS:nemode=RING-UPGRADE**) for lines in protected line pairs on multi-port, multi-rate circuit packs, if successful transmission cannot be achieved on the upgraded port of the adjacent node, then the request to change the **signaltype** on the companion line shall be denied. The following error response is returned. Note, this does not apply if both line states are AUTO.

```
sid date time
M ctag DENY
  SROF
  /*Status, Requested Operation Failed, designated line failed
  transmission tests - signalrate not changed */
;
```

Beginning in Release 9.0, when the NE is in ring upgrade mode (**RTRV-SYS:nemode=RING-UPGRADE**) for lines in protected line pairs on multi-port, multi-rate circuit packs, changing **signaltype** for the first time on a protected line pair establishes that line pair as the upgrade line pair and establishes that **signaltype** as the upgrade rate. Once these are established, any of the following scenarios shall be denied with the specified error response:

- attempt to change the **signaltype** on any other UPSR or 1+1 line pair.
- attempt to change the **signaltype** of the companion line to a value other than the upgrade or backout rate.
- attempt to backout of the upgrade to a rate that cannot support all the cross-connections that exist on the line being backed out.

```
sid date time
M ctag DENY
  SNVS
  /*Status, Not in Valid State, incorrect rate or line for
  upgrade or backout */
;
```

Beginning in Release 9.0, when the NE is in ring upgrade mode (**RTRV-SYS:nemode=RING-UPGRADE**) for lines in protected line pairs on multi-port, multi-rate circuit packs, changing the **signaltype** value shall be denied if both of the following conditions exist:

- the PTM in the socket is missing or failed
- cross-connects exist on the line

The following error response is returned:


```
sid date time
M ctag DENY
  SROF
  /*Status, Requested Operation Failed, PTM missing or failed */
;
```

Beginning in Release 9.0, when the NE is in ring upgrade mode (**RTRV-SYS:nemode=RING-UPGRADE**) for lines in protected line pairs on multi-port, multi-rate circuit packs, changing the **signaltype** value to **STNA** is not allowed. The following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /*Status, Not in Valid State, cannot change signaltype to STNA
during ring upgrade */
;
```

Beginning in Release 9.0, if the request contains **ssbits**, and the addressed **aid** is not for an OC-n line on one of the following Circuit Packs:

Circuit Pack

LNW55

LNW59

LNW62

LNW82

LNW504

LNW603

the following error response is returned:

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, Not equipped for Setting specified Information */
;
```

Beginning in Release 9.0, when the NE is in ring upgrade mode (**RTRV-SYS:nemode=RING-UPGRADE**), if the NE receives an **ENT-rr** command with a valid value of **signaltype** on a port that belongs to a protected line pairs on multi-port, multi-rate circuit packs, and a protection lockout exists on the port, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cannot modify signaltype when
  protection lockout exists - signaltype not changed */
```

Beginning in Release 9.0, when the NE is in ring upgrade mode (**RTRV-SYS:nemode=RING-UPGRADE**), if the NE receives an **ENT-rr** command with a valid value of **signaltype** on a port that belongs to a protected line pair on multi-port, multi-rate circuit packs, and a forced protection switch exists on the port, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cannot modify signaltype when forced
  protection switch exists - signaltype not changed */
```

RELATED TL1 MESSAGES

REPT DBCHG

RTRV-rr

NAME

ENT - SNMP - ADDR: Enter SNMP Target Address Table Entry

The **ENT - SNMP - ADDR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT - SNMP - ADDR:*tid:targ_name:ctag[:::spec_block];*

DESCRIPTION

The **ENT - SNMP - ADDR** command is used by an appropriate administrator to create a new entry in the SNMPv3 Target Address Table Entry (snmpTargetAddrTable).

There can be a maximum of 120 entries in the snmpTargetAddrTable.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - SNMP - ADDR** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-203. ENT - SNMP - ADDR Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter. This is a required parameter, there is no default value.
<i>targ_name</i>	Target Address Name. This parameter specifies the target address name for a new entry in the SNMPv3 snmpTargetAddrTable. Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>targ_name</i> .
<i>ctag</i>	Correlation tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-204. ENT - SNMP - ADDR Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>tipadr</i>	Target transport IP address. This is a 32-bit IP address consisting of four dot-separated decimal numbers 0-255. This is a required parameter, there is no default value.
<i>tag_lst</i>	List of usmTargetTag, snmpCommunityTransportTag, snmpNotifyTag identifiers used to select a set of entries in the snmpTargetAddr Table for source address checking. Quoted text string with tags separated by either a space character or a tab character. The default is NULL .
<i>domain</i>	Network type. Values: UDP
<i>timeout</i>	Expected maximum round trip time in hundredths of seconds for communicating with the target address. Range: TBD, initial value 1500 .
<i>retrycnt</i>	Number of retries. Range: 0..255 , initial value: 3
<i>parm_id</i>	The snmpTargetParamsName. Identifies an entry in the snmpTargetParamsTable that contains SNMP parameters to be used when generating messages to be sent to this transport address. <i>parm_id</i> is a case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>parm_id</i> . The default is NULL .
<i>mask</i>	IP subnet mask for <i>tipadr</i> . 32-bit IP subnet mask consisting of 4 dot separated decimal numbers 0-255. The default is 255.255.255.255.

Table 2-204. ENT-SNMP-ADDR Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
<i>maxmsgsz</i>	Maximal message size in bytes that can be transmitted. Range 484..65535 . initial value is 2048 . A value of 0 indicates that the maximum message size is unknown.

OUTPUT FORMAT

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command, also.

EXAMPLE INPUT/OUTPUT

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the NE receives an **ENT-SNMP-ADDR** command with an invalid *targ_name* value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TARG_NAME */
;
```

If the NE receives an **ENT-SNMP-PARAM** command with a **targ_name** value of that is the same as the **targ_name** of an existing snmpTargetParamsTable entry, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, duplicate TARG_NAME */
;
```

If the NE receives an **ENT-SNMP-ADDR** command with an invalid value of **tipadr**, **tag_lst**, **domain**, **timeout**, **retrycnt**, **parm_id**, **mask** or **maxmsgsz**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ENT-SNMP-ADDR** command without value of **tipadr**, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, TIPADR required */
;
```

If the NE receives a **ENT-SNMP-ADDR** command to create a new entry in the snmpTargetAddrTable that would exceed the maximum number of entries in this table, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, maximum number MIB table entries
exceeded */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT - SNMP - USER
ED - SNMP - USER
RTRV - SNMP - USER
ED - SNMP - ADDR
DLT - SNMP - ADDR
RTRV - SNMP - ADDR
ENT - SNMP - USERGP
ED - SNMP - USERGP
DLT - SNMP - USERGP
RTRV - SNMP - USERGP
ENT - SNMP - GROUP
ED - SNMP - GROUP
DLT - SNMP - GROUP
RTRV - SNMP - GROUP
ENT - SNMP - MIBGP
ED - SNMP - MIBGP
DLT - SNMP - MIBGP
RTRV - SNMP - MIBGP
ENT - SNMP - PARAM
ED - SNMP - PARAM
DLT - SNMP - PARAM
RTRV - SNMP - PARAM
ENT - SNMP - NOTIF
ED - SNMP - NOTIF

ENT-SNMP-ADDR
TL1 Message Details

ENT-SNMP-ADDR
Alcatel-Lucent 1665 DMX, R9.0

DLT-SNMP-NOTIF

RTRV-SNMP-NOTIF

NAME

ENT - SNMP - GROUP : Enter SNMP Group

The **ENT - SNMP - GROUP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT - SNMP - GROUP:*tid:groupid:ctag[:::spec_block];*

DESCRIPTION

The **ENT - SNMP - GROUP** command is used by an appropriate administrator to create a new entry in the SNMPv3 vacmAccessTable.

There can be a maximum of 20 entries in the vacmAccessTable.

There are four indices in the vacmAccessTable, specified by **groupid**, **sec_model**, **sec_level** and **prefix**. The values of these four parameters taken together must uniquely identify an entry in this table. Note that a NULL value is allowed for **prefix**. Thus, if prefix is NULL, the values of **groupid**, **sec_model**, **sec_level** along with the NULL value for **prefix** must uniquely identify a table entry.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - SNMP - GROUP** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-205. ENT - SNMP - GROUP Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter. This is a required parameter, there is no default value.
<i>groupid</i>	The vacmGroupName group identifier for a new entry in the SNMPv3 vacmAccessTable. <i>groupid</i> is a case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>groupid</i> .
<i>ctag</i>	Correlation tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-206. ENT - SNMP - GROUP Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>sec_model</i>	Security model value for the vacmAccessSecurityModel object. Values: SNMPV1 SNMPv1 security model. SNMPV2C SNMPv2c security model. USM SNMPv3 USM security model (default).
<i>sec_level</i>	Security level value for the vacmAccessSecurityLevel object. Values: NOAUTHNOPRIV No authorization security and no privacy security (default). AUTHNOPRIV Authorization security but no privacy security. AUTHPRIV Authorization security and privacy security.
<i>prefix</i>	Context prefix value for the vacmAccessContextPrefix object. A NULL value is the only allowed value.
<i>readmibs</i>	Read access MIB groups name for the vacmAccessReadViewName object. Case sensitive alphanumeric string of maximal 6-20 characters. "-" is an allowed character. A NULL value is allowed and is the default value.

Table 2-206. ENT - SNMP - GROUP Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
writemibs	Write access MIB groups name for the vacmAccessWriteViewName object. Case sensitive alphanumeric string of maximal 6-20 characters. "-" is an allowed character. A NULL value is allowed and is the default value.
notifmibs	Notification MIB groups name for the vacmAccessNotifyViewName object. Case sensitive alphanumeric string of maximal 6-20 characters. "-" is an allowed character. A NULL value is allowed and is the default value.
match	Context match value for the vacmAccessContextMatch object. This parameter specifies how the context of a request must match. Values: EXACT Exact context match (default) PREFIX Only prefix context match

OUTPUT FORMAT

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command, also.

EXAMPLE INPUT/OUTPUT

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the NE receives an **ENT-SNMP-GROUP** command with an invalid **groupid** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid GROUPID */
;
```

If the NE receives an **ENT-SNMP-GROUP** command with a **sec_model** value other than **SNMPV1**, **SNMPV2C** or **USM**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ENT-SNMP-GROUP** command with a **sec_level** value other than **NOAUTHNOPRIV**, **AUTHNOPRIV** or **AUTHPRIV**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SEC_LEVEL */
;
```

If the NE receives an **ENT-SNMP-GROUP** command with an invalid **readmibs** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ENT-SNMP-GROUP** command with an invalid **writemibs** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ENT-SNMP-GROUP** command with an invalid **notifmibs** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ENT-SNMP-GROUP** command with an invalid **prefix** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ENT-SNMP-GROUP** command with a **match** value other than **EXACT** or **PREFIX**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives a **ENT-SNMP-GROUP** command to create a new entry in the vacmAccessTable that would exceed the maximum number of entries in this table, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, maximum number MIB table entries
exceeded */
;
```

If the NE receives an **ENT-SNMP-GROUP** command with **groupid**, **sec_model**, **sec_level** and **prefix** values that together are the same as the corresponding values of an existing vacmAccessTable entry, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, duplicate vacmAccessTable entry */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERSGP

ED-SNMP-USERSGP

DLT - SNMP - USERGP

RTRV - SNMP - USERGP

ED - SNMP - GROUP

DLT - SNMP - GROUP

RTRV - SNMP - GROUP

ENT - SNMP - MIBGP

ED - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

ENT -SNMP -MIBGP : Enter VACM View Tree Family Table Entry

The **ENT -SNMP -MIBGP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT -SNMP -MIBGP:*tid:mibgrpId:ctag::subtree[:spec_block];*

DESCRIPTION

The **ENT -SNMP -MIBGP** command is used by an appropriate administrator to create a new entry in the SNMPv3 View Tree Family table (vacmViewTreeFamilyTable).

There can be a maximum of 300 entries in the vacmViewTreeFamilyTable.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT -SNMP -MIBGP** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-207. ENT-SNMP-MIBGP Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter. This is a required parameter, there is no default value.
<i>mibgrpId</i>	MIB Group ID. Identifies a new entry in the SNMPv3 View Tree Family table (vacmViewTreeFamilyTable). <i>mibgrpId</i> is a case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>mibgrpId</i> .
<i>ctag</i>	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>subtree</i>	MIB subtree object identification (OID) of the vacmViewTreeFamilySubtree. <i>subtree</i> is a character string of 1 to 255 characters that may be specified as either a subtree name, e.g., SysPmInfo , or as a OID string, e.g., 1.3.6.1.4.1.1751.2.88.10.2 . <i>subtree</i> is a required parameter. There is no initial value.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-208. ENT-SNMP-MIBGP Input *spec_block* Parameters

Parameter Name	Description
<i>mask</i>	The OID bit mask which, in combination with the corresponding instance of <i>subtree</i> , defines a family of view subtrees. <i>mask</i> is a quoted OctetString of up to 16 characters represented as a sequence of hexadecimal numbers separated by colons. Each octet is within the range 0x00 through 0xff. Note that surrounding quotes are needed since the separating colon is a TL1 command delimiter. For example "FF:FF" . The default is NULL.
<i>type</i>	Included or excluded the specified subtree from the MIB view. Values: INCLUDE Include the specified subtree. EXCLUDE Exclude the specified subtree.

OUTPUT FORMAT

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command, also.

EXAMPLE INPUT/OUTPUT

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the NE receives an **ENT-SNMP-MIBGP** command with an invalid *mibgrpid* value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid MIBGRPID */
;
```

If the NE receives an **ENT-SNMP-MIBGP** command with a missing or invalid *subtree* value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SUBTREE */
;
```

If the NE receives an **ENT-SNMP-MIBGP** command with *mibgrpid* and *subtree* values that together are the same as the *mibgrpid* and *subtree* values of an existing vacmViewTreeFamilyTable entry, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, duplicate view tree entry */
;
```

If the NE receives an **ENT-SNMP-MIBGP** command with an invalid value of *mask* or *type*, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives a **ENT-SNMP-MIBGP** command to create a new entry in the vacmViewTreeFamilyTable that would exceed the maximum number of entries in this table, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, maximum number MIB table entries
exceeded */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV - SNMP - ADDR

ENT - SNMP - USERGP

ED - SNMP - USERGP

DLT - SNMP - USERGP

RTRV - SNMP - USERGP

ED - SNMP - GROUP

DLT - SNMP - GROUP

RTRV - SNMP - GROUP

ED - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

ENT-SNMP-NOTIF: Enter SNMP Notify Table Entry

The **ENT-SNMP-NOTIF** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT-SNMP-NOTIF:*tid:notif_id:ctag:::spec_block;*

DESCRIPTION

The **ENT-SNMP-NOTIF** command is used by an appropriate administrator to create a new entry in the SNMPv3 snmpNotifyTable.

There can be a maximum of 20 entries in the snmpNotifyTable.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT-SNMP-NOTIF** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-209. ENT-SNMP-NOTIF Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter. This is a required parameter, there is no default value.
<i>notif_id</i>	Notification Name. Identifies a new entry in the SNMPv3 snmpNotifyTable. <i>notif_id</i> is a case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>notif_id</i> .
<i>ctag</i>	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-210. ENT-SNMP-NOTIF Input *spec_block* Parameters

Parameter Name	Description				
<i>tag_id</i>	<i>tag_id</i> is a single tag value which is used to select entries in the snmpTargetAddrTable. <i>tag_id</i> is a case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>tag_id</i> . <i>tag_id</i> is a required parameter.				
<i>notify_type</i>	Notification type. Values: <table> <tr> <td>TRAP</td><td>Trap notifications (initial value). No acknowledgement of the notification sent is expected.</td></tr> <tr> <td>INFORM</td><td>Inform notification. Acknowledgement of sent notification is expected.</td></tr> </table>	TRAP	Trap notifications (initial value). No acknowledgement of the notification sent is expected.	INFORM	Inform notification. Acknowledgement of sent notification is expected.
TRAP	Trap notifications (initial value). No acknowledgement of the notification sent is expected.				
INFORM	Inform notification. Acknowledgement of sent notification is expected.				

OUTPUT FORMAT

```

sid date time
M ctag COMPLD
;
```


OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command, also.

EXAMPLE INPUT/OUTPUT

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the NE receives an **ENT-SNMP-NOTIF** command with an invalid *notif_id* value, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid NOTIF_ID */
;
```

If the NE receives an **ENT-SNMP-NOTIF** command with invalid value of *tag_id* or *notify_type*, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ENT-SNMP-NOTIF** command without value of *tag_id*, the following error response is returned:

```
sid date time
M  ctag DENY
   SDNC
   /* Status, Data Not Consistent, TAG_ID required */
;
```

If the NE receives a **ENT-SNMP-NOTIF** command to create a new entry in the snmpNotifyTable that would exceed the maximum number of entries in this table, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, maximum number MIB table entries
exceeded */
;
```

If the NE receives an **ENT-SNMP-NOTIF** command with *notif_id* and *tag_id* values that together are the same as the corresponding values of an existing snmpNotifyTable entry, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, duplicate snmpNotifyTable entry */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERSGP

ED-SNMP-USERSGP

DLT-SNMP-USERSGP

RTRV - SNMP - USERGP

ED - SNMP - GROUP

DLT - SNMP - GROUP

RTRV - SNMP - GROUP

ENT - SNMP - MIBGP

ED - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

ENT - SNMP - PARAM : Enter SNMP Target Parameter Table Entry

The **ENT - SNMP - PARAM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT - SNMP - PARAM:*tid:parm_id:ctag:::spec_block;*

DESCRIPTION

The **ENT - SNMP - PARAM** command is used by an appropriate administrator to create a new entry in the SNMPv3 Target Parameter Table (snmpTargetParamsTable).

There can be a maximum of 20 entries in the snmpTargetParamsTable.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - SNMP - PARAM** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-211. ENT - SNMP - PARAM Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter. This is a required parameter, there is no default value.
<i>parm_id</i>	Target parameter name for a new entry in the SNMPv3 Target Parameter Table (snmpTargetParamsTable). <i>parm_id</i> is a case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>parm_id</i> .
<i>ctag</i>	Correlation tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-212. ENT - SNMP - PARAM Input *spec_block* Parameters

Parameter Name	Description
<i>sec_model</i>	Security model. Values: SNMPV1 SNMPv1 security model. SNMPV2C SNMPv2 security model. USM SNMPv3 User Security Model (default).
<i>sec_uid</i>	Security Name. The Principal (i.e., user ID) on whose behalf SNMP messages will be generated using this entry. <i>sec_uid</i> is a case-sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character. <i>sec_uid</i> is a required parameter.
<i>sec_level</i>	Security level. Values: NOAUTHNOPRIV No authorization and no privacy security. AUTHNOPRIV Authorization, no Privacy security (default). This value is valid only when <i>sec_model</i>=USM. AUTHPRIV Authorization and Privacy security. This value is valid only when <i>sec_model</i>=USM.

OUTPUT FORMAT

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command, also.

EXAMPLE INPUT/OUTPUT

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the NE receives an **ENT-SNMP-PARAM** command with an invalid *parm_id* value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid PARM_ID */
;
```

If the NE receives an **ENT-SNMP-PARAM** command with a *parm_id* value of that is the same as the *parm_id* of an existing snmpTargetParamsTable entry, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, duplicate PARM_ID */
;
```

If the NE receives an **ENT-SNMP-PARAM** command with an invalid value of **sec_model**, **sec_uid** or **sec_level**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ENT-SNMP-PARAM** command without value of **sec_uid**, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, SEC_UID required */
;
```

If the NE receives an **ENT-SNMP-PARAM** command with a value of **sec_level** equal to **AUTHNOPRIV** or **AUTHPRIV** and **sec_model** does not equal **USM**, , the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, SEC_LEVEL and SEC_MODEL inconsistent
*/
;
```

If the NE receives a **ENT-SNMP-PARAM** command to create a new entry in the snmpTargetParamsTable that would exceed the maximum number of entries in this table, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, maximum number MIB table entries
exceeded */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED - SNMP - USER

RTRV - SNMP - USER

ENT - SNMP - ADDR

ED - SNMP - ADDR

DLT - SNMP - ADDR

RTRV - SNMP - ADDR

ENT - SNMP - USERGP

ED - SNMP - USERGP

DLT - SNMP - USERGP

RTRV - SNMP - USERGP

ED - SNMP - GROUP

DLT - SNMP - GROUP

RTRV - SNMP - GROUP

ENT - SNMP - MIBGP

ED - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

ENT -SNMP -USER: Enter SNMP User

The **ENT -SNMP -USER** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 3.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT -SNMP -USER:*tid:ucomid:ctag::uipadr[:spec_block];*

Starting in Release 9.0, when **snmp_ver=V1-2**, the input format is:

ENT -SNMP -USER:*tid:uid:ctag::uipadr[:spec_block];*

Starting in Release 9.0, when **snmp_ver=V3**, the input format is:

ENT -SNMP -USER:*tid:uid:ctag:::spec_block;*

DESCRIPTION

The **ENT -SNMP -USER** command is used by an appropriate administrator to create a new SNMP User and to enter the parameters associated with that user. Following execution of the command, the user must restart the NE for the changes to take affect.

An SNMP User is defined by the pair of parameters “SNMP Community” (i.e., **ucomid**) and source IP address (i.e., **uipadr**). SNMP will respond only to SNMP PDUs for which the Community field matches the SNMP Community and the source IP address for one of the SNMP Users created by this command.

Each SNMP User is unique in that there can be only one SNMP User created with a specific set values of SNMP Community and source IP address, when these parameters are taken together. Any specific value of either SNMP Community or source IP address can be used to create more than one SNMP User, as long as the specific values of the pair of parameters are not duplicated.

This command is also used to define the initial set of MIB modules that apply to the SNMP User. SNMP will allow the retrieval of data for only those MIB modules specified for the SNMP User and will send to the SNMP User only those traps that are defined in the MIB modules specified for the SNMP User.

This command can be used to create up to 20 SNMP Users. There can be a maximum of 10 SNMP Users enabled for request functionality (i.e., GetRequest, GetNextRequest, GetBulkRequest) and a maximum of up to 10 SNMP Users enabled for receiving traps.

Starting in Release 9.0, the maximum number of provisionable SNMP users is 16. The NE maintains 4 default SNMP users for use in SNMPv3 applications.

Starting in Release 9.0, **ENT -SNMP -USER** is used to create a new SNMP user for both SNMPv1/v2 and SNMPv3 applications.

The applicability and use of the command parameters is determined by the value of the **snmp_ver spec_block** parameter. When **snmp_ver=V1-2**, or when a value of this parameter is not specified in the input, the SNMPv1/v2 parameters and parameter definitions apply. The applicable parameters are **uid** (renamed from **ucomid**), **uipadr**, **reqfnct** and **trapfnct**. If values are specified for any of the other parameters, the command will be denied. Since an SNMPv1/v2 user is defined by the unique combination of the user ID/community and the user's IP address, **uid** and **uipadr** are both required and must be specified.

The name of the **ucomid** is changed to **uid** to better represent its use for both SNMPv1/v2 and for SNMPv3. Since this is a positional parameter, the parameter name isn't directly used in the input command line and thus when **snmp_ver=V1-2**, there is no actual change to the input format.

When **snmp_ver=V3**, the SNMPv3 parameters and parameter definitions apply. The applicable parameters are **uid**, **tagid**, **authprotocol**, **privprotocol**, **authpid** and **privpid**. If a value is specified for **uipadr**, **reqfnct** or **trapfnct**, the command will be denied.

In SNMPv3, a user is uniquely identified by the user ID in the user table. The IP address is associated with the target address table and is not directly associated with the user. Thus, for SNMPv3, an IP address is entered via the **tipadr** parameter in the **ENT/ED-SNMP-ADDR** commands. Therefore, when **snmp_ver=V3** is specified in **ENT -SNMP -USER**, **uid** is required and must be specified, but if a value of **uipadr** is specified, the command will be denied.

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT -SNMP -USER** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-213. ENT - SNMP - USER Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter. This is a required parameter, there is no initial value.
<i>ucomid</i>	This is the SNMP Community identifier for the SNMP user. The valid values are a case-sensitive alphanumeric string of 6 to 20 characters.
<i>uid</i>	Starting in Release 9.0, the name of the parameter <i>ucomid</i> is changed to <i>uid</i> to better represent its meaning and use. When <i>snmp_ver=V1-2</i> , either explicitly or as the initial value, <i>uid</i> is the SNMPv2 Community identifier for the SNMP user. When <i>snmp_ver=V3</i> , <i>uid</i> is the SNMPv3 user identifier for the SNMP user. Starting in Release 9.0, <i>uid</i> is a case-sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>uid</i> .
<i>tag</i>	Correlation tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>uipadr</i>	User IP address. This is a 32-bit IP address consisting of four dot-separated decimal numbers 0-255. This is a required parameter, there is no initial value. Starting in Release 9.0, <i>uipadr</i> is required if <i>snmp_ver=V1-2</i> . <i>uipadr</i> is not applicable when <i>snmp_ver=V3</i> and the command will be denied if a value of <i>uipadr</i> is specified.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-214. ENT - SNMP - USER Input *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description
<i>reqfnct</i>	Request Function. Enable or disable request functionality (i.e., GetRequest, GetNextRequest, GetBulkRequest). Values are ENABLED and DISABLED . The initial value is ENABLED . Starting in Release 9.0, <i>reqfnct</i> applies only when <i>snmp_ver=V1-2</i> .

Table 2-214. ENT-SNMP-USER Input *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description
<i>trapfnct</i>	Trap Function. Enable or disable the SNMP User for receiving traps. Values are ENABLED and DISABLED. The initial value is ENABLED. Starting in Release 9.0, <i>trapfnct</i> applies only when <i>snmp_ver</i>=V1-2.
<i>snmp_ver</i>	SNMP version. This parameter specifies the applicability and usage of the <i>com_block</i> and <i>spec_block</i> parameters. Values: V1-2 SNMPv2 applicability. This is the initial value value. V3 SNMPv3 applicability. If a value for <i>snmp_ver</i> is not specified, V1-2 is assumed.
<i>tagid</i>	Tag identifier that is used to select a set of entries in the snmpTargetAddr Table for source address checking. Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>tagid</i>. A NULL value (initial value) means no source checking. <i>tagid</i> applies only for <i>snmp_ver</i>=V3.
<i>authprotocol</i>	Authentication protocol. Applies only if <i>snmp_ver</i>=V3. Values: NOAUTH No authentication protocol (initial value). MD5 Specifies the HMAC-MD5-96 Digest Authentication Protocol I (uses the MD5 hash-function). SHA Specifies the HMAC-SHA-96 Digest Authentication Protocol (uses the SHA hash-function).

Table 2-214. ENT - SNMP - USER Input *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description
<i>privprotocol</i>	Privacy protocol. Applies only for <i>snmp_ver=V3</i> . Values: NOPRIV No privacy protocol (initial value). DES CBC-DES Symmetric Data Encryption Standard privacy protocol. 3DES CBC-3DES Symmetric Data Encryption Standard privacy protocol. AES128 128-bit Advanced Encryption Standard privacy protocol. AES192 192-bit Advanced Encryption Standard privacy protocol. AES256 256-bit Advanced Encryption Standard privacy protocol.
<i>authpid</i>	Authentication password. Case sensitive alphanumeric string of 6-20 characters. Not applicable if <i>authprotocol=NOAUTH</i> , but required for other values of <i>authprotocol</i> . Applies only for <i>snmp_ver=V3</i> .
<i>privpid</i>	Privacy password. Case sensitive alphanumeric string of 6-20 characters. Not applicable if <i>privprotocol=NOPRIV</i> , but required for other values of <i>privprotocol</i> . Applies only for <i>snmp_ver=V3</i> .

OUTPUT FORMAT

```

sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command, also.

EXAMPLE INPUT/OUTPUT

```
ENT-SNMP-USER:LT-TID123:snmpu1:123456::135.107.32.5:trapfnct=disabled;  
  
IP 123456  
<  
    LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

Starting in Release 9.0, the following is an example for entering an SNMPv3 user with no authentication and no privacy specified:

```
ENT-SNMP-USER:LT-TID123:snmpu1:123456:::snmp_ver=v3,  
authprotocol=noauth,privprotocol=nopriv;  
  
IP 123456  
<  
    LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the NE receives an **ENT-SNMP-USER** command with an invalid *ucomid* (SNMP community id) value, the following error response is returned:

```
sid date time  
M ctag DENY  
PIUI  
/* Privilege, Illegal User Identity, invalid UCOMID */  
;
```

Starting in Release 9.0, the previous error response is replaced with the following error response:

If the NE receives an **ENT-SNMP-USER** command with an invalid **uid** value, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
/* Privilege, Illegal User Identity, invalid UID */
;
```

If the NE receives an **ENT-SNMP-USER** command with an invalid **uipadr** (user IP address) value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid UIPADR */
;
```

Starting in Release 9.0, the previous error response doesn't apply when **snmp_ver=V3**.

Starting in Release 9.0, If the NE receives an **ENT-SNMP-USER** command with a specified value of **uipadr** and with **snmp_ver=V3**, the following error response is returned:.

```
sid date time
M ctag DENY
  IPNC
/* Input, Parameter Not Consistent, UIPADR and SNMP_VER inconsistent */
;
```

If the NE receives a **ENT-SNMP-USER** command with values of **ucomid** (SNMP Community Identifier) and **uipadr** which together duplicate the values of an existing SNMP User, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
/* Privilege, Illegal User Identity, SNMP User already exists */
;
```

Starting in Release 9.0, the parameter name **ucomid** is changed to **uid** and the previous error response applies if **uid** and **uipadr** together duplicate the values of an existing SNMP User.

Starting in Release 9.0, the previous error response doesn't apply when ***snmp_ver=V3***.

Starting in Release 9.0, if the NE receives a **ENT-SNMP-USER** command with ***snmp_ver=V3*** and a value of ***uid*** which duplicates the ***uid*** value of an existing SNMP User, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
  /* Privilege, Illegal User Identity, SNMP User already exists*/
;
```

Starting in Release 9.0, if the NE receives a **ENT-SNMP-USER** command with ***snmp_ver=V1-2*** and a value of ***uid*** which duplicates the ***uid*** value of an existing SNMP user that was entered with ***snmp_ver=V3***, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
  /* Privilege, Illegal User Identity, SNMP User already exists*/
;
```

Starting in Release 9.0, if the NE receives a **ENT-SNMP-USER** command with ***snmp_ver=V1-2*** when the new user will result in one or more of the automatically populated related SNMP MIB tables to exceed the maximum number of entries, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, maximum number MIB table entries
exceeded */
;
```

If the NE receives an **ENT-SNMP-USER** command with a value of *reqfnct* or *trapfnct* that other than "ENABLED" or "DISABLED", the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, value must be either "enabled" or
  "disabled" */
;
```

Starting in Release 9.0, the previous error response doesn't apply when *snmp_ver=V3*.

If the NE receives an **ENT-SNMP-USER** command to create a new SNMP User and if there are already 20 SNMP users defined, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, maximum number of SNMP Users
  exceeded */
;
```

If the NE receives an **ENT-SNMP-USER** command to create a new SNMP User with request functionality enabled and if there are already 10 SNMP users defined with functionality enabled, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, exceeds maximum number of SNMP Users
  with request functionality */
;
```

Starting in Release 9.0, the previous error response doesn't apply when *snmp_ver=V3*.

If the NE receives an **ENT - SNMP - USER** command to create a new SNMP User with trap functionality enabled and if there are already 10 SNMP users defined with trap enabled, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, exceeds maximum number of SNMP Users
with trap functionality enabled */
;
```

Starting in Release 9.0, the previous error response doesn't apply when **snmp_ver=V3**.

Starting in Release 9.0, if the NE receives an **ENT - SNMP - USER** command with an invalid value of **snmp_ver**, **tagid**, **authprotocol**, **privprotocol**, **authpid** or **privpid**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives an **ENT - SNMP - USER** command with a value of **authpid** or **privpid** and a value of **authprotocol** or **privprotocol** of **NOAUTH** or **NOPRIV** respectively, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, pid applies only when a protocol is
specified */
;
```

If the NE receives an **ENT - SNMP - USER** command with a value of **authprotocol** or **privprotocol** other than **NOAUTH** or **NOPRIV** respectively, and a value of

authpid or *privpid* respectively is not specified, the following error response is returned:

```
sid date time
M  ctag DENY
SDNC
/* Status, Data Not Consistent, pid required when a protocol is
specified */
;
```

If the NE receives an **ENT-SNMP-USER** command with a value for *tagid*, *authprotocol*, *privprotocol*, *authpid* or *privpid* when the value of *snmp_ver* is not **V3**, the following error response is returned:

```
sid date time
M  ctag DENY
SDNC
/* Status, Data Not Consistent, specified parameters not consistent
with value of SNMP_VER */
;
```

If the NE receives an **ENT-SNMP-USER** command with a value for *reqfnct* or *trapfnct* when the value of *snmp_ver* is **V3**, the following error response is returned:

```
sid date time
M  ctag DENY
SDNC
/* Status, Data Not Consistent, specified parameters not consistent
with value of SNMP_VER */
;
```

RELATED TL1 MESSAGES

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT - SNMP - ADDR
RTRV - SNMP - ADDR
ENT - SNMP - USERGP
ED - SNMP - USERGP
DLT - SNMP - USERGP
RTRV - SNMP - USERGP
ENT - SNMP - GROUP
ED - SNMP - GROUP
DLT - SNMP - GROUP
RTRV - SNMP - GROUP
ENT - SNMP - MIBGP
ED - SNMP - MIBGP
DLT - SNMP - MIBGP
RTRV - SNMP - MIBGP
ENT - SNMP - PARAM
ED - SNMP - PARAM
DLT - SNMP - PARAM
RTRV - SNMP - PARAM
ENT - SNMP - NOTIF
EDV - SNMP - NOTIF
DLT - SNMP - NOTIF
RTRV - SNMP - NOTIF

NAME

ENT - SNMP - USERGP : Enter VACM Security to Group Table Entry

The **ENT - SNMP - USERGP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT - SNMP - USERGP:*tid:sec_uid:ctag::[sec_model][:spec_block];*

DESCRIPTION

The **ENT - SNMP - USERGP** command is used by an appropriate administrator to create a new entry in the SNMPv3 Security to Group table (vacmSecurityToGroupTable).

There can be a maximum of 90 entries in the vacmSecurityToGroupTable.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - SNMP - USERGP** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-215. ENT - SNMP - USERGP Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter. This is a required parameter, there is no default value.
<i>sec_uid</i>	User security name. Specifies the user security name for a new entry in the SNMPv3 Security to Group table (vacmSecurityToGroupTable). <i>sec_uid</i> is a case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>sec_uid</i> . There is no initial value.
<i>sec_model</i>	Security model. Specifies the security model for a new entry in the SNMPv3 Security to Group table. Values: SNMPV1 SNMPv1 security model SNMPV2C SNMPv2 security model USM SNMPv3 User Security Model (initial value)
<i>ctag</i>	Correlation tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-216. ENT - SNMP - USERGP Input *spec_block* Parameters

Parameter Name	Description
<i>groupid</i>	vacmAccessTable ID. Identifies an entry in the SNMPv3 vacmAccessTable. Case sensitive alphanumeric string of 6 to 20 characters or NULL. "-" is an allowed character. The initial value is NULL.

OUTPUT FORMAT

```

sid date time
M ctag COMPLD
;
```


OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command, also.

EXAMPLE INPUT/OUTPUT

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the NE receives an **ENT-SNMP-USERGP** command without a value for **sec_uid** value or with an invalid **sec_uid** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SEC_UID */
;
```

If the NE receives an **ENT-SNMP-USERGP** command with an invalid **sec_model** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SEC_MODEL */
;
```

If the NE receives an **ENT-SNMP-USERGP** command with values of **sec_uid** and **sec_model** that together are the same as the values of **sec_uid** and **sec_model** of an existing vacmSecurityToGroupTable entry, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, duplicate table entry */
;
```

If the NE receives an **ENT - SNMP - USERGP** command with an invalid value of **groupid**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid parameter */
;
```

If the NE receives a **ENT - SNMP - USERGP** command to create a new entry in the vacmSecurityToGroupTable that would exceed the maximum number of entries in this table, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, maximum number MIB table entries
exceeded */
;
```

RELATED TL1 MESSAGES

ENT - SNMP - USER

DLT - SNMP - USER

ED - SNMP - USER

RTRV - SNMP - USER

ENT - SNMP - ADDR

ED - SNMP - ADDR

DLT - SNMP - ADDR

RTRV - SNMP - ADDR

ED - SNMP - USERGP

DLT - SNMP - USERGP

RTRV - SNMP - USERGP

ENT - SNMP - GROUP

ED - SNMP - GROUP

DLT - SNMP - GROUP

RTRV - SNMP - GROUP

ENT - SNMP - MIBGP

ED - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

ENT-STGRP: Enter Spanning Tree Group

The **ENT-STGRP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT-STGRP:*tid::ctag::stgrpid:spec_block;*

Starting in Release 2.0 the input format is changed:

ENT-STGRP:*tid::ctag::stgrpid,vrtswid:spec_block;*

DESCRIPTION

The **ENT-STGRP** command creates a Spanning Tree Group (STGRP).

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT-STGRP** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV-EQPT** *prot_state* = PROT, and a **vcglst** is specified, the **ENT-STGRP** command also generates a **REPT DBCHG** message (with ccb = ED-STGRP) for its companion **vcglst**.

INPUT PARAMETERS

Table 2-217. **ENT-STGRP** Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-217. ENT - STGRP Input Parameters (cont 2 of 2)

Parameter Name	Description
ctag	Correlation tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
stgrpid	Spanning Tree Group Id. Value: An integer in the range 1 to 4095. The spanning tree group ID must be unique per slot. The spanning tree group ID has no network-wide significance. i.e there is no requirement that the same spanning tree group ID must be provisioned on the VCG(s) at the remote network element(s) to which the VCG(s) at this network element are connected. The following packs also support LAN ports in spanning tree groups (with or without VCG ports): ■ LNW70 (starting in release 6.0)
vrtswid	Virtual Switch ID. Value: An integer in the range 1 to 4095. Starting in release 5.0, the virtual switch ID range on the LNW70 board is 1 to 16.
spec_block	Specific block. The spec_block parameters are defined in the following table.

Table 2-218. ENT - STGRP Input **spec_block** Parameters (cont 1 of 3)

Parameter Name	Description
autolock	Automatic lock. Values: ■ ENABLE ■ DISABLE (initial value) When ENABLE, any port in the Spanning Tree Group experiencing a TCA on its STPSTATE counter (see RTRV - EPM) is moved to the <i>DISF</i> state (see RTRV - STGRP) preventing traffic flow until released by autolock=DISABLE or disabling admin, epss or vss (see ED - EPORT or ED - VCG), as appropriate. Note that when a LAG port is autolocked, the link partner may report LAG alarms. This parameter applies to the following packs: ■ LNW70 (starting in release 8.0)

Table 2-218. ENT - STGRP Input *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description
strp	Spanning tree root priority. The root priority is the relative priority of the bridge (lower value means higher priority). Values: 0 to 65535. The initial value is 32768.
stmaxage	Spanning tree maximum age timer. The maximum age timer determines the maximum age of received protocol information before it is discarded. Value 6 to 255 seconds. The initial value is 20 seconds. Starting in release 3.0 the initial value is 255 seconds.
stfdtm	Spanning tree forward delay timer. The forward delay timer determines the time a port can stay in the Learning/Listening State before moving to the Forwarding State. Value 4 to 255 seconds. The initial value is 15 seconds.
vcglst	VCG AID list. Values: An ampersand-separated list of VCG AIDs. A Spanning Tree Group can include 1 to 4 VCG AIDs. Up to 4 VCG AIDs can be provisioned in a single command. Starting in release 5.1, the number of VCG AIDs that can be provisioned in a single command for the LNW70 is 32. All VCG(s) addressed by an ENT - STGRP command must be in the same FN or growth unit. This is a mandatory parameter. Starting in release 6.0, this is an optional parameter (at least one VCG (vcglst) or Ethernet port (eplst) is mandatory) for the following packs: ■ LNW70
eplst	Ethernet Port AID list. This is an optional parameter. However, at least one VCG (vcglst) or Ethernet port is mandatory. Values: An ampersand-separated list of Ethernet Port AIDs. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG. This parameter applies to the following packs:

Table 2-218. ENT-STGRP Input *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description
	■ LNW70 (starting in release 6.0) A Spanning Tree Group can include 1 to 8 Ethernet Port AIDs. All Ethernet Ports and VCG(s) addressed by an ENT-STGRP command must be in the same FN or growth unit.

OUTPUT FORMAT

If the network element (NE) fully complies with the **ENT-STGRP** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
ENT-STGRP:TID123::123456::123,38:vcglst=d-v1&d-v2&d-v3;

TID123 00-01-01 08:00:00
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the list of VCG AIDs are not all part of the same circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid VCG list */
;
```

For applicable packs, if the list of Ethernet Port AIDs and VCG AIDs are not all part of the same circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid VCG and/or EP list */
;
```

If the specified virtual switch doesn't exist, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, vrtswid doesn't exist */
;
```

Starting in Release 5.0, if the specified virtual switch id (**vrtswid**) is not within the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, vrtswid out of range */
;
```

If the *vlantagmd* (ED-EQPT) for the board is set to NOTAG, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, spanning tree not supported */
;
```

If the lists of VCG AIDs do not contain at least one entry, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, VCGLST requires at least one entry*/
;
```

Starting in release 6.0, for applicable packs, the above becomes: If the lists of Ethernet Port AIDs and VCG AIDs do not contain at least one entry, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, EPLST/VCGLST requires at least one entry */
;
```

If the number of VCGs exceeds the amount allowable by the circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid VCG list */
;
```

If any of the specified VCGs are not members of the specified virtual switch, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, port is not a member of specified
virtual switch */
;
```

For applicable packs, if any of the specified Ethernet Ports are not members of the specified virtual switch, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, port is not a member of specified
virtual switch */
;
```

If any of the specified VCGs are members of other spanning tree groups, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, port is a member of another spanning
tree group */
;
```

For applicable packs, if any of the specified Ethernet ports are members of other spanning tree groups, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, port is a member of another spanning
tree group */
;
```

If a port is a member of a Link Aggregation Group, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid ACcess identifier, one or more ports are members of a
LAG */
;
```

Starting in Release 9.0, if a port is a member of an ERP instance, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
/* Status, Data Not Consistent, one or more ports are members of a ERP */
;
```

If the entered **stgrpId** is already in use in the same Function or Growth Unit pair, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, STGRPID already in use */
;
```

If the user enters a Spanning Tree Group Identifier (**stgrpId**) that is not within the 1 to 4095 range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, STGRPID out of range */
;
```

If the user enters a Spanning Tree Root Priority (**strp**) that is not within the 0 to 65535 range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, STRP out of range */
;
```

If the user enters a Spanning Tree Maximum Age Timer (**stmaxage**) value that is not within the 6 to 40 range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, STMAXAGE out of range */
;
```

Starting in release 3.0, if the user enters a Spanning Tree Maximum Age Timer (**stmaxage**) value that is not within the 6 to 255 range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, STMAXAGE out of range */
;
```

If the user enters a Spanning Tree Forward Delay Timer (**stfdtm**) value that is not within the 4 to 30 range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, STFDTM out of range */
;
```

If the maximum number of **stgrpid** is already assigned (for example, one **stgrpid** is already assigned to each of the VCGs), and the user attempts to assign another

stgrp*id* to any VCG number in the same Function or Growth Unit pair, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, maximum number of STGRPIDs already in use */
;
```

If the user enters an ***autolock*** value that is not within its range, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, AUTOLOCK out of range */
;
```

RELATED TL1 MESSAGES

DLT-STGRP

ED-STGRP

RTRV-STGRP

NAME

ENT - SUBSHELF : Enter Subshelf

The **ENT - SUBSHELF** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT - SUBSHELF : *tid::ctag::cmdmde, subshelfnum, [subshelftype], maini
ntfc_aid:
spec_block;*

DESCRIPTION

ENT - SUBSHELF is used to provision the subshelf attributes in a multi-shelf configuration. To create a multi-shelf DCS system utilizing a single TID, the user must provision, on the main shelf, the attributes of each subtending subshelf AND provision each of the target stand-alone shelves to operate as a subshelf.

ENT - SUBSHELF supports two modes of operation as specified by the **cmdmde** parameter.

ENT - SUBSHELF, with **cmdmde=MAIN**, may only be executed on a stand-alone shelf or an existing main shelf to provision a subshelf. The command must be executed once for each subshelf connected to the main shelf. Execution of the command, with **cmdmde=MAIN**, is denied on an existing subshelf.

ENT - SUBSHELF, with **cmdmde=SUBSHELF**, may only be executed on a stand-alone shelf, to provision it to operate as a subshelf. The SYCTL automatically restarts following execution of the command. Execution of the command, with **cmdmde=SUBSHELF**, is denied on an existing main shelf.

A stand-alone shelf is a shelf that has no provisioned subshelves and is not provisioned to operate as a subshelf.

A main shelf is a shelf in a multi-shelf configuration that has provisioned subshelves.

A subshelf is a shelf in a multi-shelf configuration that is provisioned to operate as a subshelf.

Table 13 defines the supported OC-n transmission interfaces between the main shelf and the subshelves as a function of the subshelf type.

Table 13. Supported OC-n Intershelf Transmission Interfaces

Subshelf Type	OC-n Interface	OC-n Interface Protection Application
DS1	OC-12	Unidirectional Non-revertive 1+1
DS3	OC-192	Unidirectional Non-revertive 1+1

The maximum number supported subshelves in a multi-shelf configuration is specified in Table 14. For each row in the table, the maximum number subshelves is the sum of the entries in the columns.

Table 14. Maximum Number of Subshelves

Maximum Number of DS1 Subshelves	Maximum Number of DS3 Subshelves
12	1
0	2

Execution of this command, whether successful or denied, is recorded in the Security log.

Following the successful completion of the command, the NE issues a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-219. ENT - SUBSHELF Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

Table 2-219. ENT - SUBSHELF Input Parameters (cont 2 of 2)

Parameter Name	Description
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax, and a description of this parameter.
cmdmde	Command Mode: cmdmde specifies whether the command is used to provision subshelf attributes on the main shelf or on a subshelf. Values MAIN provision subshelf attributes on the main shelf SUBSHELF provision subshelf attributes on a stand-alone shelf
subshelfnum	Subshelf Number. Values ■ [2-14] (integer values only)
subshelftype	Subshelf Type. Values ■ DS1 (default) ■ DS3
mainintfc_aid	Main Shelf Interface AID. mainintfc_aid specifies the AID of the optical interface on the main shelf to which the subshelf is connected. Values: Refer to "Appendix A - AID Tables" ■ 1+1 Protection Group AID
spec_block	The spec_block parameters are listed and described in the following table

Parameter Name	Description
<i>main_tid</i>	Main Shelf Target Identifier. <i>main_tid</i> specifies the <i>tid</i> of the main shelf in a multi-shelf configuration. The user must provision each subshelf in a multi-shelf configuration with the same TID as the main shelf. Refer to the RTRV-HDR command for the input parameter syntax and description of the <i>tid</i> parameter. For cmdmde=MAIN, <i>main_tid</i> must be omitted. For cmdmde=SUBSHELF, <i>main_tid</i> is a required parameter.
<i>subshelfmac</i>	Subshelf MAC Address. <i>subshelfmac</i> is the MAC address that is stored (burned) on the subshelf SYSCTL's EEPROM by the factory and it is unique. This is the MAC address that is always used as the NE's unique system ID field within the NE's OSI NSAP address (see RTRV-ULSDCC-L3:l3sys). The 6 bytes of the MAC address are formatted as 12 hexadecimal digits. For cmdmde=MAIN, <i>subshelfmac</i> is a required parameter. The MAC address value to be provisioned is retrievable on a stand-alone shelf (target subshelf) via the following commands: - RTRV-MAP-NEI: bytes 14-19 of the local NE's NSAP - RTRV-SYS: <i>macaddress2</i> - RTRV-ULSDCS-L3: <i>l3sys</i> and is retrievable on an existing subshelf via the following commands: - RTRV-SUBSHELF: <i>subshelfmac</i> - RTRV-GENERIC: <i>subshelfmac</i> - RTRV-MAP-NEI: bytes 14-19 of the local NE's NSAP For cmdmde=SUBSHELF, <i>subshelfmac</i> must be omitted.

OUTPUT FORMAT

If the **ENT - SUBSHELF** is accepted, the following normal completion response is returned.

```

sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example provisions the attributes of a DS1 subshelf on a main shelf

```
ENT-SUBSHELF:TID1::123456::main,2,DS1,growth-1-1:  
subshelfmac=08006A112345;
```

```
IP 123456  
<  
  TID1 10-11-26 16:42:11  
M 123456 COMPLD  
;
```

The following example provisions a stand-alone shelf as a DS1 subshelf.

```
ENT-SUBSHELF:TID2::123456::subshelf,2,DS1,growth-1-1:main_tid=TID1;
```

```
IP 123456  
<  
  TID1 10-11-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **ENT-SUBSHELF** command with an invalid or unexpected parameter value, then the command is denied and the following error response is

returned, where <parameter_name> identifies the parameter with the invalid or unexpected value.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid <parameter_name> value */
;
```

If an NE equipped with non-VLF mains receives an **ENT - SUBSHELF** command with **cmdmde=MAIN**, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, Not equipped for Setting specified Information,
  subshelf not supported */
;
```

A request to provision a stand-alone shelf as a subshelf is denied, with the following message, if the shelf is not a High Capacity shelf (**RTRV - EQPT:type=DMX-HC-xxx**).

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, Not equipped for Setting specified Information,
  subshelf not supported */
;
```

If an NE receives an **ENT - SUBSHELF** command and any of the following conditions exist,

- the NE is a main shelf and **cmdmde=SUBSHELF**

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cmdmde value not supported */
;
```

If the NE receives an **ENT - SUBSHELF** command and any of the following parameters are not specified

cmdmde **subshelfnum** **subshelftype** **mainintfc_aid**

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, missing required input parameter(s) */
;
```

If the NE receives an **ENT - SUBSHELF** command with **cmdmde=MAIN** and **subshelfmac** is not specified, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, missing required input parameter(s) */
;
```

If a stand-alone shelf receives an **ENT-SUBSHELF** command with **cmdmde=SUBSHELF** and **main_tid** is not specified, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, missing required input parameter(s) */
;
```

If the NE receives an **ENT-SUBSHELF** command with **cmdmde=MAIN** and the interface specified by **mainintfc_aid** does not exist, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, mainintfc_aid does not exist */
;
```

If the NE receives an **ENT-SUBSHELF** command with **cmdmde=MAIN** and any of the following conditions exists for the interface specified by **mainintfc_aid**,

- the line rate and protection application are not consistent with the **subshelftype**
- either or both of the associated ports are configured as a line timing interface
- the associated ports are EDGE or ENNI ports

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, mainintfc_aid is not a valid
subshelf interface */
;
```

If a main shelf receives an **ENT-SUBSHELF** command with **cmdmde=MAIN** and either **mainintfc_aid** or **subshelfmac**, if specified, is associated with an existing

subshelf with a different *subshelfnum*, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, parameter value used on another
subshelf */
;
```

If a main shelf receives an **ENT-SUBSHELF** command and there is an existing subshelf with the specified *subshelfnum*, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, duplicate subshelf number */
;
```

If the NE receives an **ENT-SUBSHELF** command and any of the following conditions exist,

- **cmdmde=MAIN** and there is an existing cross-connection or test access connection on any tributary of the specified *mainintfc_aid*
- **cmdmde=SUBSHELF** and the NE is a stand-alone shelf with one or more existing cross-connections or test access connections

then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cross-connect exists */
;
```

If the NE receives an **ENT - SUBSHELF** command with **cmdmde=SUBSHELF** and the NE is a stand-alone shelf with one or more existing loopbacks, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, loopback active */
;
```

If the NE receives an **ENT - SUBSHELF** command with **cmdmde=MAIN** and the maximum number of subshelves is already provisioned, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, maximum number of subshelves
exceeded */
;
```

If an existing subshelf receives an **ENT - SUBSHELF** command, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IEAE
/* Input, Entity Already Exists, subshelf exists */
;
```

RELATED TL1 MESSAGES

DLT - SUBSHELF

ED - SUBSHELF

RTRV - SUBSHELF

NAME

ENT-SYS: Enter System

The **ENT-SYS** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT-SYS:*tid:[aid]:ctag[:::spec_block];*

Starting in Release 5.0, the input format of **ENT-SYS** is:

ENT-SYS:*tid::ctag[:::spec_block];*

DESCRIPTION

The **ENT-SYS** command can be initiated by users to modify system attributes associated with the network element (NE) at the system level, but is not associated with any particular facility or equipment unit.

To enable a TL1 TCP/IP Gateway NE (GNE), also referred to as the T-TD function, at least the following user provisioning is required:

1. **ENT-ULS** is used to specify the TL1 TCP/IP GNE's IAO LAN port IP address and subnet mask, and to enable TCP/IP communications on that IAO LAN port.
2. **ENT-SYS** is used to enable the NE as a TL1 TCP/IP GNE.
3. **ENT-IPMAP** is used to specify the authorized IP calling (OS) addresses, for security purposes.

Remote file transfers through an FTP-GNE to/from FTP-Remote NEs (RNEs), such as those initiated by related commands **CPY-MEM** and **SCHED-BACKUP**, rely on IP tunneling to download a software generic from an FTP server to an FTP-RNE, or to backup or restore an FTP-RNE's provisionable database to or from an FTP server.

IP tunneling supports encapsulation and IP packet routing within the OSI protocol stack on a DCC and/or OSI LAN between an FTP-GNE and FTP-RNEs. By default, IP tunneling routes are updated automatically among all NEs in the same OSI area using the Tunnel Access Provisioning (TAP) protocol.

An FTP-GNE must have a direct TCP/IP interface (for access to an FTP server). Multiple FTP-GNEs are supported for load balancing within a network, but do not support automatic routing redundancy.

These TL1 commands support FTP file transfer and IP tunneling provisioning:

1. **ENT -SYS** allows FTP to be enabled by default.
2. **ENT -ULS** is used to provision each FTP-GNE and FTP-RNE's IP address, subnet mask, and enable TCP/IP (and IP tunneling) communications.
3. **ENT -IP -ROUTE** is used to authorize and specify the FTP-GNE's IP routing to the FTP server's IP subnet address, if it is different from the FTP-GNE's IP subnet address. Otherwise, default values suffice except in large networks with OSI IS-IS Level 2 Routing, or if there are multiple FTP-GNEs in the same OSI area, which may require additional provisioning.
4. **ED -IP -TUNNEL** default values suffice, except when there are multiple FTP-GNEs in the same OSI area, then additional FTP-GNE provisioning may be necessary.

Refer to the User Operations Guide for more information.

The **ENT -SYS** command is also used to enable the Network Time Protocol (NTP) which allows an NE to synchronize its Date/Time (clock) with an NTP Server resident in the network. It achieves this by using the current autoset NE-NE feature for the Date/Time at boot up and for making subsequent corrections via the OS initiated **ED -DAT** command. With NTP, the NE works in UTC (Universal Time Code) format and provides aggregate time to the OS and other NEs using UTC Offset.

When NTP parameters are provisioned through the **ED -NTP**, **ENT -NTP -SERVER** or **DLT -NTP -SERVER** commands, these parameters do not take affect until the **ENT -SYS** command is executed with **ntp=ENABLED**.

The **ENT -SYS** command is also used to enable the FTAM-FTP Gateway function on NEs so that it can operate as a File Transfer Translation Device. It performs file transfers between an FTP Server and a remote NE, relying on the FTAM protocol for the file transfer. It translates between FTP Connection and FTAM Association. For this, it requires that the FTP Client and FTAM Responder functions are enabled.

A remote NE that relies on the FTAM protocol for file transfers (for Software download, backup or restore) requires FTAM for FTAM Initiator function.

Execution of this command will be recorded in the Security log.

The **ENT -SYS** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-220. ENT -SYS Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV -HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. Refer Appendix A for valid AIDs. Starting in Release 5.0, the <i>aid</i> is removed as an input parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV -HDR command for the input parameter syntax and a description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are defined in the following table.

Table 2-221. ENT -SYS Input *spec_block* Parameters (cont 1 of 10)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>agne</i>	The Alarm Gateway NE. This parameter has a value YES or NO (default), which indicates whether or not this system is an AGNE for its alarm group. One AGNE is needed for each alarm group to support the message communications for Remote NE Status feature. Any NE in an alarm group can be an AGNE (although it is recommended that a TCP/IP GNE or TL1/X.25 GNE not be provisioned as an AGNE, also). One other NE in the same alarm group may be provisioned as a backup AGNE, if required. An NE with Remote NE Status (<i>rnestat</i>) enabled but no AGNE in its alarm group reports an "AGNE Communications failure" alarm. For an NE to be an AGNE, the Remote NE Status parameter <i>rnestat</i> must be ENABLED. Starting in Release 5.0, for an NE to be an AGNE, the Remote NE Status parameter <i>rnestat</i> must be ENABLED or ENABLEFE. Starting in Release 6.0, X.25 and TL1/X.25 GNE are not supported.

Table 2-221. ENT -SYS Input *spec_block* Parameters (cont 2 of 10)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>almgrp</i>	Alarm Group. The <i>almgrp</i> has a numeric value of 1 through 255. The default is 255. All NEs with DCC connectivity, whether nearby or not, that have the same Alarm Group number are members of the same alarm group. All members of an alarm group share Remote NE Status information with each other but not with NEs in different alarm groups. For an NE to be assigned to an alarm group, the Remote NE Status parameter <i>rnestat</i> must be ENABLED. Starting in Release 5.0, for an NE to be assigned to an alarm group, the Remote NE Status parameter <i>rnestat</i> must be ENABLED or ENABLEFE.
<i>autolcnt</i>	Autolock count: maximum number of consecutive non-pack-removal APS switches allowed in the provisioned switch interval (<i>autolswint</i>) before the group is put into the autolock state. For the function equipment groups, the autolock count clears when the autolock release timer expires, when an INHIBIT, FRCD or NORM SW - TOPROTN switch command or a SW - TOWKG:RESET switch command is issued, or when a pack is removed from the group, whichever occurs first. For the MAIN slots, the autolock count clears when the autolock release timer expires, when an OPR - SYNCNSW: sc=RESET, syncfunction=CIRCUITPACK switch command is issued, or when a pack is removed from the group, whichever occurs first. When the autolock count or switch interval (<i>autolswint</i>) is re-provisioned, any autolock counts that have not effected an autolock yet will be cleared and restarted. Values: integer 0 to 20. Default: 0. When the value is 0, the autolock feature is disabled. Note that the autolock feature applies to equipment protected groups equipped with the 12 DS3/EC1 pack (LNW16), the TMUX pack (LNW18), the 48 DS3/EC1 pack (LNW19), and to the MAIN group, regardless of equipage. Starting in Release 7.0, the autolock feature also applies to equipment protected groups equipped with the LNW20 TMUX pack.
<i>autolrelint</i>	Autolock release interval: the maximum time interval of the lock, i.e. the group in the autolock state.

Table 2-221. ENT -SYS Input *spec_block* Parameters (cont 3 of 10)

Parameter Name	Description of <i>spec_block</i> Parameters
	For the function equipment groups, the autolock state clears when this autolock release timer expires, when an INHIBIT, FRCD or NORM SW - TOPROTN switch command or a SW - TOWKG:RESET switch command is issued, or when a pack is removed from the group, whichever occurs first. For the MAIN slots, the autolock state clears when the autolock release timer expires, when an OPR - SYNCNSW: sc=RESET,sysfunction=CIRCUITPACK switch command is issued, or when a pack is removed from the group, whichever occurs first. The reprovisioning of autolock release interval has no effect on existing autolocks' release timers. Values: integer 1 to 1440 minutes. Default: 1440 minutes.
autolswint	Autolock switch interval: the time interval for the maximum number of non-pack-removal APS switches (autolcnt) to occur before the group is put into the autolock state. The autolock switch interval begins when the first APS occurs. When the oldest counted switch is earlier than the provisioned interval, it is no longer counted, and the interval then begins with the next oldest switch. Values: integer 1 to 1440 minutes. Default: 25 minutes.
ftamftpgw	FTAM-FTP Gateway. This parameter can be used to enable or disable the FTAM-FTP Gateway function. The FTAM-FTP gateway is in one of two states, ENABLED or DISABLED. ENABLED When enabled, it allows the NE to act as a File Transfer Translation Device (FTTD) to achieve file transfers between an FTP server and remote NE relying on the FTAM protocol for file transfers, and by translating between an FTP connection to FTAM association and vice-versa. DISABLED This prevents the NE from operating as a FTTD, and thus prevents it from transferring files in this mode. The default is DISABLED.

Table 2-221. ENT -SYS Input *spec_block* Parameters (cont 4 of 10)

Parameter Name	Description of <i>spec_block</i> Parameters
ftp	File Transfer Protocol. This parameter can be used to enable or disable FTP file transfers to and from the NE, that is, directly to and from an FTP-GNE, or through an FTP-GNE to/from an FTP-RNE also using IP tunneling. Software downloads and provisionable database backup and restore are supported using FTP file transfers. The allowed values are: ENABLED (Default) This allows the NE to send and receive FTP file transfers. DISABLED This prevents the NE from sending or receiving FTP file transfers. Starting in Release 5.1, if ftamftpgw is ENABLED, setting ftp to DISABLED will be denied.
hlogthrshld	History Log Overflow Message: History Log Warning Threshold. The percentage of entries entered since the last "History Log Overflow" event message was issued. When this threshold is reached another "History Log Overflow" event message is issued and the threshold counter is reset to zero. Values: 0% to 90% in increments of 10%. Default: 90%. A value of 0% shall inhibit the issuing of the "History Log Overflow" event message.
idle	Idle channel signal. This parameter determines whether an Alarm Indication Signal (AIS) or an Unequipped signal should be inserted toward the SONET line in VT1.5 and STS-1 and/or STS-nc channels that are not cross-connected. The value may be AIS (default) or UNEQUIPPED. AIS When idle is set to AIS, STS-1, STS-nc or VT1.5 AIS is inserted towards the SONET line from the SONET interfaces (OLIUs and STS1Es) if the channel is not cross-connected, or if a low-speed slot is not equipped but the function unit is STS-1 cross-connected. UNEQUIPPED When idle is set to UNEQUIPPED, the STS-1, STS-nc or VT1.5 UNEQUIPPED signal is inserted towards the SONET line from the SONET interfaces (OLIUs and STS1Es) if the channel is not cross-connected, or if a low-speed slot is not equipped, but the function unit is STS-1 cross-connected.

Table 2-221. ENT -SYS Input *spec_block* Parameters (cont 5 of 10)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>lpbkcond</i>	Loopback Condition reporting. <i>lpbkcond</i> controls whether or not loopbacks are managed as standing conditions. Values: ENABLED Standing conditions are reported for loopbacks. The ABN LED is lit if there is one or more existing loopbacks in the system. DISABLED Standing conditions are not reported for loopbacks. The ABN LED is unaffected by loopback provisioning.
<i>nemode</i>	Network Element Mode. Upgrading a ring from a lower line rate to a higher line rate requires that a network element be provisioned into a special ring upgrade mode. The values of the parameter <i>nemode</i> are NORMAL and RING-UPGRADE. The initial value is NORMAL. Starting in Release 4.0, the NE cannot be put into ring-upgrade mode if a test access session exists in the NE (RTRV - TACC). Starting in Release 5.1, the NE cannot be put into ring-upgrade mode if a 1WAY VT cross-connection exists (RTRV - CRS - rr). Starting in Release 5.1, the NE cannot be put into ring-upgrade if the lines on the MAIN circuit packs are provisioned for 1+1, 1+1_OPTM or 1+1_BIDIR protection (RTRV - rr : application). Starting in Release 9.0, setting <i>nemode</i> to RING-UPGRADE is required for in-service multiport-multirate upgrades in a 1+1 protection configuration. Thus, the restriction on putting the NE into ring-upgrade if the lines on the MAIN circuit packs are provisioned for 1+1, 1+1_OPTM or 1+1_BIDIR protection is removed. Starting in Release 5.1, the NE cannot be put into ring-upgrade if the main application is BLSR (RTRV - rr : application=2F), and if automatic ring discovery is enabled for the BLSR protection group for the MAINs (RTRV - PROTN - GRP : ard=ENABLED). Starting in Release 9.0, the NE cannot exit the ring upgrade mode until both ports in each protected port pair on the multi-port multi-rate circuit packs have the same <i>signaltype</i> (RTRV-rr).
<i>new_tid</i>	New Target Identifier. The <i>new_tid</i> is the new name of the NE to which the command is addressed.

Table 2-221. ENT -SYS Input *spec_block* Parameters (cont 6 of 10)

Parameter Name	Description of <i>spec_block</i> Parameters
	The <i>new_tid</i> is a case-insensitive character string of up to 20 characters. The allowed ASCII characters are letters "A" through "Z" and "a" through "z", numbers "0" through "9", and special characters: "#" (pound), "%" (percent), "+" (plus), "-" (hyphen), and "." (period). Starting in Release 5.1, the "#" (pound), "%" (percent) and "+" (plus) special characters are not allowed in <i>new_tid</i>. Thus, the allowed ASCII characters are letters "A" through "Z" and "a" through "z", numbers "0" through "9", and special characters: "-" (hyphen), and "." (period). The <i>tid</i> is output at the beginning of the output of all messages. For proper operation of TL1 interfaces, the <i>tid</i> must be unique for each NE within a given DCC domain. Changing the TID (system name) does not change the NE's OSI address, which is determined by the NSAP but does affect proper TL1 message reporting. Note: Changing the <i>tid</i> value of an NE causes all established TL1 logins to that NE to be dropped. The default <i>tid</i> is LT-DMX. Starting in Release 5.1, if <i>new_tid</i> is a duplicate of another TID in a BLSR ring, the command will be denied.
<i>ntp</i>	Network Time Protocol. This parameter can be used to enable or disable NTP on the NE. Only NTP client mode is supported. When NTP is enabled, the NE clock will be synchronized to UTC time. NTP servers must be configured using the ENT-NTP-SERVER command in order for the NE to obtain time. The <i>ntp</i> is in one of two states: ENABLED This allows the NE to send and receive NTP information. DISABLED This prevents the NE from sending or receiving NTP information. The default is DISABLED.

Table 2-221. ENT - SYS Input *spec_block* Parameters (cont 7 of 10)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>pdheqfltctl</i>	PDH port Equipment Fault Control. <i>pdheqfltctl</i> controls the fault analysis for PDH ports on equipment-protected packs (Equation Q).
	Values:
	ENABLED Port-level fault analysis is enabled
	DISABLED Port-level fault analysis is disabled (Default)
<i>portmntc_default</i>	<i>portmntc_default</i> specifies the default setting for the port maintenance control state for ports and lines that are created when a circuit pack is inserted and accepted into a slot that is not provisioned for a circuit pack and when the interface type for DS1/ E1 and DS3/EC1 circuit packs is changed. Values: ALLOWED, INHIBITED. The initial value is ALLOWED. The port maintenance control state controls the setting up of loopbacks on a port using OPR - LPBK and testing transmission on DS1, E1and DS3 ports using TEST - TRMSN. Its value is changed by INH - PORTMNTC and ALW - PORTMNTC and is retrieved by RTRV - PORTMNTC.
<i>radius</i>	RADIUS Authentication: <i>radius</i> enables/disables RADIUS authentication. Values: ENABLED The local NE works as a RADIUS client, and a user login request is submitted to the RADIUS server(s) for authentication; if no response is received from server(s), then the user login is authenticated by the local system. To enable RADIUS for an NE, at least one RADIUS server must provisioned for the NE. DISABLED A user login is authenticated by the local system. (default)
<i>rnestat</i>	Remote NE Status. This parameter can be ENABLED or DISABLED (default). Enabling this parameter activates support for the Remote NE Status feature (far-end activity LED, remote office alarms, and remote alarm/status reports). Remote NE Status feature operation is also affected by the <i>almgrp</i> and <i>agne</i> parameters described below.

Table 2-221. ENT -SYS Input *spec_block* Parameters (cont 8 of 10)

Parameter Name	Description of <i>spec_block</i> Parameters
	Starting in Release 5.0, <i>rnestat</i> may also have the value ENABLEFE . When <i>rnestat</i> is set to this value, the local user panel and the office alarms will only illuminate the FE LED, but not the LEDs indicating the severity of the alarm, when a remote alarm is detected. The user panel and office panel LEDs indicating severity of alarms (CR, MJ, MN) will only be illuminated for local alarms. Except for the affect on LEDs, setting <i>rnestat</i> to ENABLEFE behaves the same as if <i>rnestat</i> is set to ENABLED .
<i>slogthrshld</i>	Security Log Overflow Message: Security Log Warning Threshold. The percentage of entries entered since the last "Security Log Overflow" event message was issued. When this threshold is reached another "Security Log Overflow" event message is issued and the threshold counter is reset to zero. Values: 0% to 90% in increments of 10%. Default: 90% . A value of 0% shall inhibit the issuing of the "Security Log Overflow" event message.
<i>snmpauthtrap</i>	SNMP authentication failure trap enable. Values are ENABLED and DISABLED . Default is ENABLED .
<i>syscontact</i>	The contact person for this Network Element, together with information on how to contact this person. This parameter is a text string of up to 255 characters in length. The string can contain any alphanumeric or special character except quotes that do not have a special meaning to the CIT or OS on which the command is entered. The text string must be entered within quotes (""). The default is a NULL. This parameter is used to support the SNMP MIB (RFC 1907).
<i>syslocation</i>	The physical location of this network element. This parameter is a text string of up to 255 characters in length. The string can contain any alphanumeric or special character except quotes that do not have a special meaning to the CIT or OS on which the command is entered. The text string must be entered within quotes (""). The default is a NULL. This parameter is used to support the SNMP MIB (RFC 1907). Note: Setting both <i>syscontact</i> and <i>syslocation</i> in a single instance of this command can result in the command line length exceeding its maximum value of 488 characters.

Table 2-221. ENT -SYS Input *spec_block* Parameters (cont 9 of 10)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tcpipgw</i>	TL1 TCP/IP Gateway NE. This parameter can be used to enable or disable the NE as a TL1 TCP/IP GNE. The TL1 TCP/IP GNE translates between TL1 over TCP/IP and TL1 over OSI to provide access to TL1-RNEs. The allowed values are ENABLED or DISABLED, as follows: ENABLED This allows the NE to accept and respond to TL1 messages using a TCP/IP connection over the IAO LAN ports. Note: To complete enabling the TL1 TCP/IP Gateway feature, TCP/IP must also be enabled and the required TCP/IP parameters provisioned for at least one of the NE's IAO LAN ports (using the separate ENT-ULS command). Starting in Release 5.1, the preceding note no longer applies. For security reasons, authorized IP calling (OS) addresses also must be provisioned using the ENT-IPMAP command. DISABLED This prevents the NE from accepting and responding to TL1 messages using a TCP/IP connection over either IAO LAN port. This is the initial value. Starting in Release 7.1.1, the initial value of <i>tcpipgw</i> is ENABLED
<i>tribmntc_default</i>	<i>tribmntc_default</i> specifies the Initialization setting for the tributary maintenance control state for tributaries that are added when cross-connections are provisioned via ENT-CRS-rr or ENT-ROLL. Values: ALLOWED, INHIBITED. The initial value is ALLOWED. The tributary maintenance control state controls the use of tributaries when test access sessions are set up using CONN-TACC. Its value is changed by INH-TRIBMNTC and ALW-TRIBMNTC and is retrieved by RTRV-TRIBMNTC.
<i>uniprotprio</i>	This parameter specifies the protection switching priority scheme used in 1+1 applications.

Table 2-221. ENT -SYS Input *spec_block* Parameters (cont 10 of 10)

Parameter Name	Description of <i>spec_block</i> Parameters
	The legal values are: FRCD A forced switch is not preempted by a failure of the protection line in 1+1 applications. This is the initial value for SONET shelves. SFPROT A signal failure on the protection side preempts a forced switch in 1+1 applications. This is the initial and only valid value for SDH shelves.
utco	Universal Time Coordinated Offset. This parameter can be used to specify the offset of local time from UTC time. This parameter is only applied to UTC time when NTP is enabled. NTP is based on UTC time. The default for this parameter is 0. Valid values between -24:00 and +24:00, exclusive. Leading zeros must be used for single digit numbers. The utco parameter has the form: [+ -]HHMM. HH - expresses the hour and must be a value between 00 and 23, inclusive. MM - expresses the minute and must be a value between 00 and 59, inclusive.
wtrename	Wait to Rename timer for Optimized Bidirectional 1+1 Optical Protection. Values: 0 to 60 minutes in 1 minute steps. Default: 5 minutes. This parameter applies to ports for which RTRV-rr : application=1+1_OPTM
x25ps	X.25 Packet Size. This parameter may be set to a value of 256 or 128. It determines the TL1 packet size for the X.25 interface. The default is 256. Note: Changing the X.25 packet size parameter at an NE with an active X.25 link will cause that X.25 link to be reset, and all active TL1 logins will be automatically dropped. All established SVCs on the affected X.25 link will have to be reestablished. Starting in Release 6.0, x25ps is not supported.

OUTPUT FORMAT

If the NE fully complies with the **ENT-SYS** request, the following completion response is returned:

```
IP ctag
<

    sid date time
M  ctag COMPLD
;
```

If the **ENT-SYS** command does not alter the existing system level attributes, the NE will not deny the command. Instead the system will respond with the normal completion message (shown above).

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows a command used to modify the **system** name to 1-BROAD-STREET-CO:

```
ent-sys:LT-TID123::123456::new_tid=1-BROAD-STREET-CO;

IP 123456
<

    1-BROAD-STREET-CO 00-10-26 16:42:11
M  123456 COMPLD
;
```

The following example shows a command used to modify the X.25 Packet Size:

```
ent-sys:LT-TID123::123456:::x25ps=128;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

Starting in Release 6.0, the previous example is not supported.

The following example shows a command to enable the Remote NE Status (*rnestat*) feature:

```
ent-sys:LT-TID123::123456:::rnestat=enabled,almgrp=248,agne=yes;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following example shows a command used to enable the TL1 TCP/IP GNE (*tcpipgw*) feature:

```
ent-sys:LT-TID123::123456:::tcpipgw=enabled;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following example shows a command used to enable the NE as a TL1 TCP/IP GNE (*tcpipgw*) and enable FTP file transfers (*ftp*):

```
ent-sys:LT-TID123::123456:::tcpipgw=enabled,ftp=enabled;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following example shows a command that is used to enable the NE in a ring upgrade mode:

```
ent-sys:LT-TID123::123456:::nemode=ring-upgrade;
```

```
IP 123456
```

```
<
```

```
LT-TID123 05-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following example shows a command that is used to enable the NTP feature on the NE:

```
ent-sys:LT-TID123::123456:::ntp=enabled;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following example shows a command that is used to set the UTC offset (*utco*) at the NE:

```
ent-sys:LT-TID123::123456::utco=-0330;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following example shows a command that is used to enable FTP Client and FTAM-FTP Gateway functions at the FTAM-FTP Gateway NE:

```
ent-sys:LT-TID123::123456::ftp=enabled:ftamftpgw=enabled;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following example shows a command used to provision the system contact and system location:

```
ent-sys:LT-TID123::123456::syscontact="J-Smith-978-960-9999",syslocation="Merrimack Valley, Room 21-2F21";
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the user attempts to execute **ENT-SYS** when an **APPLY** command is scheduled or in progress, the following error response is returned:

```
sid date time
M ctag DENY
  SROF
    /* Status, Requested Operation Failed, Apply command is IP */
;
```

If an **ENT-SYS** command is received with an invalid **aid** value, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
    /* Input, Invalid ACcess identifier */
;
```

Starting in Release 5.0, the previous error response is not applicable.

If an NE receives an **ENT-SYS** command with an **rnestat** value other than **ENABLED** or **DISABLED**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
    /* Input, Data Not Valid, invalid RNESTAT */
;
```

If an NE receives an **ENT-SYS** command with a **new_tid** value that is not valid, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
    /* Input, Data Not Valid, invalid NEW_TID */
;
```

If an NE receives an **ENT-SYS** command to change the **new_tid** value and the NE is not equipped with at least one MAIN slot circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, at least one main slot must be
equipped */
;
```

Starting in Release 6.0, the restriction specified in the previous error response that the NE must be equipped with at least one MAIN slot circuit pack when changing the value of **new_tid** does not apply.

Starting in Release 5.1, if an NE receives an **ENT-SYS** command with an **new_tid** value that is a duplicate of another TID in a BLSR ring, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, duplicate TID in BLSR */
;
```

Starting in Release 5.0, if an NE receives an **ENT-SYS** command with an **rnestat** value other than **ENABLED**, **ENABLEFE** or **DISABLED**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid RNESTAT */
;
```

If an NE receives an **ENT-SYS** command with an **agne** value other than **YES** or **NO**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid AGNE */
;
```

If an NE receives an **ENT-SYS** command with an **agne** parameter value specified, but the Remote NE Status feature (**rnestat**) is disabled, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, AGNE parameter inconsistent with
RNESTAT */
;
```

If an NE receives an **ENT-SYS** command with **almgrp** set to a numeric value other than between 1 and 255, or a non-numeric value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid ALMGRP */
;
```

If an NE receives an **ENT-SYS** command with an **almgrp** parameter value specified, but the Remote NE Status feature (**rnestat**) is disabled, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, ALMGRP parameter inconsistent with
RNESTAT */
;
```

If an NE receives an **ENT-SYS** command with a **x25ps** value other than **256** or **128**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid X25PS */
;
```

Starting in Release 6.0, the preceding error response does not apply.

If an NE receives an **ENT-SYS** command with a *tcpipegw* value other than **ENABLED** or **DISABLED**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
    /* Input, Data Not Valid, invalid TCPIPGW */
;
```

If an NE receives an **ENT-SYS** command with a *tcpipegw* value of **DISABLED** that would have disabled both OSI and TCP/IP access on both IAO LAN ports, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
    /* Status, Not in Valid State, can't disable both OSI and TCP/IP
    access on both IAO LAN ports */
;
```

If an NE receives an **ENT-SYS** command with a *tcpipegw* value of **ENABLED** but at least one IP address is not provisioned (**RTRV-ULS**), the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
    /* Status, Not in Valid State, system IP parameters not provisioned */
;
```

Starting in Release 5.1, the previous error response no longer applies.

If an NE receives an **ENT-SYS** command with an *ftp* value other than **ENABLED** or **DISABLED**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
    /* Input, Data Not Valid, invalid FTP */
;
```

If an NE receives an **ENT-SYS** command with an *ftp* value of **DISABLED**, but *ftamftpgw* is **ENABLED**, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, can't disable FTP when FTAMFTPGW is
  enabled */
;
```

If an NE receives an **ENT-SYS** command with *idle* set to a value other than **AIS** or **UNEQUIPPED**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Command Not Valid, invalid IDLE */
;
```

If an NE receives an **ENT-SYS** command with a *spec_block* parameter it does not support, the following error response is returned:

```
sid date time
M ctag DENY
  ICNV
  /* Input, Command Not Valid, invalid spec_block parameter */
;
```

If an NE receives an **ENT-SYS** command with an *nemode* value other than **NORMAL** and **RING-UPGRADE**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid NEMODE */
;
```

If an NE receives an **ENT-SYS** command with an **nemode** value equal to **RING-UPGRADE** and if the expected CP type for the MAIN slots is not LNW26, LNW26B or LNW27 circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, wrong circuit pack in MAIN slot for
ring upgrade mode */
;
```

If an NE receives an **ENT-SYS** command with a valid value of **nemode** and a test access session exists in the NE, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot set nemode to ring upgrade
mode when a test access session exists */
;
```

If an NE receives an **ENT-SYS** command with a valid value of **nemode** and a 1WAY VT cross-connection exists on the NE, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot set nemode to ring upgrade
mode when a 1WAY VT cross-connect exists on the NE */
;
```

If an NE receives an **ENT-SYS** command with a valid value of **nemode** and the lines on the MAIN circuit packs are provisioned for 1+1, 1+1_OPTM or 1+1_BIDIR protection (**RTRV-rr:application**), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot set nemode to ring upgrade
mode when the lines on the MAIN CPs provisioned for 1+1 protection */
;
```

Starting in Release 9.0, upgrades of 1+1 protected ports are supported. The previous error response no longer applies.

Starting in Release 9.0, if an NE receives an **ENT-SYS** command with the **nemode** value of **NORMAL**, and the current **nemode** value is **RING-UPGRADE**, and there is a port of a protected port pair that has different **signaltype** value (**RTRV-rr**) than its companion port, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot exit ring upgrade mode until
both ports in each protected port pair have the same signaltype */
;
```

Starting in Release 5.1, if an NE receives an **ENT-SYS** command with a value of **nemode** of **RING-UPGRADE** and if the main application is BLSR (**RTRV-rr:application=2F**), and automatic ring discovery is enabled for the BLSR protection group for the MAINs (**RTRV-PROTN-GRP:ard=ENABLED**), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot set nemode to ring upgrade
mode when BLSR automatic ring discovery is enabled on the MAINs */
;
```

Starting in Release 9.0, if an NE receives an **ENT-SYS** command with **nemode=RING-UPGRADE** and there is one or more existing loopbacks on the NE, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot set nemode to ring upgrade
mode when a loopback exists */
;
```

If an NE receives an **ENT-SYS** command with an *ntp* value other than **ENABLED** or **DISABLED**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
    /* Input, Data Not Valid, invalid NTP */
;
```

If an NE receives an **ENT-SYS** command with an *ntp* value **ENABLED** while no NTP Server has been provisioned in the server list (using **ENT-NTP-SERVER**), the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
    /* Status, Not in Valid State, no NTP servers configured */
;
```

If an NE receives an **ENT-SYS** command with an invalid *utco* (utc offset) value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
    /* Input, Data Not Valid, invalid UTC Offset */
;
```

If an NE receives an **ENT-SYS** command with an *ftamftpgw* value other than **ENABLED** and **DISABLED**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
    /* Input, Data Not Valid, invalid FTAMFTPGW */
;
```


If an NE receives an **ENT-SYS** command with an *ftamftpgw* value of **ENABLED** but FTP Client function, *ftp* has not been enabled, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
    /* Status, Not in Valid State, FTP Client not enabled */
;
```

If an NE receives an **ENT-SYS** command with *syscontact* value of string more than 255 characters, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
    /* Input, Data Not Valid, invalid SYSCONTACT */
;
```

If an NE receives an **ENT-SYS** command with *syslocation* value of string more than 255 characters, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
    /* Input, Data Not Valid, invalid SYSLOCATION */
;
```

If an NE receives an **ENT-SYS** command with both the *syscontact* and *syslocation* parameters specified that results in the command line length exceeding its maximum value of 488 characters, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
    /* Input, Data Not Valid, command string overflow */
;
```

If an NE receives an **ENT-SYS** command with ***syscontact*** or ***syslocation*** with the text not enclosed within quotes), the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, text string must be within quotes */
;
```

If the NE receives an **ENT-SYS** command with a value of ***snmpauthtrap*** that is other than **ENABLED** or **DISABLED**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, value must be either ENABLED or
DISABLED */
;
```

If an NE receives an **ENT-SYS** command with ***slogthrsld*** set to a numeric value other than between 0% to 90% (in increments of 10%), or a non-numeric value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SLOGTHRSILD */
;
```

If an NE receives an **ENT-SYS** command with ***uniprotprio*** set to a value other than **FRCD** or **SFPROT**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid UNIPROTPRIO */
;
```

If an NE receives an **ENT-SYS** command with **hlogthrshld** set to a numeric value other than between 0% to 90% (in increments of 10%), or a non-numeric value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid HLOGTHRSHLD */
;
```

If an NE receives an **ENT-SYS** command with an **autolcnt** value other than from 0 to 20, or a non-numeric value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid AUTOLCNT */
;
```

If an NE receives an **ENT-SYS** command with an **autolswint** value other than from 1 to 1440, or a non-numeric value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid AUTOLSWINT */
;
```

If an NE receives an **ENT-SYS** command with an **autolrelint** value other than from 1 to 1440, or a non-numeric value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid AUTOLRELINT */
;
```

If an NE receives an **ENT -SYS** command with an **wtrename** value other than from **0** to **60**, or a non-numeric value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
    /* Input, Data Not Valid, invalid WTRENAME */
;
```

If the NE receives an **ENT -SYS** command with a value of **portmntc_default** or **tribmntc_default** that is other than **ALLOWED** or **INHIBITED**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
    /* Input, Data Not Valid, value must be either ALLOWED or
    INHIBITED */
;
```

If an NE receives a request to enable RADIUS authentication (**radius=ENABLED**) and there is not at least one RADIUS server provisioned for the NE (see **RTRV -RADIUS -SERVER**), the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
    /* Status, Not in Valid State, RADIUS server not provisioned */
;
```

If the user specifies an invalid value for **lpbkcond**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
    /* Input, Data Not Valid, invalid lpbkcond */
;
```

If the NE receives an **ENT -SYS** command with a value of ***pdheqfltctl*** that is other than **ENABLED** or **DISABLED**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
    /* Input, Data Not Valid, invalid PDHEQFLTCTL */
;
```

RELATED TL1 MESSAGES

ED - DAT

ENT - IPMAP

ENT - ULS

RTRV - SYS

SW - TOPROTN

SW - TOWKG

NAME

ENT - TL1MSGMAP: Enter TL1 Autonomous Message Map

The **ENT - TL1MSGMAP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT - TL1MSGMAP:*tid::ctag::acid,msgtype,action;*

DESCRIPTION

ENT - TL1MSGMAP instructs an network element (NE) to map TL1 autonomous message types to an OS type application context ID (ACID). TL1 autonomous messages are not reported unless they are assigned to an OS type. This command allows a user to assign specific TL1 autonomous message types, or none at all.

This command can be used to specify the routing of TL1 autonomous message types on OSI LAN and DCC specifically. This command can be used in conjunction with the related commands **ENT - IPMAP** and **ENT - OSACMAP** to specify the routing of TL1 autonomous message types to operations interfaces.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - TL1MSGMAP** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-222. ENT - TL1MSGMAP Input Parameters (cont 1 of 2)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
acid	Application Context ID. This is the OS type. The supported values are: TL1MAINTENANCE <i>Maintenance</i> OS type. TL1MEMORYADMINISTRATION <i>Memory administration</i> OS type. TL1TEST <i>Test</i> OS type. TL1PEERCOMM Peer communications OS type. TL1OTHER1 Other OS type. TL1OTHER2 Another OS type.
msgtype	TL1 autonomous message type. The supported values are: ALM REPT ALM messages report the occurrence of alarms. ENV REPT ALM ENV messages report the occurrence of environmental alarms. CON REPT COND messages periodically report the active status conditions. DB REPT DBCHG messages report the occurrence of provisioning changes. EVT REPT EVT messages report the occurrence of status conditions (events). PM REPT PM messages report performance monitoring data on a scheduled basis. SW REPT SW messages report automatic equipment protection switches. CONNCHG REPT CONNCHG messages report the occurrence of control plane connection changes. CONNVT REPT CONNEVT messages report the occurrence of control plane connection events.

Table 2-222. ENT - TL1MSGMAP Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>action</i>	The supported values for <i>action</i> are: ■ ENABLED Assigns the TL1 autonomous message type (<i>msgtype</i>) to the OS type (<i>acid</i>). ■ DISABLED Deletes the TL1 autonomous message type (<i>msgtype</i>) from the OS type (<i>acid</i>).

Table 2-223. TL1 Autonomous Message Map Defaults

OS Type (<i>acid</i>)	ALM	ENV	CON	DB	EVT	PM	SW
TL1MAINTENANCE	X	X	X		X	X	X
TL1MEMORYADMINISTRATION				X			
TL1TEST	X	X	X	X	X		X
TL1PEERCOMM							
TL1OTHER1	X	X	X	X	X		X
TL1OTHER2							

x = enabled
Blank = disabled

Starting in Release 7.1, the TL1 Autonomous Message Map defaults are shown in the following table:

Table 2-224. TL1 Autonomous Message Map Defaults

OS Type (<i>acid</i>)	ALM	ENV	CON	DB	EVT	PM	SW	CONNCHG	CONNEVT
TL1MAINTENANCE	X	X	X		X	X	X		X
TL1MEMORYADMINISTRATION				X				X	X
TL1TEST	X	X	X	X	X		X	X	X
TL1PEERCOMM									
TL1OTHER1	X	X	X	X	X		X	X	X
TL1OTHER2									

X = enabled
Blank = disabled

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<

    sid date time
M ctag COMPLD
;
```

If the **ENT - TL1MSGMAP** command does not alter the existing TL1 autonomous message mappings, the NE provides a normal completion response.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command also.

EXAMPLE INPUT/OUTPUT

```
ENT-TL1MSGMAP:LT-TID123::123456::tl1maintenance,pm, disabled;  
  
IP 123456  
<  
  
    LT-TID123 00-03-31 16:42:11  
    M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

The NE returns the following error response if the **acid** value is missing, or is invalid:

```
    sid date time  
M    ctag DENY  
    IDNV  
    /* Input, Data Not Valid, invalid ACID */;  
;
```

The NE returns the following error response if the **msgtype** value is missing, or is invalid:

```
    sid date time  
M    ctag DENY  
    IDNV  
    /* Input, Data Not Valid, invalid MSGTYPE */;  
;
```

The NE returns the following error response if the **action** value is missing or is invalid:

```
    sid date time  
M    ctag DENY  
    IDNV  
    /* Input, Data Not Valid, invalid ACTION */;  
;
```

RELATED TL1 MESSAGES

DLT - IPMAP

ENT - IPMAP

ENT - OSACMAP

RTRV - IPMAP

RTRV - OSACMAP

RTRV - TL1MSGMAP

NAME

ENT-ULS: Enter Upper Layer Stack (ULS) parameters

The **ENT-ULS** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.1

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT-ULS: *tid:aid:ctag:::[spec_block];*

DESCRIPTION

The **ENT-ULS** command enables/disables TCP/IP communications on each of the IAO LAN ports independently; it also specifies the IP address, subnet mask and default router address for each IAO LAN port.

Starting Release 2.0, the **ENT-ULS** command enables/disables TCP/IP communications on each of the IAO LAN ports independently or on the DCC-ALL for IP tunneling; it also specifies the IP address, subnet mask and default router address, if applicable.

Starting in Release 4.0, the **ENT-ULS** command can also be used to enable/disable Proxy ARP on a specified IAO LAN port. For applications such as SNMP and NTP, which require IP connectivity between IP based OS(s) and remote NEs, enabling Proxy ARP on the Gateway Network Element (GNE) will eliminate the need for static routes on the external router or OS host to which the GNE is connected via its LAN interface, to route the IP packets from the access DCN to the embedded DCN.

Starting in Release 5.1, the **ENT-ULS** command can be used to enable and disable TCP/IP communications on a specified DCC port (IP over DCC).

The **ENT-FECOM** command supports similar functionality for OSI on the DCC and IAO LAN ports.

To assure that some form of IAO LAN access is always available, the NE does not allow a user to disable both OSI and TCP/IP on both IAO LAN ports.

Starting in Release 3.1.1, it is not allowed for the user to enable TCP/IP for the rear IAO LAN port if OSI is currently enabled for this port.

To enable TCP/IP on an IAO LAN port, at least the IP address and subnet mask (the IP subnet address) must have been previously provisioned, or must be in the same command that enables TCP/IP communications for that IAO LAN port.

Starting Release 2.0, to enable TCP/IP on an IAO LAN port or the DCC-ALL, at least the IP address and subnet mask (i.e., the IP subnet address) must have been provisioned previously or in the same command that enables TCP/IP communications, for that IAO LAN port or the DCC-ALL.

Enabling TCP/IP on an IP-capable interface is necessary for an NE to serve as TCP/IP GNE. A separate **ENT-SYS** command is required to specifically enable the TCP/IP GNE function for an NE, and for security reasons, authorized IP calling (OS) addresses must be provisioned using the **ENT-IPMAP** command.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command generates a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-225. ENT-ULS Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier (AID). The <i>aid</i> parameter identifies the IAO LAN port AID. Refer to Appendix A - AID Tables. Beginning in Release 2.0, the <i>aid</i> parameter identifies the IAO LAN port AID or the DCC AID (DCC-ALL). Beginning in Release 5.1, the <i>aid</i> parameter may also identify the DCC AID (not including DCC AIDs ending in "-ALL") for enabling/disabling IP over DCC on a specified DCC port. Refer to Appendix A - AID Tables.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-226. ENT - ULS Input *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>ipaddr</i>	IP Address. This is the 32-bit IP address for the IAO LAN port. Beginning in Release 2.0, this is the 32-bit IP address for the IAO LAN port or for the DCC (DCC-ALL). It consists of four dot-separated decimal numbers ranging from 0 to 255. This parameter and the following <i>ipsnmk</i> parameter combine to specify an IP subnet address. Note: If TCP/IP is currently enabled on either IAO LAN port, provisioning a new IP address causes the NE's system controller to reset. Note: Beginning in Release 2.0, if TCP/IP is currently enabled on either IAO LAN port, or on the DCC (DCC-ALL), provisioning a new IP address causes the NE's system controller to reset. Note: Neither the same IP address nor the same IP subnet address is allowed to be assigned to both IAO LAN ports. For example, assigning <i>ipaddr</i> = 135.13.198.175 and <i>ipsnmk</i> = 255.255.0.0 to IAO LAN port LAN-1 and <i>ipaddr</i> = 135.13.198.176 and <i>ipsnmk</i> = 255.255.0.0 to IAO LAN port LAN-2 is not allowed. Note: Beginning in Release 2.0, neither the same IP address nor the same IP subnet address is allowed to be assigned to both IAO LAN ports or to an IAO LAN port and the DCC (DCC-ALL). For example, assigning <i>ipaddr</i> = 135.13.198.175 and <i>ipsnmk</i> = 255.255.0.0 to IAO LAN port LAN-1 and <i>ipaddr</i> = 135.13.198.176 and <i>ipsnmk</i> = 255.255.0.0 to IAO LAN port LAN-2 is not allowed. Note: If TCP/IP is disabled on an IAO LAN port, IP address 0.0.0.0 can be used to delete a previously provisioned IP address(es). Note: Beginning in Release 2.0, if TCP/IP is disabled on an IAO LAN port or on the DCC(DCC-ALL), IP address 0.0.0.0 can be used to delete a previously provisioned IP address(es). Starting in Release 7.1.1, the initial value of this parameter is 169.254.1.1 for the front LAN port (LAN-1).
<i>ipsnmk</i>	IP Subnet Mask. This is the 32-bit IP subnet mask for the IAO LAN port(s). Beginning in Release 2.0, this is the 32-bit IP subnet mask for the IAO LAN port(s) and/or for the DCC (DCC-ALL). The value is made up of four dot-separated integers, each ranging from 0 to 255, with the restriction that all four integers represent (in binary) a set of '1' bits followed by a set of '0' bits. For example, a valid value is 255.255.0.0. An <i>invalid</i> value would be 255.255.2.3.

Table 2-226. ENT - ULS Input *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description of <i>spec_block</i> Parameters
	Note: If TCP/IP is currently enabled on either IAO LAN port, provisioning a new IP subnet mask(s) causes the NE controller to reset. Note: Beginning in Release 2.0, if TCP/IP is currently enabled on either IAO LAN port, or on the DCC(DCC-ALL), provisioning a new IP subnet mask(s) causes the NE controller to reset. Note: If TCP/IP is disabled on an IAO LAN port, IP subnet mask 0.0.0.0 can be used to delete a previously provisioned subnet mask and is effectively equivalent to the original null default value. Note: Beginning in Release 2.0, if TCP/IP is disabled on an IAO LAN port, or on the DCC(DCC-ALL), IP subnet mask 0.0.0.0 can be used to delete a previously provisioned subnet mask and is effectively equivalent to the original null default value. Starting in Release 7.1.1, the initial value of this parameter is 255.255.0.0 for the front LAN port (LAN-1).
<i>ipdrad</i>	IP Default Router Address. The 32-bit default router address is made up of four dot-separated decimal numbers ranging from 0 to 255. If TCP/IP is enabled on the rear IAO LAN port, this is the default router address for the rear IAO LAN port, that is, the NE routes TCP/IP messages to the default router through the rear IAO LAN port. Only if TCP/IP is enabled on the front IAO LAN port and disabled on the rear IAO LAN port does this parameter apply to the front IAO LAN port, in which case, the NE routes TCP/IP messages to the default router through the front IAO LAN port. (TCP/IP access to the front IAO LAN port is typically expected to be from a local PC-CIT in the same IP subnet without a default router.) Note: Because it is the rear IAO LAN port that is expected to be used to connect to an IP network with a default router, but the default router address might apply to the front IAO LAN port, only IAO LAN port AIDs LAN-2 and LAN-ALL are allowed when assigning this parameter. Note: IP default router address 0.0.0.0 can be used to delete a previously provisioned default router address.
<i>tcip</i>	This parameter specifies TCP/IP communication over the specified IAO LAN port to be ENABLED or DISABLED (default). Beginning in Release 2.0, this parameter specifies TCP/IP communication over the specified IAO LAN port or on the DCC (DCC-ALL) to be ENABLED or DISABLED (default). Beginning in Release 5.1, this parameter can also be used to specify TCP/IP communication over a specified DCC port (IP over DCC) to be ENABLED or DISABLED (default).

Table 2-226. ENT - ULS Input *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description of <i>spec_block</i> Parameters
	When IP over DCC is enabled for a port or multiple ports, it is not required to allocate an IP address to each port. The enabled IP over DCC interfaces are called unnumbered interfaces. Though there is no IP address for each unnumbered interface, the system containing the unnumbered interface(s) must have router-id provisioned. The router-id is used as if it is the IP address of all unnumbered interfaces. An IP address assigned to the <i>aid</i> of DCC-ALL, with TCP/IP enabled for DCC-ALL, is used as the router-id of the system. Note: To enable TCP/IP on an IAO LAN port, both an IP address (<i>ipaddr</i>) and subnet mask (<i>ipsnmk</i>) are required. Note: If TCP/IP was previously enabled on the IAO LAN port, changing this parameter value from DISABLED to ENABLED causes the NE system controller to reset. Note: Beginning in Release 2.0, if TCP/IP had ever previously been enabled on an IAO LAN port, or on the DCC (DCC-ALL), changing this parameter value from DISABLED to ENABLED causes the NE system controller to reset. Starting in Release 7.1.1, the initial value of this parameter is ENABLED for the front LAN port (LAN-1).
<i>proxyarp</i>	This parameter enables/disables Proxy ARP on the specified IAO LAN port. The valid values are ENABLED and DISABLED (default). To enable Proxy ARP on an IAO LAN port, TCP/IP (parameter <i>tcpip</i>) must be enabled for this IAO LAN port, or enabling TCP/IP on this IAO LAN port must be done in the same command that enables Proxy ARP. Disabling TCP/IP on an IAO LAN port causes enabled Proxy ARP to be disabled for this IAO LAN port.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<

    sid date time
M  ctag COMPLD
;
```

If the requested command does not change the existing parameter values, the NE doesn't deny the command. Instead the NE responds with the normal completion shown above.

Beginning in Release 3.0, a history log entry is created for the above response.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
ENT-ULS:LT-TID123:lan-  
2:123456:::IPADDR=198.78.46.8,IPSNMK=255.255.255.0,IPDRAD=198.78.46.20,TCPIP=  
P=ENABLED;  
  
IP 123456  
<  
  
LT-TID123 00-10-23 13:12:16  
M 123456 COMPLD  
;
```

The following example specifies an IP address, subnet mask and default router address, and enables TCP/IP on the rear IAO LAN port:

```
ENT-ULS:LT-TID123:lan-  
2:123456:::IPADDR=198.78.46.8,IPSNMK=255.255.255.0,IPDRAD=198.78.46.20,TCPIP=E  
NABLED;  
  
IP 123456  
<  
  
LT-TID123 00-10-23 13:12:16  
M 123456 COMPLD  
;
```

The following example specifies an IP address and subnet mask, and enables TCP/IP, on the DCC-ALL:

```
ENT-ULS:LT-TID123:dcc-  
all:123456::IPADDR=198.78.56.9,IPSNMK=255.255.255.255,,TCPIP=ENABLED;  
  
IP 123456  
<  
  
    LT-TID123 00-10-23 13:12:16  
M 123456 COMPLD  
;
```

Starting in Release 4.0, the following example enables Proxy ARP on the rear IAO LAN port:

```
ENT-ULS:LT-TID123:lan-2:123456::PROXYARP=ENABLED;  
  
IP 123456  
<  
  
    LT-TID123 00-10-23 13:12:16  
M 123456 COMPLD  
;
```

Starting in Release 4.0, the following example disables Proxy ARP on the rear IAO LAN port:

```
ENT-ULS:LT-TID123:lan-2:123456::PROXYARP=DISABLED;  
  
IP 123456  
<  
  
    LT-TID123 00-10-23 13:12:16  
M 123456 COMPLD  
;
```

Starting in Release 5.1, the following example enables IP over DCC on a specified DCC port:

```
ENT-ULS:LT-TID123:dcc-m1-1:123456:::TCPIP=ENABLED;  
  
IP 123456  
<  
  
LT-TID123 00-10-23 13:12:16  
M 123456 COMPLD  
;
```

Starting in Release 5.1, the following example disables IP over DCC on a specified DCC port:

```
ENT-ULS:LT-TID123:dcc-m1-1:123456:::TCPIP=DISABLED;  
  
IP 123456  
<  
  
LT-TID123 00-10-23 13:12:16  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an error is detected in any of the command parameters, the entire command is denied; there is no partial completion of the command.

If there are errors in more than one command parameter, an error is detected and reported in only one of the parameters. The parameter for which the error is detected may not be the first parameter in the command that is in error.

The NE returns the following error response if the **aid** value is invalid:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier */
;
```

The NE returns the following error response if the **aid** value **LAN-1** is used to assign an **ipdrad** value:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, lan-1 not allowed for IPDRAD
*/
;
```

Starting Release 2.0, the NE returns the following error response if the **aid** value other than **LAN-2** or **LAN-ALL** is used to assign an **ipdrad** value:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, only lan-2 or lan-all are
allowed for IPDRAD */
;
```

The NE returns the following error response if the **aid** value used to enable/disable **proxyarp** is not **LAN-1** or **LAN-2**:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, only lan-1 or lan-2 are
allowed for PROXYARP */
;
```

The NE returns the following error response if the same parameter is repeated in the **spec_block**:

```
sid date time
M ctag DENY
IISP
/* Input, Invalid Syntax or Punctuation, parameter(s)
multiply defined */
;
```

The NE returns the following error response if the **ipaddr** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid IPADDR value */
;
```

The NE returns the following error response if the **ipsnmk** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid IPSNMK value */
;
```

Starting Release 2.0, the NE returns the following error response if the IP subnet address (based on the **ipaddr** and **ipsnmk** values) would be the same on both IAO LAN ports. This error message is also returned if the IP address is a duplicate:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, each IAO LAN port must have a unique IP
subnet address */
;
```

The NE returns the following error response if the **ipdrad** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid IPDRAD value */
;
```

The NE returns the following error response if the **tcpip** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TCPIP value */
;
```

The NE returns the following error response if the **proxyarp** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid PROXYARP value */
;
```

The NE returns the following error response if a non-zero **ipdrad** value in the **spec_block** is the same as the **ipaddr** value of **LAN-1**, **LAN-2** or **DCC-ALL**, and

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, IPDRAD and IPADDR must not have the same
value */
;
```

vice versa:

The NE returns the following error response if the user attempts to enable TCP/IP on an IAO LAN port that doesn't have both an IP address (*ipaddr*) and subnet mask (*ipsnmk*) assigned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, IAO LAN port must have both an IP
address and subnet mask to enable TCP/IP */
;
```

Starting Release 2.0, the NE returns the following error response if the user attempts to enable TCP/IP on an IAO LAN port, or on the DCC (**DCC-ALL**), that doesn't have both an IP address (*ipaddr*) and subnet mask (*ipsnmk*) assigned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, must have both an IP address and
subnet mask to enable TCP/IP */
;
```

The NE returns the following error response if the user attempts to enable *proxyarp* for an IAO LAN port on which TCP/IP is disabled:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, IAO LAN port must have TCP/IP enabled
to enable PROXYARP */
;
```

The NE returns the following error response if any parameter syntax in the *spec_block* is invalid:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid spec_block parameter */
;
```


The NE returns the following error response if the command would have disabled both OSI and TCP/IP access on both IAO LAN ports:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, can't disable both OSI and TCP/IP
access on both IAO LAN ports */
;
```

Starting in Release 3.1.1, the NE returns the following error response if the command would have enabled TCP/IP on the rear IAO LAN port with OSI currently enabled:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot enable TCP/IP on the rear IAO
LAN port with OSI enabled */
;
```

Starting in Release 5.1, the NE returns the following error response if the command would have enabled TCP/IP on a DCC port without **DCC-ALL** enabled and having an IP address assigned to it. The IP address assigned to **DCC-ALL** is used as the router-id for unnumbered interfaces (IP over DCC).

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot enable TCP/IP on the DCC port,
must enable DCC-ALL and have an IP address assigned to it first */
;
```

Starting in Release 5.1, the NE returns the following error response if the command would have disabled TCP/IP on **DCC-ALL** when TCP/IP is enabled for

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot disable TCP/IP on DCC-ALL,
TCP/IP is enabled for at least one DCC port */
;
```

at least one DCC port:

Starting in Release 5.1, the NE returns the following error response if the command would have assigned IP address (*ipaddr*) or subnet mask (*ipsnmk*) to an *aid* other than **LAN-1**, **LAN-2** or **DCC-ALL**:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, cannot assign IPADDR or IPSNMK
to an aid other than LAN-1, LAN-2 or DCC-ALL */
;
```

Starting in Release 5.1, the NE returns the following error response if the command would have enabled TCP/IP on a DCC port with OSI enabled for the port (see the value of *com* parameter in **RTRV-FECOM**):

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cannot enable IP over DCC on a port
in which OSI over DCC is enabled */
;
```

RELATED TL1 MESSAGES

ENT-IPMAP

ENT-SYS

ENT-ULS

RTRV-IPMAP

RTRV-SYS

RTRV-ULS

TEST-IAOLAN

NAME

ENT-ULSDCC-L3: Enter Upper Layer Stack DCC Layer 3

The **ENT-ULSDCC-L3** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT-ULSDCC-L3:*tid:[aid]:ctag:::[spec_block];*

DESCRIPTION

CAUTION. *Errors in provisioning this command to change the NSAP address of the target network element may disrupt DCC communications, including possible isolation of the target network element and could result in silent failures. Command parameters should **only** be changed by users who are authorized to provision the SONET subnetwork for subnetwork partitioning purposes.*

When this command changes one of the fields of the Layer 3 NSAP address, or it enables the target network element as a Level 2 IS, or when it disables a network element (NE) as a Level 2 IS that has previously been provisioned as a Level 2 IS, it will cause the target NE to reset its controllers. This action will erase all of the performance monitoring data, the history file and any data in the TARP Data Cache and the Loop Detection Buffer, and all active OSI applications will be terminated. If possible, the NE will reinitialize the date and time. Otherwise, the date and time will assume their original values.

ENT-ULSDCC commands are used to provision parameters of Layers 3 through 7 of the Open Systems Interconnection (OSI) 7-layer protocol stack. This stack refers to the OSI reference model which is a logical structure for network operations. This model defines a standard communication protocol between NEs as specified by the International Standards Organization (ISO).

ENT-ULSDCC-L3 is used to provision the user-settable parameters in Layer 3 of the OSI stack. Layer 3 parameters include user-settable fields of the Network Services Access Point (NSAP) address and enable/disable Level 2 Intermediate System (IS) capability.

Starting in release 4.0, **ENT-ULSDCC-L3** can also be used to provision the NSAP count threshold level for monitoring the number of NSAPs (synonymous to

number of OSI nodes) in the NE's level 1 area. For the NE's level 1 routing area, when the NSAP count equals or exceeds the threshold, a minor alarm "NSAP count in L1 threshold crossed" is issued.

All OSI Layer 3 parameters that can be provisioned using **ENT-ULSDCC-L3** that are needed for the operation of the network element have original values. Hence, it is not necessary to provision these parameters for the NE to operate in a network.

The NSAP address is a 20-byte address required by OSI to provide unique identification within the OSI network and consists of a number of fields, some of which are pre-defined and some of which are user-settable. The structure of the NSAP is shown in the following display:

NSAP Structure

NSAP Field:	AFI	IDI	IDI PAD	DFI	Organization ID	RES	RD	Area	System ID	SEL
Bytes:	1	2		1	3	2	2	2	6	1
Default Value: (hex)	39	840	F	80	000000	0000	0000	0000	none	00
	Not provisionable				User provisionable				Not provisionable	

The AFI, IDI, IDI PAD and DFI (DSP Format Identifier) fields are not user provisionable. Together, they form the Initial Domain Part (IDP) of the NSAP. They are always stored as Binary Coded Decimal (BCD) values of "39" hex, "840" hex, "F" hex and "80" hex respectively to indicate that the ISO DCC syntax is used.

The Organization ID, Reserved (RES), Routing Domain (RD), and Area fields are user provisionable when changing the NSAP of the target NE, which is the NE identified by the *tid* parameter).¹

Note: Changing any of these NSAP fields changes the NE's area address. Typically, only the Area field should be changed, and only then to partition a subnetwork.

The Organization ID field is a three-byte (6-digit hexadecimal) field that may be used to identify the network service provider and is assigned by ANSI.

1. The System Identifier field is provisionable when entering a TARP Manual Adjacency NSAP and when entering an NSAP into the TARP Data Cache (TDC) using **ENT-ULSDCC-L4** but it is not provisionable when setting the NSAP of the target Network Element in this command.

The Reserved (RES) field is currently not used and has a original value of "0000" hex.

The Routing Domain (RD) field is a two-byte (4-digit hexadecimal) field that may be used to distinguish different routing domains.

The Area field is a two-byte (4-digit hexadecimal) field that is intended to be used to assign NEs to different areas in a partitioned subnetwork. A partitioned subnetwork consists of network elements in multiple areas connected by level 2 intermediate systems (ISs).

Each NE is programmed with a unique System Identifier at the factory. This six byte (12-digit hexadecimal) NSAP field guarantees that the NSAP for each NE is unique.

The Select (SEL) field is currently not user provisionable. ts purpose is to differentiate multiple NSAP addresses associated with the same End System. Its value is not fixed but is automatically set in a PDU according to its usage. It is set to "AF" hex when TARP is run over CLNP. It has a value of "1D" hex when TP4 is run over CLNP. It may be set to "00" hex for other uses. When it isretrieved and displayed, it will always be shown as "00" hex.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command generates a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-227. ENT - ULSDCC - L3 Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> value may be ALL or null. Specifying the <i>aid</i> is optional.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-228. ENT-ULSDCC-L3 Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>l3org</i>	Level 3 Organization. This is a NSAP Organization ID field. It is a 3 byte (6-digit hexadecimal) field used to provision into the NSAP address the allocated Network Service Provider Company Code assigned by the ANSI-administered USA Registration Authority for OSI Organization Names.
<i>l3res</i>	Level 3 Reserved. This is a NSAP Reserved field. It is a 2 byte (4-digit hexadecimal) field that currently has not been assigned a specific purpose by the SONET standards. Until the standard use of this field has been defined, users should not assign a value that is different from the original value. The original value for this parameter is "0000" hex.
<i>l3rd</i>	NSAP Routing Domain. This NSAP field identifies a unique Routing Domain within an administrative domain. Standard use of the NSAP Routing Domain field has not been defined in the SONET standards. Until the standard use of this field has been defined, users should not assign a value that is different from the original value. The format for this parameter is " <i>l3rd</i> = <i>L3RD</i> " where <i>L3RD</i> is the 2 byte (4-digit hexadecimal) NSAP Routing Domain field of the target network element. The original value for this parameter is "0000" hex.
<i>l3area</i>	NSAP Area field of the target network element. This field identifies the Area within the Routing Domain to which the NSAP address belongs. The format for this parameter is " <i>l3area</i> = <i>L3AREA</i> " where <i>L3AREA</i> is the 2 byte (4-digit hexadecimal) NSAP Area field of the target network element. The original value for this parameter is "0000" hex.
<i>l3lv2is</i>	Enable or Disable the network element specified by the <i>tid</i> parameter as a Level 2 IS. The format for this parameter is " <i>l3lv2is</i> = <i>L3LV2IS</i> ". This parameter may take the value ENABLE or DISABLE . The original value of <i>l3lv2is</i> is DISABLE .
<i>nsapthlev</i>	Threshold Level. This is the NSAP count threshold level for monitoring number of NSAPs (synonymous to number of OSI nodes) for the Level 1 area in which the network element specified by the <i>tid</i> parameter is located. The default value for this parameter is zero (0). A threshold value of zero will disable the NSAP threshold alarming. The valid value range for this parameter is from zero (0) to the maximum number of OSI nodes allowed in the level 1 area (50).

Table 2-228. ENT-ULSDCC-L3 Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
	Starting in Release 6.0, the valid value range for this parameter is from zero (0) to the maximum number of OSI nodes allowed in the level 1 area (250).

OUTPUT FORMAT

If the NE fully complies with the request, the following completion message is returned and the target NE is reset:

```
IP ctag
<

    sid date time
M ctag COMPLD
;
```

If the requested command provisions parameters that have the same values as those currently provisioned, the command does not alter the existing parameter values and the NE responds with a COMPLD message.

If the NE fully complies with the request, and the command is used to provision one or more of the NSAP fields on the target NE to the same values as those currently provisioned, the NSAP fields are not changed and the target network element does not reset.

Beginning in Release 3.0, a history log entry is created for the above response.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows NSAP Area field provisioning, which involves a reset of the target NE controllers:

```
ENT-ULSDCC-L3:LT-TID123:all:123456:::l3area=00001;  
IP 123456  
<  
  
LT-TID123 00-03-22 16:12:11  
M 123456 COMPLD  
;
```

The following example shows the provisioning of the NSAP field on the target NE:

```
ENT-ULSDCC-L3:LT-TID123:all:123456:::l3org=000000;  
IP 123456  
<  
  
LT-TID123 00-03-22 16:12:11  
M 123456 COMPLD  
;
```

The following example shows the provisioning of the Level 2 IS parameter, and provisioning of the NSAP AREA field, resulting in the resetting of the target network element:

```
ENT-ULSDCC-L3:LT-TID123:::192837:::l3lv2is=enable, l3area=3FE7;  
IP 123456  
<  
  
LT-TID123 00-04-23 13:12:16  
M 192837 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an error is detected in any of the command parameters, the entire command is denied; there is no partial command completion.

If there are errors in more than one command parameter, an error is detected and reported in only one of the parameters. The parameter for which the error is detected may not be the first parameter in the command that is in error.

The NE returns the following error response if the **aid** value is invalid:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid Access Identifier */
;
```

Any parameter may be in the **spec_block** only once and may not be repeated.
The NE returns the following error response if a parameter is repeated in the **spec_block**:

```
sid date time
M ctag DENY
  IISP
  /* Input, Invalid Syntax or Punctuation, parameter(s) multiply
  defined */
;
```

The NE returns the following error response if the **l3org** syntax is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid L3ORG */
;
```

The NE returns the following error response if the **l3res** syntax is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid L3RES */
;
```

The NE returns the following error response if the ***L3rd*** syntax is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid L3RD */
;
```

The NE returns the following error response if the ***L3area*** syntax is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid L3AREA */
;
```

The NE returns the following error response if the ***L3lv2is*** syntax is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid L3LV2IS */
;
```

Starting in Release 4.0, the NE returns the following error response if the ***nsapthlev*** syntax or value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid NSAPTHLEV */
;
```

RELATED TL1 MESSAGES

RTRV-ULSDCC-L3

RTRV-FECOM

RTRV-ULS

NAME

ENT-ULSDCC-L4: Enter Upper Layer Stack DCC Layer 4

The **ENT-ULSDCC-L4** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

ENT-ULSDCC-L4:*tid:[aid]:ctag:::[spec_block];*

DESCRIPTION

ENT-ULSDCC commands are used to provision the parameters of Layers 3 through 7 of the Open Systems Interconnection (OSI) 7-layer protocol stack. This stack refers to the OSI reference model, which is a logical structure for network operations. This model defines a standard communication protocol between SONET network elements (NEs), as specified by the International Standards Organization (ISO).

ENT-ULSDCC-L4 is used to provision the user-settable parameters in Layer 4 of the OSI stack. User-settable Layer 4 parameters include TARP Manual Adjacencies, the TARP PDU lifetime parameter, TARP timers, TARP Loop Detection Buffer and TARP Data Cache parameters, and TARP Data Cache entries.

All the Layer 4 parameters that can be provisioned using **ENT-ULSDCC-L4** and that are needed for NE operation have original values. Hence, it is not necessary to provision these parameters for the NE to operate in a network.

Provisioning TARP Manual Adjacencies and entries into the TARP Data Cache (TDC) require an NSAP address be entered. The NSAP address is a 20-byte address required by OSI to provide unique identification within the OSI network and consists of a number of fields, some of which are pre-defined and some of which are user-settable. The structure of the NSAP is shown in the following NSAP structure:

Table 2-229. ENT-ULSDCC-L4 NSAP Structure

NSAP Field:	AFI	IDI	IDI PAD	DFI	Organization ID	RES	RD	Area	System ID	SEL
Bytes:	1	2		1	3	2	2	2	6	1
Default Value: (hex)	39	840	F	80	000000	0000	0000	0000	none	00
	Not provisionable				User provisionable				Not provisionable	

The AFI, IDI, IDI PAD and DFI (DSP Format Identifier) fields are not user provisionable. Together, they form the Initial Domain Part (IDP) of the NSAP. They are always stored as Binary Coded Decimal values of "39" hex , "840" hex, "F" hex and "80" hex respectively to indicate that the ISO DCC syntax is used.

The Organization ID, Reserved (RES), Routing Domain (RD) and Area fields are user provisionable when entering a TARP Manual Adjacency NSAP, and when entering an NSAP into the TARP Data Cache (TDC).

The Organization ID field is a three-byte (6-digit hexadecimal) field that may be used to identify the network service provider and is assigned by ANSI.

The Reserved (RES) field is currently not used and has a original value of "0000" hex.

The Routing Domain (RD) field is a two-byte (4-digit hexadecimal) field that may be used to distinguish different routing domains.

The Area field, two-byte (4-digit hexadecimal) field that is intended to be used to assign NEs to different areas in a partitioned subnetwork. A partitioned subnetwork consists of NEs in multiple areas connected by level 2 intermediate systems (ISs).

Each NE is programmed with a unique System Identifier (ID) at the factory. This six byte (12-digit hexadecimal) NSAP field guarantees that the NSAP for each NE is unique.

The Select (SEL) field is currently not user provisionable. Its purpose is to differentiate multiple NSAP addresses associated with the same End System. Its value is not fixed but is automatically set in a PDU according to its usage. It is set to "AF" hex when TARP is run over CLNP. It has a value of "1D" hex when TP4 is

run over CLNP. It may be set to "00" hex for other uses. When it is retrieved and displayed, it will always be shown as "00" hex.

Manually specifying a NE to be logically adjacent to the target NE (that is, the NE indicated by the *t_id* parameter) for TARP propagation purposes requires that the adjacent NE's NSAP address be specified. The NSAP is 20 bytes long (40-digit hexadecimal), and is composed of a number of separate fields, most of which have default values. Thus, to simplify entering the NSAP address, the NSAP is entered via a number of separate TARP Manual Adjacency NSAP parameters.

The following parameters, *l4ajorg*, *l4ajres*, *l4ajrd*, *l4ajarea* and *l4ajsys*, are used to specify the user settable NSAP fields required to enter a TARP Manual Adjacency. The complete NSAP is entered into a list of entered TARP Manual Adjacencies.

Multiple TARP Manual Adjacencies are entered using multiple occurrences of **ENT - ULSDCC - L4**. The maximum number of TARP Manual Adjacencies is 2.

The NSAP System ID field (*l4ajsys*), which is unique for each NE, is the only parameter that is required to enter a TARP Manual Adjacency. This parameter does not have a default value. If this parameter is specified, then any of the other user-settable NSAP field parameters that are not specified and NSAP fields that are not settable by the user (the NSAP IDP, DFI and SEL fields) are set to their appropriate values in the TARP Manual Adjacency list.

For the IDP and DFI fields, these values are the equivalent NSAP fields of the target NE. Since the SEL field may take a different value. If one or more TARP Manual Adjacency provision parameters are specified, but *l4ajsys* is not specified, then a TARP Manual Adjacency is not entered, and an error message is returned.

The following set of parameters are used to manually enter data into the TARP Data Cache. An entry in a TARP Data Cache consists of three parameters: the NSAP address, the Target Identifier (TID) and the address type of the NE. The NSAP, which is 20 bytes (40-digit hexadecimal), is composed of a number of separate fields, most of which have default values. Thus, to simplify NSAP address entry, the NSAP is entered via a number of separate TDC NSAP parameters.

The following parameters are used to specify the user settable NSAP fields required to enter data into the TARP Data Cache: *l4tdcorg*, *l4tdcres*, *l4tdcrd*, *l4tdcare* and *l4tdcsys*.

The NSAP System ID field is *l4tdcsys*, which is unique for each NE, and is the only parameter required to specify the NSAP portion of a TARP Data Cache entry. This parameter does not have a default value.

If this parameter is specified, then any of the other user settable NSAP field parameters that are not specified, and any NSAP fields that are not settable by the user (the NSAP IDP, DFI and SEL fields), are set to their appropriate values

when the NSAP portion of the TARP Data Cache entry is created. For the IDP and DFI fields, these values are the equivalent NSAP fields of the target NE. Since the SEL field may take different values depending on how it is used, it is set to "00" hex in the TARP Data Cache NSAP entry and is displayed as "00" hex.

If one or more TARP Data Cache provisioning parameters are specified, but ***l4tdcsys*** is not specified, then an entry is not made into the TARP Data Cache and an error message is returned.

Along with the TARP Data Cache NSAP parameters, the parameter ***l4tdctid*** is required to enter a set of data into the TARP Data Cache. Both the NSAP parameters and ***l4tdctid*** need to be specified for the action to be taken. These parameters enter a single row of data into the TARP Data Cache. Multiple rows of data are entered using multiple occurrences of **ENT - ULSDCC - L4**.

If the set of specified NSAP and the Target Identifier (TID, as specified by the ***l4tdctid*** parameter) does not already exist in the TARP Data Cache, then the data is added to the TARP Data Cache. If the NSAP-TID pair already exist in the TARP Data Cache, then no action is taken.

The TARP Data Cache stores three parameters for each entry, the NSAP, TID and the TARP address type (identified as "tar-pro" in Telcordia GR253). The address type is not user provisionable and it is not included in the parameter set for this command. When entering an entry in the TARP Data Cache, the address type field is set to its default value ('FE' hex).

The TARP Data Cache is a circular buffer with a maximum number of entries. The maximum is 110 entries. When a new entry with a unique TID would result in the maximum number being exceeded, the latest entry replaces the oldest entry. Thus, while there is no limit on the number of entries that may be manually entered, new entries may be displacing older entries without any error notification.

Starting in release 9.0, the TARP Data Cache has a maximum number of 16 entries, with up to 15 entries that may be manually entered. A circular buffer is used for the dynamic entries in the TARP Data Cache.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command generates a **REPT - DBCHG** message.

INPUT PARAMETERS

Table 2-230. ENT - ULSDCC - L4 Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter..
<i>aid</i>	Access Identifier. The <i>aid</i> value may be ALL or null. Specifying the <i>aid</i> is optional.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter..
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-231. ENT - ULSDCC - L4 Input *spec_block* Parameters (cont 1 of 5)

Parameter Name	Description of <i>spec_block</i> Parameters
	If the current value of the parameter <i>name1</i> is already <i>VALUE1</i> in the above example, then <i>name1</i> will not be changed. If a null value is provided for a parameter, (for example, <i>name=</i>), the value will not be changed. Any <i>spec_block</i> parameter may appear only once in the command line. If the same parameter is in the command line more than once, the command is denied and an error message is returned. If the <i>spec_block</i> is null, the current attributes at the NE remain in effect.
<i>l4ajorg</i>	This parameter is used to provision the NSAP Organization ID field of the TARP Manual Adjacency. If <i>l4ajorg</i> is specified, then <i>l4ajsys</i> must also be specified for the TARP Manual Adjacency to be entered The format for this parameter is "<i>l4ajorg</i>=<i>L4AJORG</i>" where <i>L4AJORG</i> is the 3 byte (6-digit hexadecimal) NSAP Organization ID field of the TARP Manual Adjacency. The default value for this parameter is value of the NSAP Organization ID of the target NE.

Table 2-231. ENT - ULSDCC - L4 Input *spec_block* Parameters (cont 2 of 5)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>l4ajres</i>	This parameter is used to provision the NSAP Reserved field of the TARP Manual Adjacency. If <i>l4ajres</i> is specified, then <i>l4ajsys</i> must also be specified for the TARP Manual Adjacency to be entered. The format for this parameter is "<i>l4ajres=L4AJRES</i>" where <i>L4AJRES</i> is the 2 byte (4-digit hexadecimal) NSAP Reserved field of the TARP Manual Adjacency. The default value for this parameter is the value of the NSAP Reserved field of the target Network Element.
<i>l4ajrd</i>	This parameter is used to provision the NSAP Routing Domain field of the TARP Manual Adjacency. If <i>l4ajrd</i> is specified, then <i>l4ajsys</i> must also be specified for the TARP Manual Adjacency to be entered. The format for this parameter is "<i>l4ajrd=L4AJRD</i>" where <i>L4AJRD</i> is the 2 byte (4-digit hexadecimal) NSAP Routing Domain field of the TARP Manual Adjacency. The default value for this parameter is the value of the NSAP Routing Domain of the target NE.
<i>l4ajarea</i>	This parameter is used to provision the NSAP Area field of the TARP Manual Adjacency. If <i>l4ajarea</i> is specified, then <i>l4ajsys</i> must also be specified for the TARP Manual Adjacency to be entered. The format for this parameter is "<i>l4ajarea=L4AJAREA</i>" where <i>L4AJAREA</i> is the 2 byte (4-digit hexadecimal) NSAP Area field of the TARP Manual Adjacency. The default value for this parameter is the value of the NSAP Area of the target Network Element.
<i>l4ajsys</i>	This parameter is used to provision the NSAP System Identifier field of the TARP Manual Adjacency. <i>l4ajsys</i> must be specified for the TARP Manual Adjacency to be entered. There is no default value. The format for this parameter is "<i>l4ajsys=L4AJSYS</i>" where <i>L4AJSYS</i> is the 6 byte (12-digit hexadecimal) NSAP System Identifier field of the TARP Manual Adjacency. There is no default value.
<i>l4tlif</i>	This parameter sets the TARP lifetime parameter in TARP PDUs originated by the target NE (that is, the NE identified by the <i>tid</i> parameter). The TARP lifetime specifies the maximum number of hops allowed for a TARP PDU. When this number of hops is exceeded, the TARP PDU will not be forwarded. The format for this parameter is "<i>l4tlif=L4TLIF</i>". This parameter may have a value in the range from 1 to 65535. An error message will be returned if a value of 0 is entered. The original value of <i>l4tlif</i> is 100.

Table 2-231. ENT - ULSDCC - L4 Input *spec_block* Parameters (cont 3 of 5)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>l4t1tm</i>	This parameter is used to provision the TARP Timer T1. T1 is the maximum time waiting for a response to a TARP Type 1 request PDU (search within the area). The format for this parameter is "<i>l4t1tm=L4T1TM</i>". This parameter may have a value in the range from 1 to 3600 seconds. The original value of <i>l4t1tm</i> is 15 seconds.
<i>l4t2tm</i>	This parameter is used to provision the TARP Timer T2. T2 is the maximum time waiting for a response to a TARP Type 2 request PDU(search outside of the area). The format for this parameter is "<i>l4t2tm=L4T2TM</i>". This parameter may have a value in the range from 1 to 3600 seconds. The original value of <i>l4t2tm</i> is 25 seconds.
<i>l4t3tm</i>	This parameter is used to provision the TARP Timer T3. T3 is the maximum time waiting for a response to an Address Resolution request (Type 5, that is, requesting the TID when the NSAP address is known). The format for this parameter is "<i>l4t3tm=L4T3TM</i>". This parameter may have a value in the range from 1 to 3600 seconds. The original value of <i>l4t3tm</i> is 40 seconds.
<i>l4t4tm</i>	This parameter is used to provision the TARP Timer T4. Timer T4 starts when T2 expires. It is used for error recovery. The format for this parameter is "<i>l4t4tm=L4T4TM</i>". This parameter may have a value in the range from 1 to 3600 seconds. The original value of <i>l4t4tm</i> is 20 seconds.
<i>l4lftm</i>	This parameter is used to provision the TARP Loop Detection Buffer Flush Timer. This parameter sets the time period for flushing the TARP Loop Detection Buffer. The format for this parameter is "<i>l4lftm=L4LFTM</i>". This parameter may have a value in the range from 1 to 1440 minutes. The original value of <i>l4lftm</i> is 5 minutes.
<i>l4etdc</i>	This parameter is used to enable or disable TDC. The format for this parameter is "<i>l4etdc=L4ETDC</i>." This parameter has two potential values: ENABLE and DISABLE. The default value is ENABLE.

Table 2-231. ENT - ULSDCC - L4 Input *spec_block* Parameters (cont 4 of 5)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>l4tdcorg</i>	This parameter is used to provision the NSAP Organization ID field of the NE to be manually entered into the TARP Data Cache. If <i>l4tdcorg</i> is specified, then <i>l4tdcsys</i> and <i>l4tdctid</i> must also be specified for the entry to be made in the TARP Data Cache. The format for this parameter is "<i>l4tdcorg</i>=L4TDCORG" where L4TDCORG is the 3 byte (6-digit hexadecimal) NSAP Organization ID field of the NE to be manually entered into the TARP Data Cache. The default value for this parameter is the NSAP Organization ID field of the target NE.
<i>l4tdcres</i>	This parameter is used to provision the NSAP Reserved field of the NE to be manually entered into the TARP Data Cache. If <i>l4tdcres</i> is specified, then <i>l4tdcsys</i> and <i>l4tdctid</i> must also be specified for the entry to be made in the TARP Data Cache. The format for this parameter is "<i>l4tdcres</i>=L4TDCRES" where L4TDCRES is the 2 byte (4-digit hexadecimal) NSAP Reserved field of the NE to be manually entered into the TARP Data Cache. The default value for this parameter is the NSAP Reserved field of the target NE.
<i>l4tdcrd</i>	This parameter is used to provision the NSAP Routing Domain field of the NE to be manually entered into the TARP Data Cache. If <i>l4tdcrd</i> is specified, then <i>l4tdcsys</i> and <i>l4tdctid</i> must also be specified for the entry to be made in the TARP Data Cache. The format for this parameter is "<i>l4tdcrd</i>=L4TDCRD" where L4TDCRD is the 2 byte (4-digit hexadecimal) NSAP Reserved field of the NE to be manually entered into the TARP Data Cache. The default value for this parameter is the NSAP Routing Domain field of the target NE.
<i>l4tdcare</i>	This parameter is used to provision the NSAP Area field of the NE to be manually entered into the TARP Data Cache. This NSAP field identifies the Area within the Routing Domain to which the NSAP address belongs. If <i>l4tdcare</i> is specified, then <i>l4tdcsys</i> and <i>l4tdctid</i> must also be specified for the entry to be made in the TARP Data Cache. The format for this parameter is "<i>l4tdcare</i>=L4TDCAREA" where L4TDCAREA is the 2 byte (4-digit hexadecimal) NSAP Area field of the NE to be manually entered into the TARP Data Cache. The default value for this parameter is the NSAP Area of the target NE.

Table 2-231. ENT - ULSDCC - L4 Input *spec_block* Parameters (cont 5 of 5)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>l4tdcsys</i>	This parameter is used to provision the NSAP System Identifier field of the NE to be manually entered into the TARP Data Cache. <i>l4tdcsys</i> must be specified for the entry to be made in the TARP Data Cache. If <i>l4tdcsys</i> is specified, then <i>l4tdctid</i> must also be specified for the entry to be made in the TARP Data Cache. The format for this parameter is "<i>l4tdcsys</i>=L4TDCSYS" where L4TDCSYS is the 6 byte (12-digit hexadecimal) NSAP System Identifier field of the NE to be manually entered into the TARP Data Cache. There is no default value
<i>l4tdctid</i>	This parameter is used to provision the Target Identifier (TID) portion of a TARP Data Cache entry for manually entering data into the TARP Data Cache. <i>l4tdctid</i> must be specified for the entry to be made in the TARP Data Cache. If <i>l4tdctid</i> is specified, then <i>l4tdcsys</i> must also be specified for the entry to be made in the TARP Data Cache. The format for this parameter is "<i>l4tdctid</i>=L4TDCTID" where L4TDCTID is the Target Identifier of the NE associated with the TDC NSAP address parameters that are specified. <i>l4tdctid</i> has a maximum of 20 characters. There is no default value.

Note: When using this command to enter or change the NSAP address of a TARP Manual Adjacency, there is syntax checking but no validation checking of the entered data. An incorrectly entered NSAP address field for a TARP Manually Adjacency will result in failure of TARP propagation with that NE from the target NE.

Note: When ***l4etdc*** is used to enable the TARP Data Cache, the TARP Data Cache will be flushed. Since this parameter results in the TARP Data Cache being flushed, manual entries should not be put into the TARP Data Cache in the same instance of **ENT - ULSDCC - L4**.

Note: If it is necessary to flush the TARP Data Cache and the TARP Data Cache has previously been provisioned as "**ENABLE**", executing **ENT - ULSDCC - L4** with "***l4etdc***=**ENABLE**" will have no effect since it will appear as an attempt to provision a parameter to its current value. To flush the TARP Data Cache, it must first be provisioned to "**DISABLE**", then provisioned again to "**ENABLE**". Flushing the TDC using this command will remove all entries, including entries that were manually entered.

OUTPUT FORMAT

If the NE fully complies with the request, the following completion message is returned and the target NE is reset:

```
sid date time  
M ctag COMPLD  
;
```

If the requested command provisions parameters that have the same values as those currently provisioned, the command does not alter the existing parameter values and the NE responds with a COMPLD message.

Beginning in Release 3.0, a history log entry is created for the above response.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows the provisioning of a TARP Manual Adjacency on the target NE:

```
ENT-ULSDCC-L4:LT-TID123::123456::l4ajsys=08006A112345;  
  
IP 123456  
<  
LT-TID123 00-03-23 13:12:16  
M 123456 COMPLD  
;
```

The following example shows the provisioning of multiple parameters on the target NE:

```
ENT-ULSDCC-L4:LT-TID123::987654:::l4tlif=50,l4tdcsys=
08006A154321,l4tdctid=LT-PF2001;
```

```
IP 987654
<
    LT-TID123 00-04-23 13:12:16
M 987654 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an error is detected in any of the command parameters, the entire command is denied; the command cannot be partially completed.

If there are errors in more than one command parameter, an error is detected and reported in only one of the parameters. The parameter for which the error is detected may or may not be the first parameter in the command that is in error.

The NE returns the following error response if the ***l4ajorg*** value is invalid:

```
sid date time
M ctag DENY
IIAC
/* Input, Data Not Valid, invalid L4AJORG */
;
```

The NE returns the following error response if the ***aid*** value is invalid:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access Identifier */
;
```

Any parameter may be in the **spec_block** only once and may not be repeated. The NE returns the following error response if a parameter is repeated in the **spec_block**.

```
sid date time
M ctag DENY
IISP
/* Input, Invalid Syntax or Punctuation, parameter(s) multiply
defined */
;
```

The NE returns the following error response if the **l4ajorg** value is invalid.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid L4AJORG */
;
```

The NE returns the following error response if the **l4ajres** value is invalid.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid L4AJRES */
;
```

The NE returns the following error response if the **l4ajrd** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid L4AJRD */
;
```

The NE returns the following error response if the ***l4ajarea*** value is invalid.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid L4AJAREA */
;
```

The NE returns the following error response if the ***l4ajsys*** value is invalid:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid L4AJSYS */
;
```

If ***l4ajorg***, ***l4ajres***, ***l4ajrd*** and/or ***l4ajarea*** are specified without specifying ***l4ajsys***, the NE returns the following error response:

```
sid date time
M ctag DENY
  ICNV
/* Input, Command Not Valid, L4AJSYS is required to specify the
TARP Manual Adjacent NSAP */
;
```

If the ***l4ajsys*** specified is the same as the NSAP System Identifier value of the target NE, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
/* Status, Data Not Consistent, local SYSID is not valid for
TARP Manual Adjacencies */
;
```

If the TARP Manual Adjacency list has the maximum number of entries and ***l4ajsys*** is specified, the following error response is returned:

```
sid date time
M ctag DENY
  SLEM
  /* Status, List Exceeds Maximum, maximum Manual Adjacency
  entries already reached */
;
```

The NE returns the following error response if the ***l4t1tm*** value is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid L4T1TM */
;
```

The NE returns the following error response if the ***l4t2tm*** value is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid L4T2TM */
;
```

The NE returns the following error response if the ***l4t3tm*** value is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid L4T3TM */
;
```


The NE returns the following error response if the ***l4t4tm*** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid L4T4TM */
;
```

The NE returns the following error response if the ***l4lftm*** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid L4LFTM */
;
```

The NE returns the following error response if the ***l4tdcorg*** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid L4TDCORG */
;
```

The NE returns the following error response if the ***l4tdcres*** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid L4TDCRES */
;
```

The NE returns the following error response if the ***l4tdcrd*** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid L4TDCRD */
;
```

The NE returns the following error response if the ***l4tdcarea*** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid L4TDCAREA */
;
```

The NE returns the following error response if the ***l4tdcsys*** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid L4TDCSYS */
;
```

If ***l4tdcorg***, ***l4tdcres***, ***l4tdcrd*** and/or ***l4tdcarea*** are specified without specifying ***l4tdcsys*** the NE returns the following error response:

```
sid date time
M ctag DENY
IDNV
/* Input, Command Not Valid, L4TDCSYS is required to specify
the TDC NSAP */
;
```

If either ***l4tdcsys*** is specified without specifying ***l4tdctid*** or ***l4tdctid*** is specified without specifying ***l4tdcsys***, the NE returns the following error response:

```
sid date time
M ctag DENY
  ICNV
  /* Input, Command Not Valid, both L4TDCSYS and L4TDCTID are
  required */
;
```

The NE returns the following error response if the ***l4tdctid*** value is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid L4TDCTID */
;
```

The NE returns the following error response if the ***l4etdc*** value is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid L4ETDC */
;
```

Starting in release 9.0, if the number of manually entered entries in the TARP Data Cache is more than the maximum number allowed, the NE returns the following error response:

```
sid date time
M ctag DENY
  SLEM
  /* Status, List Exceeds Maximum, maximum Manual Cache
  entries already reached */
;
```

RELATED TL1 MESSAGES

DLT-ULSDCC-L4

RTRV-ULSDCC-L4

NAME

ENT-USER-SECU: Enter User Security

The **ENT-USER-SECU** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

Starting in Release 4.0, this command is available to users with Privileged and Administration access.

INPUT FORMAT

ENT-USER-SECU:*tid:uid:ctag::pid,,uap[:spec_block];*

DESCRIPTION

The **ENT-USER-SECU** command is used by an appropriate administrator to enter the security parameters associated with a user.

This command can be initiated by only a privileged user to enter security parameters associated with a user, such as password aging and user login aging periods.

The characters allowed in a password are as follows:

ASCII character	Description	Notes
A.. Z	Upper case letters	alphabetic characters
a.. z	Lower case letters	alphabetic characters
0.. 9	Digits	numeric characters
'	Apostrophe	special character
-	Hyphen	special character
(	Left parenthesis	special character
)	Right parenthesis	special character
.	Period (full stop)	special character
/	Slash (Solidus)	special character

Table 15. Characters Allowed in a Password (cont 1 of 2)

ASCII character	Description	Notes
+	Plus sign	special character
[	Left square bracket	special character
]	Right square bracket	special character
^	Caret	special character
`	Grave accent	special character
{	Left curly brace	special character
	Vertical bar	special character
}	Right curly brace	special character
<	Less than	special character
>	Greater than	special character
~	Tilde	special character
%	Percent sign	special character
#	Number sign	special character
&	Ampersand	special character
\$	Dollar sign	special character
_	horizontal bar (underscore)	special character

Table 15. Characters Allowed in a Password (cont 2 of 2)

The characters not allowed in a password are as follows:

ASCII character	Description	Notes
	Space	
@	Commercial at	Special TL1 meaning
,	Comma	Special TL1 meaning
:	Colon	Special TL1 meaning
=	Equals sign	Special TL1 meaning
"	Quotation mark	Special TL1 meaning
;	Semicolon	Special TL1 meaning

Table 16. Characters Not Allowed in a Password (cont 1 of 2)

ASCII character	Description	Notes
*	Asterisk	Special TL1 meaning
!	Exclamation mark	Special character
?	Question mark	Context sensitive help
\	Back slash	Special TL1 meaning

Table 16. Characters Not Allowed in a Password (cont 2 of 2)

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT - USER - SECU** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-232. ENT - USER - SECU Input Parameters (cont 1 of 2)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
uid	This is the User Identifier of a user. The valid values are a case-sensitive alphanumeric string of 5 to 10 characters.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
pid	Password. This is a case-sensitive string containing a minimum of 6 and a maximum of 10 alphabetic, numeric, and symbolic characters where at least two characters are non-alphabetic and at least one is symbolic (white space is ignored). Starting in Release 5.0, the password must contain at least one alphabetic and at least three non-alphabetic characters. Of the three non-alphabetic characters, at least one must be a numeric character and at least one must be a symbolic character. The third non-alphabetic character can be either a numeric or a symbolic character. Starting in Release 9.0, the previous rules for the password composition apply if the maximum password length, as provisioned by ED - NE - SECU:pwmax, is less than or equal to 10 characters. If the provisioned maximum password length is greater than 10 characters, the following composition rules apply: • The password shall contain a mix of upper-case alphabetic characters, lower-case alphabetic characters, numeric characters, and special characters, including at least two of each type. • The password shall not contain the consecutive identical characters. • The password shall not contain the user login.
uap	User Access Privilege. It takes one of the following values: PRIVILEGED This indicates that the user has PRIVILEGED access privileges. A user with PRIVILEGED access privileges may execute all TL1 commands. This value of uap is available starting in Release 3.1. ADMINISTRATION This indicates that the user has Administration access privileges. A user with ADMINISTRATION access privileges may execute the reserved security-related TL1 commands. This user may also execute the ACT - USER, ED - PID, RTRV - HDR, ALW - MSG and INH - MSG commands.

Table 2-232. ENT - USER - SECU Input Parameters (cont 2 of 2)

Parameter Name	Description
	This value of uap is available starting in Release 4.0. GENERAL This indicates that the user has GENERAL access privileges. A user with GENERAL access privileges may execute all TL1 commands except those that relate to user security, system initialization and software installation functions and those that are used to set up or modify external communications parameters. This user may also execute the ACT - USER and ED - PID commands. MAINTENANCE This indicates that the user has MAINTENANCE access privileges. A user with MAINTENANCE access privileges may execute only those commands that extract reports and commands that are used to set-up or modify maintenance parameters and run maintenance functions. This user may also execute the ACT - USER and ED - PID commands. REPORTS-ONLY This indicates that the user has a REPORTS-ONLY access privileges. A user with REPORTS-ONLY privileges may execute all RTRV TL1 commands, except RTRV - USER - SECU) and may execute the ACT - USER, ED - PID and OPR - ACO TL1 commands. A total of 150 users are allowed. Of these 150 users, 147 can be distributed among any of the users in the classes of GENERAL, MAINTENANCE and/or REPORTS-ONLY users. There are three default users with PRIVILEGED access. These three default users cannot be deleted nor can their User Access Privilege (uap) be changed. Starting in Release 3.1, the 147 non-default users can be distributed among any of the users in the classes of PRIVILEGED, GENERAL, MAINTENANCE and/or REPORTS-ONLY users. Starting in Release 4.0, the 147 non-default users can be distributed among any of the users in the classes of PRIVILEGED, ADMINISTRATION, GENERAL, MAINTENANCE and/or REPORTS-ONLY users.
spec_block	The spec_block parameters are listed and described in the following table.

Table 2-233. ENT -USER-SECU Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>page</i>	Password Aging Interval. This parameter specifies the period in days after which the user has to change the password of his or her account. It can have a value between 7 and 999 or 0. A value of 0 disables the password aging. The default value is 60 days. Except for the value of 0, which disables the password aging, the value of <i>page</i> has to be greater than the minimum waiting period before changing a password, as provisioned in ED-NE-SECU:pidwpd.
<i>tmout</i>	Inactivity Time-out Period. This parameter is available starting in Release 3.1. If there are no messages between the user and the NE over the Time-out Period, the session is logged off. A value of 0 disables the time-out function. The initial value is 30 minutes. If the parameter is not specified, it retains its current value. Values: 0-999 minutes. Starting in 3.1, the serial port time-out (ENT-CID-SECU:tmout) and the fixed 60 minute TCP/IP LAN port time-out are obsolete.
<i>alw_login</i>	Allow Login. This parameter is available starting in Release 4.0. This parameter allows an administrator to enable or disable a User ID. When a User ID is manually disabled, any active sessions for that login will be terminated. Values: ENABLED: User ID is enabled and DISABLED: User ID is disabled. The default value is ENABLED. This parameter is also used to enable logins that have been autonomously disabled as a result of User ID Aging (ED-NE-SECU:usrage)

OUTPUT FORMAT

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command, also.

EXAMPLE INPUT/OUTPUT

```
ENT-USER-SECU:LT-TID123:kj lee:123456::pass12#,,general;  
  
IP 123456  
<  
    LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following example shows an **ENT-USER-SECU** command that provisions the Password aging security parameter:

```
ENT-USER-SECU:LT-TID123:kj lee:123456::pass12#,,general: PAGE=30;  
  
IP 123456  
<  
    LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may apply to this command also.

If the NE receives an **ENT-USER-SECU** command with an invalid *uid* (user id) value, the following error response is returned:

```
sid date time  
M ctag DENY  
PIUI  
/* Privilege, Illegal User Identity, invalid UID */  
;
```

If the NE receives an **ENT-USER-SECU** command with an invalid *pid* (password) value, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
/* Privilege, Illegal User Identity, invalid PID */
;
```

Starting in Release 5.1, the previous error response is replaced by the following three error responses:

If the NE receives an **ENT-USER-SECU** command with a missing *pid*, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
/* Privilege, Illegal User Identity, missing PID */
;
```

If the NE receives an **ENT-USER-SECU** command with a *pid* that does not meet the character syntax requirements of a valid user login identifier password, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
/* Privilege, Illegal User Identity, invalid PID, syntax error */
;
```

If the NE receives an **ENT-USER-SECU** command with a *pid* that contains a character that is not allowed in a valid user login identifier password, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
/* Privilege, Illegal User Identity, invalid PID, illegal character */
;
```

If the NE receives an **ENT-USER-SECU** command with an invalid **uap** (user access privilege) value, the following error response is returned:

```
sid date time
M ctag DENY
  PIUC
/* Privilege, Illegal User Code, invalid UAP */
;
```

If the NE receives an **ENT-USER-SECU** command with an invalid password age (**page**) value (greater than 0, less than 7 or greater than 999 days), the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid Password Age */
;
```

If the network element receives an **ENT-USER-SECU** command with a **spec_block** with a non-zero value of **page** that is less than or equal to the minimum waiting period before changing a password, provisioned in **ED-NE-SECU:pidwpd**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid Password Age */
;
```

Starting in Release 5.0, the preceding error response is replaced by the following error response:

If the network element receives an **ENT-USER-SECU** command with a **spec_block** with a non-zero value of **page** that is less than or equal to the minimum waiting period before changing a password, provisioned in **ED-NE-SECU:pidwpd**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, Password Age Interval must be greater than
the Password Change Minimum Waiting Period */
;
```

If the NE receives an **ENT-USER-SECU** command to add a new **uid** when the maximum number of users has been defined, the following error response is returned:

```
sid date time
M ctag DENY
SLEM
/* Status, List Exceeds Maximum */
;
```

If the NE receives an **ENT-USER-SECU** command specifying a **uid** (user id) that already has been defined on the NE, the following error response is returned::

```
sid date time
M ctag DENY
PIUC
/* Privilege, Illegal User Code */
;
```

Starting in Release 4.0, the preceding error response is replaced by the following error response:

If the NE receives an **ENT-USER-SECU** command specifying a **uid** (user id) that already has been defined on the NE, the following error response is returned:

```
sid date time
M ctag DENY
IEAE
/* Input, Entity to be created Already Exists, UID already exists */
;
```

If the NE receives an **ENT-USER-SECU** command from a user that does not have **PRIVILEGED** access, the following error response is returned:

```
sid date time
M ctag DENY
PICC
/* Privilege, Illegal Command Code, restricted to privileged
users */
;
```

Starting in Release 4.0, the previous error response is replaced by the following: If the NE receives an **ENT-USER-SECU** command from a user that does not have

PRIVILEGED or **ADMINISTRATION** access, the following error response is returned

```
sid date time
M ctag DENY
  PICC
  /* Privilege, Illegal Command Code, restricted to users with
  PRIVILEGED or ADMINISTRATION access */
;
```

If the Network Element receives an **ENT-USER-SECU** command with a **uap** (user access privilege) value other than **PRIVILEGED**, **GENERAL**, **MAINTENANCE** or **REPORTS-ONLY**, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
  /* Privilege, Illegal User Code, invalid UAP */
;
```

Starting in Release 4.0, the previous error response is replaced by the following: If the Network Element receives an **ENT-USER-SECU** command with a **uap** (user access privilege) value other than **PRIVILEGED**, **ADMINISTRATION**, **GENERAL**, **MAINTENANCE** or **REPORTS-ONLY**, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
  /* Privilege, Illegal User Code, invalid UAP */
;
```

If the NE receives an **ENT-USER-SECU** command with an Inactivity Time-out Period (**tmout**) value that is not in the range of 0 to 999, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid Inactivity Timeout Period */
;
```

If the NE receives an **ENT-USER-SECU** command with an *alw_login* value that is not either **ENABLED** or **DISABLED**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid ALW_LOGIN */
;
```

Starting in Release 9.0, if the NE receives an **ENT-USER-SECU** command with a *pid* that the maximum password length as provisioned by **ED-NE-SECU: pwmax** is greater than 10 characters and the password contains the user login, the following error response is returned:

```
sid date time
M ctag DENY
  PIUI
/* Privilege, Illegal User Identity, invalid PID, UID contained in PID
*/
;
```

RELATED TL1 MESSAGES

DLT-USER-SECU

ED-USER-SECU

RTRV-USER-SECU

ED-NE-SECU

RTRV-NE-SECU

NAME

ENT -VLAN : Enter Virtual LAN

The **ENT -VLAN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT -VLAN : *tid:aid:ctag::vlanid,vrtswid:spec_block;*

DESCRIPTION

The **ENT -VLAN** command creates a virtual LAN (VLAN). It is used to set the list of LAN and wide area network/virtual concatenation group (WAN/VCG) ports for which the specified VLAN ID is a member, as well as the ports for which the VLAN ID is the default VLAN tag, when in 802.1TAG mode.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT -VLAN** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV -EQPT** *prot_state* = PROT, the **ENT -VLAN** command generates a **REPT DBCHG** message for the addressed slot and its companion.

INPUT PARAMETERS

Table 2-234. ENT -VLAN Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV -HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of the slot (slot AID). Refer to the AID Table in Appendix A for a list of valid AIDs.

Table 2-234. ENT - VLAN Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>vlanid</i>	Virtual LAN ID. Value: An integer in the range 1 - 4093.
<i>vrtswid</i>	Virtual Switch ID. Value: An integer in the range 1 - 4095. For the LNW70 the virtual switch ID is an integer in the range 1 - 16. For the LNW78 the virtual switch ID is an integer in the range 1 - 8.
<i>spec_block</i>	Specific Block. The <i>spec_block</i> parameters are defined in the following table.

Table 2-235. ENT - VLAN Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>eplst</i>	Ethernet/LAN Ports List. This is a list of Ethernet/LAN ports for which this VLAN ID is on the VLAN membership list for the port. Ports on this list cannot be on the Ethernet/LAN port default VLAN ID list (such as with <i>dfepilst</i>) Values: An ampersand-separated list of Ethernet/LAN port AIDs. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG.
<i>vcglst</i>	VCG/WAN port list. This is a list of VCG/WAN Ports for which this VLAN ID is on the VLAN membership list for the port. Ports on this list cannot be on the VCG/WAN port default VLAN ID list (see <i>dfvcglst</i>) Values: An ampersand-separated list of VCG AIDs. On an RPR pack, the only RPR VCG AIDs that apply are RPR IF. Starting in release 7.0, on an RPR pack, EoS VCGs also apply.
<i>dfepilst</i>	Ethernet/Lan ports list. This is a list of Ethernet/Lan Ports for which this VLAN ID is the default VLAN tag for the port. Ports on this list cannot be on the Ethernet/LAN port membership ID list (see <i>eplst</i>) Values: An ampersand-separated list of Ethernet/Lan port AIDs.

Table 2-235. ENT-VLAN Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
	Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port which is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG.
<i>dfvcglst</i>	Untagged VCG/WAN port. This is a list of VCG/WAN Ports for which this VLAN ID is the default VLAN tag for the port. Ports on this list cannot be on the VCG/WAN port membership list (see <i>vcglst</i>) Values: An ampersand-separated list of VCG AIDs. On an RPR pack, the only RPR VCG AIDs that apply are RPR IF. Starting in release 7.0, on an RPR pack, EoS VCGs also apply.

OUTPUT FORMAT

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number may be included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

```
ENT-VLAN:TID123:growth-1:123456::34,1:eplst=g-1,vcglst=g-v1;

TID123 98-01-01 08:00:00
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the specified slot AID does not contain an Ethernet board, or if the Ethernet board is not set to 802.1 tag mode, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, board type or mode does not support VLANs
*/
```

If the specified VLAN ID already exists, the following error response is returned:

```
sid date time
M ctag DENY
  INDV
/* Input, Data Not Valid, vlanid already exists */
;
```

Starting in Release 9.0, if the specified VLAN ID is already in use by ERP (on any port on this Virtual Switch), the following error response is returned:

```
sid date time
M ctag DENY
  INDV
/* Input, Data Not Valid, VLANID already in use for ERP */
;
```

Starting in Release 5.1, if the specified virtual switch id (**vrtswid**) is not within the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, vrtswid out of range */
;
```

If the specified virtual switch doesn't exist, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, vrtswid doesn't exist */
;
```

If an Ethernet/LAN port or a VCG/WAN port is not a member of the specified virtual switch, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
/* Status, Data Not Consistent, port is not a member of specified virtual
switch */
;
```

If a WAN/VCG port is incorrectly specified on an Ethernet/LAN port list, the following error response is returned:

```
sid date time
M ctag DENY
  INDV
/* Input, Data Not Valid, WAN/VCG port listed on Ethernet/LAN port list
*/
```

If an Ethernet/LAN port is incorrectly specified on a WAN/VCG port list, the following error response is returned:

```
sid date time
M ctag DENY
  INDV
/* Input, Data Not Valid, Ethernet/LAN port listed on WAN/VCG port list
*/
```

If a port is specified on both a VLAN membership list and a default VLAN tag list, the following error response is returned:

```
sid date time
M ctag DENY
  INDV
  /* Input, Data Not Valid, port cannot be on both VLAN membership list and
  default VLAN list */
;
```

If there is not at least one port specified in at least one of the ***epilst***, ***vcglst***, ***dfepilst*** or ***dfvcglst*** lists, the following error response is returned:

```
sid date time
M ctag DENY
  INDV
  /* Input, Data Not Valid, VLAN must be assigned to at least one port */
;
```

On an RPR pack, if the specified VCG is an RPR Span VCG, not an RPR IF VCG, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, RPR VCG must be RPR IF */
;
```

Starting in release 7.0, when both RPR IF and EoS VCGs are supported on the LNW78, the above response is replaced by the following:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, VLAN provisioning on RPR span VCG is
  not supported */
;
```

If a port is a member of a Link Aggregation Group, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid ACcess identifier, one or more ports are members of a
LAG */
;
```

RELATED TL1 MESSAGES

DLT-VLAN, ED-VLAN, RTRV-VLAN

NAME

ENT -VRTSW: Enter Virtual Switch

The **ENT -VRTSW** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

ENT -VRTSW: *tid:aid:ctag::vrtswid:spec_block;*

DESCRIPTION

The **ENT -VRTSW** command is used to create a virtual switch (VRTSW).

Beginning in Release 2.1, for 802.1TAG and TRANS modes, the **vrtswid**(s) are defaulted to 1. If additional virtual switches are to be created, the ports to be assigned to these additional VRTSWs must first be deleted from **vrtswid** 1.

Beginning in Release 3.0, for 802.1TAG and TRANS modes, there is no default **vrtswid**. Virtual switches are to be created.

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **ENT -VRTSW** command generates a **REPT DBCHG** message.

Starting in Release 7.1, when **RTRV-EQPT** *prot_state* = PROT, the **ENT -VRTSW** command generates a **REPT DBCHG** message for the addressed slot and its companion.

INPUT PARAMETERS

Table 2-236. ENT - VRTSW Input Parameters

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of the slot. Refer to the AID Table for valid AIDs.
<i>ctag</i>	Correlation tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>vrtswid</i>	Virtual switch ID. Value: An integer in the range 1 - 4095. For the LNW70 the virtual switch ID is an integer in the range 1 - 16. For the LNW78 the virtual switch ID is an integer in the range 1 - 8.
<i>spec_block</i>	The <i>spec_block</i> parameters are defined in the following table:

Table 2-237. ENT - VRTSW Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>eplst</i>	Ethernet/LAN port list. Values: An ampersand-separated list of Ethernet/LAN port AIDs. This is a mandatory parameter. Starting in Release 2.1, this parameter is optional. Note that either <i>eplst</i> or <i>vcglst</i> must be specified. Values: An ampersand-separated list of Ethernet/Lan port AIDs. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG.
<i>vcglst</i>	VCG/WAN port list. Values: An ampersand-separated list of VCG AIDs. This is a mandatory parameter. Beginning in Release 2.1, this parameter is optional. Note that either <i>eplst</i> or <i>vcglst</i> must be specified. Values: An ampersand-separated list of VCG AIDs. On an RPR pack, the only RPR VCG AIDs that apply are RPR IF.

Table 2-237. ENT-VRTSW Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
	Starting in Release 7.0, on an RPR pack, both RPR IF VCGs and EoS VCGs (but not RPR span VCGs) apply.
<i>ethertype</i>	Ethernet Type field (TPID). Used to interwork with other vendors' equipment using stacked VLAN. This parameter is only valid in Port Tag mode (i.e., TRANSPARENT mode). Value: An string in the range "0601" to "FFFF" except "8100". The default value is "FFFF". This parameter is applicable starting in Release 3.1. Starting in Release 4.0 <i>ethertype</i> is not supported in virtual switch commands, it is supported in (ED-EPORT, RTRV-EPORT, ED-VCG, RTRV-VCG). On upgrade to Release 4.0, any <i>ethertype</i> value previously provisioned by the virtual switch command will be moved for all ports that belong to that virtual switch.
<i>tagmd</i>	Virtual LAN Tagging Mode. Values are as follows: ■ 802.1TAG (initial value) ■ TRANS IEEE 802.1Q tag mode is the default value. In this mode, the ENT-VLAN and ED-VLAN commands are used to set tag values. In transparent mode (also called "port tag mode"), the ED-EPORT and ED-VCG commands are used to set tag values. This parameter applies to the following circuit packs: the VLAN tag mode is not a circuit pack parameter (see <i>vlantagmd</i> in ED-EQPT), rather it is a virtual switch parameter. ■ LNW70 ■ LNW78

OUTPUT FORMAT

```

sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number may be included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

```
ENT-VRTSW:TID123:growth-1:123456::1:ep1st=g-1,vcg1st=g-v1;
```

```
TID123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

The **ethertype** parameter is applicable starting in Release 3.1.

```
ENT-VRTSW:TID123:growth-1:123456::1:ep1st=g-1,vcg1st=g-  
v1,ethertype=FFFF;
```

```
TID123 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

Starting in Release 4.0 **ethertype** is not supported in virtual switch commands; it is supported in **ED-EPORT**, **RTRV-EPORT**, **ED-VCG**, **RTRV-VCG**.

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command.

If the specified slot AID does not contain an Ethernet board, the following error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, board type does not support virtual
switches */
;
```

Beginning in Release 3.0 with the introduction of the LNW71 (FE-PL) circuit pack, the above error response is valid when the AID does not contain an Ethernet board that supports virtual switches. Note that the LNW71 is an Ethernet circuit pack but does not support virtual switches.

If the **vlantagmd (ED-EQPT)** is set to NOTAG, the following error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, tag mode set to NOTAG */
;
```

If the specified virtual switch id (**vrtswid**) already exists, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, vrtswid already exists */
;
```

If the specified virtual switch id (**vrtswid**) is not within the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, vrtswid out of range */
;
```

If there is not at least one LAN port in **eplist**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, at least one LAN port must be specified on
the Ethernet/LAN port list */
;
```

Starting in Release 2.1, this parameter is optional. Note - it is still mandatory that either **eplist** or **vcglist** be specified.

If there is not at least one VCG port specified in **vcglist**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, at least one VCG port must be specified on
the WAN/VCG port list */
;
```

Starting in Release 2.1, this parameter is optional. Note - it is still mandatory that either **eplist** or **vcglist** be specified.

If there is not at least one VCG port specified in **vcglist** OR at least one LAN port in **eplist**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, either at least one LAN port or at least one
WAN port must be specified on the port list */
;
```

If a specified Ethernet/LAN port or VCG/WAN port being added is a member of another virtual switch, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, Ethernet or VCG port is a member of
another virtual switch */
;
```

If a WAN/VCG port is incorrectly specified on an Ethernet/LAN port list, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, WAN/VCG port listed on Ethernet/LAN port
list */
;
```

If an Ethernet/LAN port is incorrectly specified on a WAN/VCG port list, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, Ethernet/LAN port listed on WAN/VCG port
list */
;
```

If the AIDs inputted for ***epilst*** or ***vcglist*** are not consistent with the specified Slot AID, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, one or more inconsistent AIDs */
;
```

On an RPR pack, if the specified VCG is an RPR Span VCG, not an RPR IF VCG, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, RPR VCG must be RPR IF */
;
```

Starting in Release 7.0, when both RPR IF VCGs and EoS VCGs are supported on the LNW78, if the specified VCG is an RPR Span VCG, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, VLAN/VRTSW provisioning on RPR span
  VCG not supported */
;
```

Starting in Release 7.0, if an AID inputted for ***epilst*** is a member of a LAG, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, one or more ports are members of a
  LAG */
;
```

If the user tries to enter a new virtual switch and ***tagfilter*** is set to disable, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, tag filter disabled - only one virtual
  switch allowed on pack */
;
```

The above limitation does not exist for ports/virtual switches on the LNW70.

The above limitation does not exist for ports/virtual switches on the LNW78.

Starting in Release 3.1, if the ***vlangmd (ED-EQPT)*** is set to 802.1Q and the ***ethertype*** is being modified, the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
  /* Status, Data Not Consistent, tag mode set to 802.1TAG, changing
  ethertype is not allowed */
;
```


Starting in Release 3.1, if another virtual switch exist with a different **ethertype** value, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, a virtual switch exist with a
different ethertype value, virtual switches must have same ethertype */
;
```

Starting in Release 3.1, if the specified **ethertype** value is not in the correct range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, ethertype value is not valid */
;
```

Starting in Release 4.0 **ethertype** is not supported in virtual switch commands; it is supported in **ED-EPORT**, **RTRV-EPORT**, **ED-VCG**, **RTRV-VCG**. The above errors related to **ethertype** are no longer applicable: instead, if **ethertype** is specified the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, ethertype is not valid */
;
```

RELATED TL1 MESSAGES

DLT-VRTSW

ED-VRTSW

RTRV-VRTSW

NAME

INH-MSG: Inhibit Message

The **INH-MSG** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

Beginning in Release 3.0 this command is available to users with Privileged, General, Maintenance, and Reports Only access.

Starting in Release 1.0, this command is available to users with Privileged, Administration, General, Maintenance, and Reports Only access.

INPUT FORMAT

INH-MSG *-modifier:tid:[aid]:ctag[:,,];*

DESCRIPTION

Beginning in Release release 3.0 of DMX and release 2.0 of DMXpress, this description is replaced by the following description.

The **INH-MSG** command instructs the network element (NE) to inhibit the forwarding of autonomous messages on the entire NE.

When autonomous message reporting is inhibited, the NE reports an abnormal status condition in an autonomous **REPT EVT** message.

This **REPT EVT** message containing the abnormal status condition report will be the last autonomous message sent before the **INH-MSG** command takes effect.

Beginning in Release 3.0, this description replaces the previous description.

The **INH-MSG** command instructs the network element (NE) to inhibit the forwarding of autonomous messages on the user session. If the user is logged in more than once, only the current login session is affected.

The initial state of the user session is to allow all autonomous messages with which the user login was provisioned. If the **INH-MSG** command inhibits autonomous messages that have already been suspended, it will complete successfully.

Forwarding of inhibited autonomous messages can be resumed with the **ALW-MSG** command.

While autonomous message reporting is inhibited, the NE continues to respond fully to all command messages, specifically **RTRV-ALM** and **RTRV-COND**.

Starting in release 3.1, execution of this command, whether successful or denied, will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-238. INH-MSG Input Parameters

Parameter Name	Description
<i>modifier</i>	Modifier. The <i>modifier</i> value must be ALL .
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> value must be ALL or omitted (default= ALL), because the entire system is affected.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the **INH-MSG-ALL** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the NE receives an **INH-MSG-ALL** command message from a user when autonomous message reporting had already been inhibited, the NE provides a normal completion response.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **RTRV-HDR OUTPUT PARAMETERS** section.

EXAMPLE INPUT/OUTPUT

```
INH-MSG-ALL:LT-TID123::123xyz;  
  
IP 123xyz  
<  
  
    LT-TID123 00-06-06 09:30:49  
M 123xyz COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **INH-MSG** command.

If an **INH-MSG** command is received with any command code *modifier* other than **ALL**, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

If an **INH-MSG** command is received with an invalid *aid* value (anything other than **ALL** or omitted), the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid Access identifier */
;
```

RELATED TL1 MESSAGES

ALW-MSG

REPT EVT

NAME

INH-PORTMNTC: Inhibit Port Maintenance

The **INH-PORTMNTC** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.0

LOGIN PRIVILEGE

This command is available only to users with Privileged access.

INPUT FORMAT

The input syntax for **INH-PORTMNTC** is:

INH-PORTMNTC*-modifier:tid:aid:ctag;*

DESCRIPTION

This command, along with **ALW-PORTMNTC**, provides Privileged level control over the use of the existing ports and lines on which loopbacks may be set up and on which **TEST-TRMSN** can be executed.

When executing **INH-PORTMNTC**, if some of the specified ports or lines are already in the port maintenance inhibited state, they will remain in the inhibited state and the remaining specified ports or lines will be put into the port maintenance inhibited state.

The default port maintenance control state is determined by the value of **ENT-SYS:portmntc_default**, which has an initial value of **ALLOWED**. New ports or lines that result when a circuit pack is inserted into an unprovisioned slot will have the port maintenance control state specified by the currently-provisioned value of **portmntc_default**.

Inhibiting Loopbacks on Ports and Lines

Executing this command inhibits setting up loopbacks on the specified ports and lines; **OPR-LPBK** will be denied if a port or line is specified that has a port maintenance control state of **INHIBITED**.

The port maintenance control state for ports and lines that have existing loopbacks cannot be changed to **INHIBITED**. If a port or line with a pre-existing loopback is specified in **INH-PORTMNTC**, the command will be denied. If multiple ports or lines are specified, a partial denial will be issued for ports or lines with pre-existing loopbacks.

Note that this command inhibits provisioning loopbacks on the specified ports or lines but does not change any pre-existing loopbacks on the specified ports or lines.

Inhibiting Test Transmission on Ports

The **TEST - TRMSN** command sets up a one minute transmission test on a specified DS1, E1 or DS3 port. To prevent this transmission test from affecting service, **TEST - TRMSN** will be denied if the port maintenance control state of the specified port AID is **INHIBITED**.

Port Maintenance State When Port Interface Type is Changed

The port interface type on some circuit packs can be provisioned to be

- either DS1 or E1 ports (**ED - EQPT: *intftype***)
- either DS3 or EC1 ports (**ENT - rr: *eif***)
- OC-3, OC-12 or OC-48 on multirate circuit pack (**ENT - rr: *signaltype***).
- OC-n, GbE, FICON or Fibre Channel on a MUXPONDER circuit pack (**ENT - OTPE: *signaltype***).

When the port interface type is changed, the value of the port maintenance control state for each changed port on the circuit pack is changed to the default value specified by **ENT - SYS: *portmntc_default***.

Execution of this command, whether successful or denied, is recorded in the Security log.

This command generates a **REPT DBCHG** message for each port or line for which the port maintenance control state is changed from **ALLOWED** to **INHIBITED**.

INPUT PARAMETERS

Table 2-239. INH - PORTMNTC Input Parameters (cont 1 of 3)

Parameter Name	Description
<i>modifier</i>	This is the command modifier for the INH - PORTMNTC command. The modifier is a required field, and must have one of the following values: ■ EC1 This requests to inhibit loopbacks on an EC-1 interface.

Table 2-239. INH - PORTMNTC Input Parameters (cont 2 of 3)

Parameter Name	Description
	■ ENET This requests to inhibit loopbacks on an Ethernet interface. ■ DATA This requests to inhibit loopbacks on a DATA interface. ■ OC3 This requests to inhibit loopbacks on an OC-3 interface. ■ OC12 This requests to inhibit loopbacks on an OC-12 interface. ■ OC48 This requests to inhibit loopbacks on an OC-48 interface. ■ OC192 This requests to inhibit loopbacks on an OC-192 interface. ■ OTU2 This requests to inhibit loopbacks on an OTU2 interface. ■ T1 This requests to inhibit loopbacks or transmission tests on a DS1 interface. ■ E1 This requests to inhibit loopbacks or transmission tests on an E1 interface. ■ T3 This requests to inhibit loopbacks or transmission tests on a DS3 interface. ■ ALL This requests is to inhibit loopbacks on all ports and lines on the NE and transmission tests on all T1, E1 and T3 ports on the NE.
tid	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
aid	Access Identifier. The aid determines the interface for which the inhibition of loopbacks is being requested. aid can be an individual port or line or it can be a range of ports or lines. See Appendix A - AID Table for valid AIDs. The aid value for each interface type is: ALL All ports or lines of the type specified by modifier In a multi-shelf DCS system, ALL applies to entities on the main shelf only. To inhibit port maintenance on all entities in a subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number.

Table 2-239. INH - PORTMNTC Input Parameters (cont 3 of 3)

Parameter Name	Description
	T1 DS1 Port AID E1 E1 Port AID T3 DS3 Port AID EC1 EC1 Port AID ENET Ethernet LAN Port AID DATA DATA Port AID OCn OC-n line AID OTU2 OTU2 line AID If modifier=ALL is specified, then the value of aid is assumed to be ALL, regardless of the specified value of aid. If the value of modifier is not ALL, then a value for aid must be specified. Beginning in Release 9.0, if modifier=ALL, aid may be omitted, in which case its value defaults to ALL (as defined above). If modifier=ALL and aid is specified, the only accepted values are ALL and {shelf}-ALL.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Starting in Release 7.1, the **modifiers** OC3, OC12 or OC48 apply to the ports on a multirate circuit pack according to the provisioned signal type (see **ENT-r r:signaltype**).

Starting in Release 7.1, the **modifiers** ENET, DATA, OC3, OC12 or OC48 and the **aid** format apply to the client ports on a muxponder circuit pack according to the provisioned signal type (see **ENT-OTPE:signaltype**).

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **INH-PORTMNTC** command. .

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

EXAMPLE INPUT/OUTPUT

The following is an example of provisioning the port maintenance control state of a DS1 port on an 56 DS1/E1 LNW8 circuit pack.

```
INH-PORTMNTC-T1:LT-TID123:a-1-1-1:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 06-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following is an example of provisioning the port maintenance control state of all DS3 ports:

```
INH-PORTMNTC-T3:LT-TID123:all:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 06-11-22 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following is an example of provisioning the port maintenance control state of all ports and lines on the NE:

```
INH-PORTMNTC-ALL:LT-TID123::123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 07-02-06 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following is an example of provisioning the port maintenance control state of all ports and lines on the NE with some ports and lines having existing loopbacks:

```
INH-PORTMNTC-ALL:LT-TID123::123456;  
  
IP 123456  
<  
  
    LT-TID123 07-02-06 16:42:11  
M 123456 PRTL  
  "main-1-1:SR0F"  
  /* Status, Requested Operation Failed, cannot set control state to INHIBITED  
  when a loopback exists */  
  "fn-d-1-1:SR0F"  
  /* Status, Requested Operation Failed, cannot set control state to INHIBITED  
  when a loopback exists */  
  "fn-d-2-2:SR0F"  
  /* Status, Requested Operation Failed, cannot set control state to INHIBITED  
  when a loopback exists */  
  ;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **INH-PORTMNTC** command with a ***modifier*** other than that supported by the NE, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

If the NE receives an **INH-PORTMNTC** command with an **aid** that is not valid or without an **aid** if **modifier** does not equal **ALL** or if the **aid** does not match the **modifier** type, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID is missing, wrong or
  inconsistent with modifier */
;
```

If the NE receives an **INH-PORTMNTC** command with a valid **aid** value, but one for which the corresponding equipment is provisioned to be unequipped, the following error response is returned:

```
sid date time
M ctag DENY
  ENEQ
  /* Equipage, Not EQuipped */
;
```

If the NE receives an **INH-PORTMNTC** command with a valid port or line **aid** value for a port or line which has an existing loopback, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cannot set control state to
  INHIBITED when a loopback exists */
;
```

If the NE receives an **INH-PORTMNTC** command specifying a range of port or line **aids** and some ports or lines have existing loopbacks, changing the port maintenance control state to INHIBITED for ports or lines with existing loopbacks

will be denied and the following PRTL error response will be returned for each port or line with existing loopbacks:

```
sid date time
M ctag PRTL
  "AID:SNVS"
  /* Status, Not in Valid State, cannot set control state to INHIBITED when a
  loopback exists */
  ;
```

RELATED TL1 MESSAGES

ENT - SYS

RTRV - SYS

OPR - LPBK

RLS - LPBK

RTRV - LPBK

TEST - TRMSN

RTRV - PORTMNTC

ALW - PORTMNTC

NAME

INH-TRIBMNTC: Inhibit Tributary Maintenance

The **INH-TRIBMNTC** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.0

LOGIN PRIVILEGE

This command is available only to users with Privileged access.

INPUT FORMAT

INH-TRIBMNTC-modifier:*tid:aid:ctag*;

DESCRIPTION

This command, along with **ALW-TRIBMNTC**, provides Privileged level control over the use of connected tributaries in test access sessions. Executing this command inhibits setting up test access sessions using the specified tributaries as the **etrib** or **ftrib** in **CONN-TACC**. **CONN-TACC** will be denied if an **etrib** or **ftrib** is specified that has a tributary maintenance control state of **INHIBITED**.

The default tributary maintenance control state is determined by the value of **ENT-SYS:tribmntc_default**, which has an initial value of **ALLOWED**. New tributaries that are created when cross-connections are provisioned via **ENT-CRS-rr** or via **ENT-ROLL** will have the tributary maintenance control state specified by the currently provisioned value of **tribmntc_default**.

The tributary maintenance control state for tributaries that are already used in a test access session cannot be changed to **INHIBITED**. If a tributary in a pre-existing test access is specified in **INH-TRIBMNTC**, the command will be denied. If multiple tributaries are specified, a partial denial will be issued for tributaries being used in pre-existing test access sessions.

When executing **INH-TRIBMNTC**, if some of the specified tributaries are already in the tributary maintenance inhibited state, they will remain in the inhibited state and the remaining specified tributaries will be put into the tributary maintenance inhibited state.

Both input tributaries to a 1WAYPR cross-connection need to have the same tributary maintenance control state. Thus when changing the tributary maintenance control state of a tributary that is input to a 1WAYPR cross-connection to **INHIBITED**, the other input tributary will also be changed to **INHIBITED**, even if the tributary is not specified in the **INH-TRIBMNTC** command.

This command does not change any pre-existing test access sessions.

If there are no existing tributaries specified by *modifier* and *aid*, the **INH-TRIBMNTC** command returns a normal completion response. The provisioned value for these tributaries that don't currently exist is not stored, and when these tributaries are created when cross-connects are provisioned, they will have the tributary maintenance control state specified by *tribmntc_default*.

Execution of this command, whether successful or denied, is recorded in the Security log.

This command generates a **REPT DBCHG** message for each tributary for which the tributary maintenance control state is changed from **ALLOWED** to **INHIBITED**.

INPUT PARAMETERS

Table 2-240. INH-TRIBMNTC Input Parameters

Parameter Name	Description
<i>modifier</i>	This is the message modifier for the INH-TRIBMNTC command. The modifier is a required field, and must only have one of the following values: ■ VT1 This is for VT1.5- or DS1-level tributary maintenance control. ■ STS1 This is for STS-1- or DS3-level tributary maintenance control. ■ STS3C This is for STS-3c-level tributary maintenance control.
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description for this parameter.
<i>aid</i>	Tributary Identifier. This is the AID of a VT, STS-1 or STS-3c tributary (on an OLIU, or a DS1, DS3, TMUX or EC1 port). <i>aid</i> can be an individual tributary AID or it can be a range of tributary AIDs. See Appendix A - AID Table for valid AIDs. AID ranges are allowed up to all STS tributaries in a line or all VT tributaries in an STS tributary.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **INH-TRIBMNTC** command.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

EXAMPLE INPUT/OUTPUT

The following is an example of provisioning the maintenance control state of a VT1 tributary in the FN A group.

```
INH-TRIBMNTC-VT1:LT-TID123:a1-1-2-4:123456;
```

```
IP 123456  
<  
  
LT-TID123 06-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following is an example of provisioning the maintenance control state of all VT1 tributaries within a VT group:

```
INH-TRIBMNTC-VT1:LT-TID123:a1-1-2-1-all:123456;
```

```
IP 123456  
<  
  
LT-TID123 06-11-22 16:42:11  
M 123456 COMPLD  
;
```

The following is an example of provisioning the maintenance control state of all VT1 tributaries within a VT group:

```
INH-TRIBMNTC-VT1:LT-TID123:m2-1-9-4-all:123456;
```

```
IP 123456  
<  
  
LT-TID123 06-11-22 16:42:11  
M 123456 COMPLD  
;
```

The following is an example of provisioning the maintenance control state of all VT1 tributaries within an STS-1 tributary:

```
INH-TRIBMNTC-VT1:LT-TID123:a1-1-2-all:123456;  
  
IP 123456  
<  
  
    LT-TID123 07-02-06 16:42:11  
M 123456 COMPLD  
;
```

The following is an example of provisioning the maintenance control state of all STS-1 tributaries within an optical line:

```
INH-TRIBMNTC-ST511:LT-TID123:a1-2-all:123456;  
  
IP 123456  
<  
  
    LT-TID123 07-02-06 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **INH-TRIBMNTC** command with a *modifier* other than that supported by the NE, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

If the NE receives an **INH-TRIBMNTC** command with an **aid** that is not valid or is inconsistent with **modifier**, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, aid is missing, wrong or
  inconsistent with modifier */
;
```

If the NE receives an **INH-TRIBMNTC** command with a valid **aid** value, but one for which the corresponding equipment is provisioned to be unequipped, the following error response is returned:

```
sid date time
M ctag DENY
  ENEQ
  /* Equipage, Not EQuipped */
;
```

If the NE receives an **INH-TRIBMNTC** command with a valid tributary **aid** value which is being used as the **etrib** or **ftrib** in an existing test access session, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, cannot change to INHIBITED with
  active test access session */
;
```

If the NE receives an **INH-TRIBMNTC** command specifying a range of tributary **aids** and some tributaries are being used as the **etrib** or **ftrib** in existing test access sessions, changing the tributary maintenance control state to INHIBITED these tributaries will be denied and the following PRTL error response will be returned:

```
sid date time
M ctag PRTL
  "AID:SNVS"
  /* Status, Not in Valid State, cannot change to INHIBITED with active test
  access session */
;
```

If the NE receives an **INH-TRIBMNTC** command addressed to a tributary of an inter-shelf interface in a multi-shelf DCS system utilizing a single TID, the NE returns the following error response:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, provisioning not allowed in mutli-
shelf DCS system */
;
```

RELATED TL1 MESSAGES

CHG-ACCMD

CONN-TACC

DISC-TACC

RTRV-TACC

ENT-SYS

RTRV-SYS

RTRV-TRIBMNTC

ALW-TRIBMNTC

NAME

INIT-ASAP-PROF: Initialize Default Alarm Severity Assignment Profiles

The **INIT-ASAP-PROF** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

INIT-ASAP-PROF: *tid::ctag::pftype;*

DESCRIPTION

The **INIT-ASAP-PROF** command initializes the profile named **DEFAULT** of type **pftype**. This initialization removes any changes that might have been made by executing the **ED-ASAP-PROF** command and sets the alarm levels to the initial values that are listed in **ED-ASAP-PROF**.

Execution of this command, whether successful or denied, is recorded in the Security log.

The **INIT-ASAP-PROF** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

The input parameters are described in the table that follows.

Table 17. INIT-ASAP-PROF Input Parameters (cont 1 of 3)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>pftype</i>	Profile Type. This parameter indicates the profile type that will be initialized and may have one of the following values:

Table 17. INIT-ASAP-PROF Input Parameters (cont 2 of 3)

Parameter Name	Description
■ 1+1_BIDIR	Bidirectional 1+1
■ 1+1_OPTM	Optimized 1+1
■ BLSR	Bidirectional Line Switched Ring
■ DATA	DATA
■ DS1	DS1
■ DS3	DS3
■ E1	E1
■ EC1	EC1
■ EQPT	Equipment
■ FELAN	FE LAN
■ GELAN	GE LAN
■ LAG	Link Aggregation
■ NVM	NVM
■ OCN	OC-n Lines
■ OCH	OCH Channels
■ ODUk	ODUk Tributary
■ OTS	OTS Port
■ OTUk	OTUk Port
■ SOCKET	Sockets
■ STSN	STSn paths
■ SUBSHELF	Subshelf
■ SYSTEM	System
■ SYNCN	External Timing Reference
■ VC	VC-12 paths
■ VCG	VCG
■ VCGSTS	VCG-STS Trib
■ VCGVT	VCG- VT1.5 Trib

Table 17. INIT-ASAP-PROF Input Parameters (cont 3 of 3)

Parameter Name	Description
■ VT1	VT1.5

OUTPUT FORMAT

If the network element fully complies with the **INIT-ASAP-PROF** command, then the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to the **INIT-ASAP-PROF** command.

EXAMPLE INPUT/OUTPUT

The following example initializes the equipment profile named Default:

```
INIT-ASAP-PROF:LT-123::123456::EQPT;
LT-123 98-01-01 08:00:00
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there also pertain to the **INIT-ASAP-PROF** command.

The following condition will cause an IDNV error response:

- An invalid **pftype** parameter is specified.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid pftype */
;
```

RELATED TL1 MESSAGES

DLT-ASAP-PROF

ED-ASAP-PROF

ENT-ASAP-PROF

ENT-ASAP-ASGNMT

RTRV-ASAP-ASGNMT

RTRV-ASAP-PROF

NAME

INIT-REG: Initialize Register

The **INIT-REG** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General and Maintenance access.

INPUT FORMAT

Input format of **INIT-REG** is as shown below.

INIT-REG-modifier:tid:[aid]:ctag:,,,tmper[, ,];

Beginning in release 3.0, the input format of **INIT-REG** is as shown below.

INIT-REG-modifier:tid:[aid]:ctag:[:, , , ,tmper[, ,]];

DESCRIPTION

CAUTION: *Performance monitoring data collected to date for the selected register(s) will be deleted as a result of this command.*

The **INIT-REG** command can be initiated to request that the network element (NE) initialize all *current* day and/or all *current* 15-minute performance-monitoring (PM) storage registers.

PM registers for *previous* day and *previous* 15-minute time periods are not affected.

The timestamp of the current registers that are initialized is not changed.

Note: Except for the LNW8, LNW18 and LNW19 circuit packs, executing **INIT-REG** clears the specified current registers but does not clear the internal PM states, such as a UAS state. For the LNW8, LNW18 and LNW19 circuit packs, PM states are cleared along with the specified current registers. If an internal state is cleared but the problem continues to exist, the internal state will again be set to reflect the continuing problem.

Starting in Release 8.0, the previous exception for the LNW8, LNW18 and LNW19 circuit packs also applies to the LNW801 circuit pack.

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **INIT - REG** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-241. **INIT - REG** Input Parameters

Parameter Name	Description
<i>modifier</i>	Command Modifier for the INIT - REG command. The <i>modifier</i> is a required field. ALL ALL is the only valid value for modifier.
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. Because all current Daily and/or 15-minute PM registers are initialized, the <i>aid</i> value must be ALL or NULL (default = ALL). Beginning in Release 9.0, in a multi-shelf DCS system, ALL and NULL both apply to the entire system.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>tmper</i>	Time Period. This requests that PM registers for a specified time interval be initialized. This parameter must have one of the following values: 15-MIN This parameter value requests the current 15-minute PM registers be initialized. 1-DAY This value requests the current day PM registers be initialized. ALL This value requests that 15-minute and daily PM registers be initialized. If <i>tmper</i> is NULL , the default value is 15-MIN .

OUTPUT FORMAT

If the NE fully complies with the initialize register request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **RTRV-HDR OUTPUT PARAMETERS** section.

EXAMPLE INPUT/OUTPUT

The following example requests that the current 15-minute PM register be initialized.

```
INIT-REG-ALL:LT-TID123:all:123456::,,,15-MIN;
IP 123456
<
LT-TID123 93-10-26 16:42:11
M 123456 COMPLD
;
```

The following example requests that 15-minute and daily PM registers be initialized.

```
INIT-REG-ALL:LT-TID123:all:123456::,,,ALL;
IP 123456
<
LT-TID123 93-10-26 16:42:11
M 123456 COMPLD
;
```

The following example requests that all registers be initialized. This is done using a **NULL** *aid*.

```
INIT-REG-ALL:LT-TID123::123456::,,,,ALL;  
IP 123456  
<  
  LT-TID123 93-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following example requests that 15-minute PM registers be initialized. This request is made by having *tmper* entered as **NULL** so that it defaults to **15-MIN**.

```
INIT-REG-ALL:LT-TID123:all:123456::;  
IP 123456  
<  
  LT-TID123 93-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **INIT-REG** command.

If the NE receives an **INIT-REG** command with a command modifier other than **ALL**, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

If the NE receives an **INIT-REG** command with an invalid **aid** value the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid Access Identifier */
;
```

If the NE receives an **INIT-REG-ALL** command with an invalid **tmper** value (that is, anything other than **15-MIN**, **1-DAY**, **ALL** or **NULL**), the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid TMPER */
;
```

RELATED TL1 MESSAGES

RTRV-PM

RTRV-TH

SCHED-PMREPT

SET-TH

NAME

INIT-SYS: Initialize System

The **INIT-SYS** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

Starting in Release 3.1, this command is available to users with Privileged and General access when **ph** is set to **3**. It is available only to users with Privileged access when **ph** is set to **9**.

INPUT FORMAT

INIT-SYS:tid:aid:ctag::ph;

Starting in Release 7.0, the input format is:

INIT-SYS:tid:aid:ctag::ph[:spec_block];

DESCRIPTION

Execution of this command may affect service.

This command can be used in a number of ways, depending on the setting of the **aid** and the **ph** parameter, including:

1. The most comprehensive initialization occurs when the **aid** is set to all and the phase parameter (**ph**) is set to **9**. In this case, used only at the end of a system installation before turning up the system, provisionable parameters are set to default values and the system controller executes its full power-up sequence. The command **INIT-SYS** with the **ALL** aid should NOT be used on an in-service system when the **ph** is set to **9**.
2. To clear a system problem, **INIT-SYS** can be used with the phase parameter set to **3** and with **aid** set to a system controller slot AID, resetting the system software without changing parameters.
3. When a system controller is replaced on an in-service system, **INIT-SYS** can be used with the phase parameter set to **9** and **aid** set to system controller slot AID to restore the system level parameters in the system controller to their default values. This set of conditions, i.e., **ph=9** and **aid** set to system controller slot AID, is equivalent to pushing the UPD/INIT push button while the CR LED on the user panel is flashing, which occurs approximately 45 seconds to more than 1 minute after the start of the processor startup sequence.

In a multi-shelf DCS system, pushing the UPD/INIT button on a subshelf does not initialize the subshelf or the system.

Table 2-242 summarizes the different **INIT -SYS** options:

Table 2-242. Summary of **INIT -SYS** Options

Phase (<i>ph</i>)	<i>aid</i>	Affect on Service	Comment
9	ALL	Yes	Sets all provisionable parameters to their default values. Used only at the completion of installation.
9	system controller	Yes	Sets system level provisionable parameters to their default values. Used to reset system controller parameters to their default values, such as when the default login passwords are lost. See Tables 2-243 and 2-244.
9	Smart Pack	-	Not Allowed
3	ALL	-	Not Allowed
3	system controller	No	Resets system software, does not change provisioned parameters, does not clear PM bins
3	Smart Pack	Maybe	Resets smart pack in specified slot, does not change provisioned parameters

Starting in Release 6.0, if the NE is in Maintenance Mode, **INIT -SYS** with **ph=3** and the **aid** set to system controller slot AID implements any **SET -GENERIC** selections, and restarts the shelf. If a release and database are selected, valid, and compatible, the shelf does not restart in maintenance mode.

Executing **INIT -SYS** with the phase parameter set to **9** and the **aid** set to **SYSCTL** should be used only when the system controller is being replaced.

Starting in Release 3.0, it is no longer necessary to execute **INIT -SYS** with the phase parameter set to **9** and the **aid** set to the system controller slot AID when the system controller is being replaced since the system controller data on the replaced controller will be retained (as long as there is a OLIU in one of the MAIN slots) and downloaded into the new controller. Executing **INIT -SYS** with **ph=9** and **aid** set to the system controller slot AID will delete all of the downloaded data retained from the replaced controller and restore the system level parameters to their default values. Executing **INIT -SYS** with **ph=9** and **aid** set to the system controller slot AID should be done only when the system controller parameters need to be set to their default values, such as when the default login passwords

are lost and the default login IDs and passwords need to be reset to their original values.

Executing **INIT -SYS** with **ph=9** and **aid** set to the system controller slot AID restores the system level parameters to their default values. [Table 2-243](#) shows the system level parameters that are set to their default values when **INIT -SYS** is executed with **ph=9** and **aid** set to the system controller slot AID.

Table 2-243. System Level Parameters Values Set When **ph=9** and **aid** Set to the System Controller Slot AID (cont 1 of 2)

Com-mand	Parameter
ED - IP - TUNNEL	TAP parameters: tlearnstat , tadverstat , tadverstat , tapgroup
ED - NE - SECU	Network Element security parameters: usrage , intrvl , thrshld , age , pidwpd , chg_pwd_stat
ED - NTP	NTP settings: timechg , minpinvl , maxpinvl , maxadj
ENT - BANNER	LINE1, LINE2, ..., LINE11: set to NULL
ENT - CID - SECU	Links: baudrate , echo
ENT - IPMAP	TL1 & TCP/IP settings: tcpipaddr , tcpiphost , acid
ENT - NTP - SERVER	NTP servers removed
ENT - OSACMAP	TL1 settings: acid
ENT - rr	Signal fail threshold for modifier = STS-n: sfail , Signal degrade threshold for modifier = VT1, STS-n: sfthr
ENT - SYS	Alarm Gateway NE: agne Alarm group: almgrp Idle channel signal: idle NTP parameters: network time protocol, universal time coordinated offset: ntp , utco Remote network element status: rnestat SNMP parameters: system contact, system location, SNMP authentication failure: syscontact , syslocation , snmpauthtrap TL1 TCP/IP Gateway: tcpipgw Wait to rename timer: wtrename
ENT - TL1MSGMAP	TL1 settings: msgtype for each acid
ENT - ULS	TCPIP parameters: tcpip , proxyarp

Table 2-243. System Level Parameters Values Set When **ph=9** and **aid** Set to the System Controller Slot AID (cont 2 of 2)

Com-mand	Parameter
ENT-ULSDCC-L3	NSAP parameters and threshold level: l3org, l3res, l3rd, l3area, l3lv2is, nsapthlev
ENT-USER-SECU	User security parameters for the three default logins: page, tmout, alw_login . All other user logins are deleted.
SCHED-BACKUP	Schedule backup parameters: to, time, date, invl, type, filenum
SET-ATTR-ALM	Alarm delay, alarm clear delay: almdel, clrdel
SET-ATTR-CONT	Control type: conttype
SET-ATTR-ENV	Notification code, alarm type, alarm message: ntfcncde, almtime, almmsg
SET-SYNCN	Mode switching: mdsw
SET-TH-rr	PM TCA settings and thresholds: thlev, dirn, tmper, fmt for each montype , as appropriate

Table 2-244 shows the additional parameters that are set to their default values when neither MAIN CP slot is equipped. In addition, all user logins, except the three default logins, are deleted and the default logins are reset to their default values for all their parameters

Table 2-244. Additional System Level Parameters Values Set When **ph=9** and **aid=SYSCTL** And neither Main CP Is Equipped (cont 1 of 2)

Command	Parameter
ENT-FECOM	OSI communications for LAN-1 and LAN-2 ports: com
ENT-SNMP-USER	SNMP user community, SNMP user IP address: ucomid, uipadr . SNMP users removed
ENT-SYS	Autolock count, autolock release interval, autolock switch interval: autolcnt, autolswint, autolrelint
ENT-SYS	File Transfer Protocol: ftp FTAM-FTP Gateway: ftamftpgw History and security log thresholds: hlogthrshld, slogthrshld Network element mode: nemode

Table 2-244. Additional System Level Parameters Values Set When **ph=9** and **aid=SYSCTL** And neither Main CP Is Equipped (cont 2 of 2)

Command	Parameter
ENT - ULSDCC - L4	TARP timers, TDC, L2 routing, lifetime and manual adjacencies: <i>l4ajorg, l4ajres, l4ajrd, l4ajarea, l4ajsys, l4tlif, l4t1tm, l4t2tm, l4t3tm, l4t4tm, l4lftm, l4etdc, l4tdcorg, l4tdcres, l4tdcrd, l4tdcare, l4tdcsys, l4tdctid</i>
SET - ATTR - ALM	Power minor alarm level: <i>pmn</i>
SET - SYNCN	AIS threshold (where applicable): <i>aisthres</i>

NOTE: Starting in Release 6.0, the system parameters specified in [Table 2-244](#) are always reset to their default values regardless of the main pack equipage.

Starting in Release 6.0, **aid=SYSCTL** is not valid and is replaced with **aid=CTL-{1,ALL}**. To clear a system problem, **INIT - SYS** can be executed with **ph = 3** and with **aid** set to either **CTL-1** or **CTL-ALL**.

Starting in Release 6.0, when **aid=SYSCTL** is no longer valid, **INIT - SYS** can be used with **ph= 9** and **aid** set to either **CTL-1** or **CTL-ALL** to restore the system level parameters in the system controller to their default values.

Starting in Release 7.1.1, the **ENT - ULS** TCPIP parameters that are set to their default values when **INIT - SYS** is executed with **ph=9** and **aid** set to the system controller slot AID include *ipaddr* and *ipsnmk*, as well as *tcpip* and *proxyarp*, which are specified in the above table.

Starting in Release 9.0, executing **INIT - SYS** with **ph=9** and **aid** set to the system controller slot AID, resets the pre-defined (SNMPv3 and Legacy SNMPv2) MIBs and MIB entries to their initial values. This removes all user-provisioned SNMPv2 and SNMPv3 users and restores the default SNMPv3 users, with all of the associated parameters reset to their initial values. In effect this undoes all prior provisioning resulting from execution of the **ED/ENT - SNMP - GROUP**, **ED/ENT - SNMP - ADDRS**, **ED/ENT - SNMP - PARAM**, **ED/ENT - SNMP - MIBGP**, **ED/ENT - SNMP - NOTIF** and **ED/ENT - SNMP - GROUP** commands.

Starting in Release 5.0, while the system controller is resetting, and before there is any other indication displayed on the IND, a flashing "b" will be displayed to indicate that a controller reboot is in progress. There is a short delay between the time that the system controller starts to reset and the time that the flashing "b" is displayed.

Starting in Release 3.1, executing **INIT - SYS** with **ph=9** and **aid=ALL** will clear the Security and History logs.

Starting in Release 6.0, if the NE resets and does not have a valid release and database, or cannot select among those that are on the NVMs, the NE will go into Maintenance Mode. Maintenance Mode is identified by **RTRV-**

SYS:nemode=MAINTENANCE. The user can identify available releases and databases using **RTRV-GENERIC** and can select a release and database using **SET-GENERIC**. The user can provision communications parameters, download a new release or restore a previously backed up database using **CPY-MEM**, and then use **SET-GENERIC** to select the downloaded generic or restored database.

After a valid generic and database have been selected, executing **INIT-SYS** with **aid=CTL-1** or **aid=CTL-ALL** and **ph=3** will reset the system controller and cause the NE to exit Maintenance Mode if both a valid generic and a valid database have been selected and are compatible. The NE will not exit Maintenance Mode if **INIT-SYS** is executed without both a selected valid generic and a selected valid database.

When the NE is in Maintenance Mode, executing **INIT-SYS** will be denied if **ph=9**, or if **aid** is set to the AID of a smart circuit pack.

Starting in Release 4.0, individual Smart Packs may be reset by specifying the slot AID for the circuit pack and setting the phase parameter to 3. A slot AID is not valid, and the command will be denied, if the phase parameter is set to 9. See Appendix D for the identification of the Smart Packs that can be reset with this command.

Smart electrical DS1, DS3 and TMUX circuit packs may be 1X1 equipment protected. Ethernet and DATA circuit packs are never 1X1 equipment protected. When the slot AID for an individual Smart Pack is specified, if the circuit pack is an Ethernet or DATA circuit pack or an unprotected DS1, DS3 or TMUX circuit pack, the **init-sys** will always be executed. If the circuit pack is an 1X1 equipment protected DS1, DS3 or TMUX circuit pack, the following additional rules apply:

- If the circuit pack is one of an 1X1 equipment protected pair of circuit packs and is the active circuit pack, and if the companion circuit pack is in a failed state, the **INIT-SYS** command will be executed. This may cause loss of service.
- If the circuit pack is one of an 1X1 equipment protected pair of circuit packs and is the active circuit pack, and if the companion circuit pack is not in a failed state the **INIT-SYS** command will be denied. If the active circuit pack needs to be reset, a manual protection switch to the protection circuit pack should be executed before executing the **INIT-SYS** command.
- If the circuit pack is not one of an 1X1 equipment protected pair, the **INIT-SYS** command will be executed and there may cause loss of service.

The **RTRV-STATE-EQPT** command can be used to determine which circuit pack of an 1X1 equipment protected pair is the active pack and the **SW-TOPROTN** command is used to do the manual switch.

Smart OLIU circuit packs are introduced starting in Release 7.0. Starting in this release, the parameter **type** controls the type of initialization of a Smart OLIU circuit pack. **type=HARD** initializes the board controller and resets all devices on a board similar to a "power on" scenario. **type=SOFT** restarts the board application software. **type** applies only when **ph=3** and **aid** is the AID of a Smart OLIU circuit pack.

Starting in Release 9.0, for a Smart circuit pack with an unrecoverable hardware failure, initialization of the circuit pack, using **type=HARD**, resets all devices on a board similar to a "power on" scenario. This gives the user the ability to try to clear the failure remotely rather than having to replace the pack.

The parameter **type** and values **HARD** and **SOFT** also applies to the LNW20 48DS3EC1TMUX.

In Release 7.0, only a hard reset of a Smart electrical DS1, DS3, TMUX circuit pack or an Ethernet or DATA circuit pack is supported. For these circuit packs, **type** does not need to be specified, but if specified, the only valid value is **type=HARD**.

Smart OLIU circuit packs are never 1X1 equipment protected and executing **INIT - SYS : type=HARD** will be service affecting.

Smart OLIUs that are MAIN circuit packs include the timing generator (TG) which provides timing synchronization for the NE. **INIT - SYS : type=HARD** does not distinguish between the TG functions and the OLIU functions on the Smart MAIN circuit packs and resets both functions.

Starting in Release 7.0, if the **aid** specified is the **aid** of a Smart circuit pack and

- **type=SOFT**:
- if **type=SOFT** is specified and the circuit pack is a Smart OLIU, then the **INIT - SYS** command will always be executed
- if **type=SOFT** is specified and the circuit pack is not a Smart OLIU, then the **INIT - SYS** command will always be denied

Starting in Release 7.1, **type=SOFT** is valid for a Smart DS1, DS3, TMUX, Ethernet, DATA, MUXPONDER and OMD circuit pack.

NOTE: if **type=SOFT** is specified and the circuit pack is a pack type for which **type=SOFT** is valid, except Ethernet circuit packs, then the **INIT - SYS** command will always be executed.

Starting in Release 9.0, **type=SOFT** is not valid for Ethernet and DATA circuit packs.

- **type=HARD** and the circuit pack is not a Smart OLIU:

- if **type** is not specified or if **type=HARD** is specified, and the circuit pack is an Ethernet or DATA circuit pack, then the **INIT-SYS** command will always be executed
 - if **type** is not specified or if **type=HARD** is specified, and the circuit pack is a DS1, DS3 or TMUX that is not one of a 1X1 equipment protected pair, then the **INIT-SYS** command will always be executed
 - if **type** is not specified or if **type=HARD** is specified, and the circuit pack is a DS1, DS3 or TMUX that is one of a 1X1 equipment protected pair, then
 - if the circuit pack is not the active circuit pack, then the **INIT-SYS** command will be executed
 - if the circuit pack is the active circuit pack, and if the companion circuit pack is in a failed state, then the **INIT-SYS** command will be executed
 - if the circuit pack is the active circuit pack, and if the companion circuit pack is not in a failed state, then the **INIT-SYS** command will be denied
 - This last condition applies only to 1X1 equipment protected circuit packs. If the active circuit pack needs to be hard reset, a manual protection switch to the protection circuit pack should be executed before executing the **INIT-SYS** command.
- **type=HARD** and the circuit pack is a Smart OLIU:
- if **type** is not specified or if **type=HARD** is specified, and the circuit pack is a Smart OLIU circuit pack that is not the active timing pack, then the **INIT-SYS** command will always be executed
 - if **type** is not specified or if **type=HARD** is specified, and the circuit pack is a Smart OLIU circuit pack that is the active timing pack, then
 - if the companion circuit pack is in a failed state or is missing, then the **INIT-SYS** command will be executed
 - if the companion circuit pack is present and is not in a failed state, then the **INIT-SYS** command will be denied
 - This last condition applies only to Smart OLIU circuit packs that is the active timing pack for which the companion SMART OLIU with the standby timing generator is available. If the SMART OLIU with the active timing generator needs to be hard reset, a manual timing generator protection switch (**OPR-SYNCNSW:syncfunction=CIRCUITPACK**) should be executed before executing the **INIT-SYS** command.

When a hard reset occurs on Ethernet and data circuit packs, on Smart OLIUs and on unprotected DS1, DS3 and TMUX circuit packs, service will be affected. Thus, this option should be used only when service is already disrupted in the target circuit pack.

Starting in Release 7.1, if **type=HARD** is specified and the circuit pack is a MUXPONDER or OMD circuit pack, then the **INIT-SYS** command will always be executed.

Starting in Release 7.1, the LNW170 Ethernet circuit pack may be 1x1 equipment protected. Because Ethernet control traffic may be processed by the circuit pack's controller, both hard and soft resets may be service affecting. Thus, the following rules apply for both **type=HARD** and **type=SOFT**:

- if an Ethernet circuit pack is not 1x1 equipment protected, then the **INIT-SYS** command will always be executed
- if an Ethernet circuit pack is one of a 1X1 equipment protected pair, the command will be executed if:
 - if the circuit pack is not the active-WAN circuit pack
 - if the circuit pack is the active-WAN circuit pack, and if the companion inactive-WAN circuit pack is in a failed state
- if an Ethernet circuit pack is one of a 1X1 equipment protected pair, the command will not be executed if
 - if the circuit pack is the active-WAN circuit pack, and if the companion inactive-WAN circuit pack is not in a failed state
 - if the circuit pack is the active-WAN circuit pack, and if the companion inactive-WAN circuit pack is resetting
 - If the active circuit pack needs to be reset:
 - a manual protection switch to the protection circuit pack should be executed before executing the **INIT-SYS** command.
 - If the companion circuit pack is resetting, before executing the **INIT-SYS** command, a manual protection switch to the protection circuit pack should be executed after the companion pack has finished resetting.
- Starting in Release 9.0, **type=SOFT** is not valid for Ethernet or DATA circuit packs. These rules apply only to **type=HARD**.

Starting in Release 4.0, when the slot AID for an individual Smart Pack is specified for an Ethernet circuit pack, the Ethernet pack reset may take up to several minutes to complete. Until the pack reset is complete, subsequent provisioning commands directed toward the pack may not complete and may cause a transient pack failure.

Starting in Release 5.1, when the slot AID for an individual Smart Pack is specified for a DATA circuit pack, the DATA pack reset may take up to several minutes to complete. Until the pack reset is complete, subsequent provisioning commands directed toward the pack may not complete and may cause a transient pack failure.

Execution of this command at any Network Element (NE) will also affect the OS communication with that NE, and all OS users logged into that NE will be logged out.

Starting in Release 4.0, the execution of this command with **aid** set to the system controller slot AID or **aid=ALL** will affect the OS communication with that NE, and

all OS users logged into that NE will be logged out. OS users will not be logged out when the **aid** specified is the slot AID for an individual Smart Pack.

Release 9.0 introduces support for a multi-shelf DCS system utilizing a single TID.

[Table 2-245](#) defines the operations of the **INIT-SYS** command on subshelves when directed to a main shelf in a multi-shelf DCS system.

Table 2-245. INIT-SYS on the Main Shelf in Multi-shelf DCS System

Phase (ph)	aid	Operation
9	ALL	Applied to main shelf and each provisioned subshelf, provided the communication link to the subshelf is operational
9	{shelf}-ALL	Not Allowed
9	{shelf}-ctl-1	Not Allowed
9	{shelf}-Smart Pack	Not Allowed
3	{shelf}-ALL	Not Allowed
3	{shelf}-ctl-1	Restarts the SYSCTL on the subshelf, provided the communication link to the subshelf is operational. It does not change provisioned parameters.
3	{shelf}-Smart Pack	Restarts smart pack in specified subshelf slot, provided the communication link to the subshelf is operational. It does not change provisioned parameters.

[Table 2-246](#) defines the application of the **INIT-SYS** command when executed on a subshelf in a multi-shelf DCS system.

Table 2-246. INIT-SYS on a Subshelf in Multi-shelf DCS System

Phase (ph)	aid	Operation
9	ALL	Deletes the subshelf by setting all provisionable parameters to their default values and restarting the shelf as a stand-alone shelf
9	ctl-1	Not Allowed
9	Smart Pack	Not Allowed
3	ALL	Not Allowed

Table 2-246. INIT -SYS on a Subshelf in Multi-shelf DCS System

Phase (<i>ph</i>)	<i>aid</i>	Operation
3	ctl-1	Resets subshelf system software, does not change provisioned parameters
3	Smart Pack	Not Allowed

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **INIT -SYS** command issues a **REPT DBCHG** message when *ph*=9 and *aid* is set to the system controller slot AID or *aid*=ALL. A **REPT DBCHG** message is not issued when *aid* is set to the system controller slot AID and *ph*=3.

Starting in Release 4.0, a **REPT DBCHG** message is not issued when *ph*=3 and the *aid* is the AID of a slot that contains a Smart Pack.

INPUT PARAMETERS

Table 2-247. INIT -SYS Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. <i>aid</i> is a required parameter. <i>aid</i> can have values of ALL or SYSCTL, depending on the value of the phase parameter, <i>ph</i>. When the phase parameter is set to 3, only the <i>aid</i> value SYSCTL is allowed (causing the system software to be reset). Starting in Release 4.0, when the phase parameter is set to 3, the <i>aid</i> value may be either SYSCTL or the AID of a slot that contains a Smart Pack. A value of SYSCTL causes the system software to be reset and a Smart Pack slot AID causes the controller, and possibly other devices on the circuit pack, on the Smart Pack to be reset. Starting in Release 6.0, the system controller slot AID SYSCTL is not valid and is replaced with CTL-1 or CTL-ALL. Starting in Release 6.0, when the phase parameter is set to 3, an <i>aid</i> value of either CTL-1 or CTL-ALL causes the system software to be reset. When the phase parameter is set to 9, <i>aid</i> may have the following values: ■ SYSCTL The address SYSCTL can be used after a system controller is replaced on an in-service system. When <i>ph</i>=9 and <i>aid</i>=SYSCTL, it is the equivalent of pressing the UPD/INIT push button while the CR LED on the user panel is flashing, approximately 45 seconds to more than 1 minute after the start of the processor startup sequence. This command restores the system level parameters in the SYSCTL to their default values. NOTE: Starting in Release 6.0, the address SYSCTL is not valid ■ CTL-ALL Starting in Release 6.0, the address CTL-ALL can be used after a system controller is replaced on an in-service system. When <i>ph</i>=9 and <i>aid</i>=CTL-ALL, it is the equivalent of pressing the UPD/INIT push button while the CR LED on the user panel is flashing, approximately 45 seconds to more than 1 minute after the start of the processor startup sequence. This command restores the system level parameters in the system controller to their default values. ■ ALL The address ALL is used only at the end of an installation before turning over the system. This ensures that all parameters in the system have the proper default values before any system-specific provisioning is done.

Table 2-247. INIT -SYS Input Parameters (cont 2 of 2)

Parameter Name	Description
ctag	Correlation tag. Refer to the RTRV -HDR command for the input parameter syntax and description of this parameter.
ph	Phase. This field specifies the level of the system initialization. This parameter must be one of the following values: ■ 9 This is the highest phase of initialization and specifies an initialization of system parameters and a start of systems software. This command with ph=9 and aid=ALL is used only at the end of installation of a new system and is never used on an in-service system. ■ 3 This is an interim level of initialization that resets the system software without affecting the setting of parameters. It does cause the history and performance monitoring data to be lost. It also resets the system date and time to its default values. Starting in Release 4.0, when the aid is the slot AID of a Smart Pack, the specified circuit pack is reset. Starting in Release 6.0, when ph=3, performance monitoring data is not lost. The history log is retained in the NVM and is also not lost, although if the NVMs are replaced with NVMs from different system controllers, the history and security log data prior to the NVM replacement may not be from this NE, and the logs on the NVMs may not be the same.
spec_block	The spec_block parameters are defined in the following table.

Table 2-248. INIT -SYS Input **spec_block** Parameters (cont 1 of 2)

Parameter Name	Descriptions of Spec Block Parameters
type	Type of initialization for Smart circuit packs. type applies only when ph=3 and aid is the AID of a Smart circuit pack. ■ HARD Resets all devices on a board similar to a "power on" scenario. If type is not specified, a hard reset of the specified Smart circuit pack is executed.

Table 2-248. INIT -SYS Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Descriptions of Spec Block Parameters
	■ SOFT Restarts the board application software. type=SOFT applies to Smart OLIU circuit packs. In Release 7.0, type=HARD is the only valid value for Smart DS1, DS3, TMUX, Ethernet and DATA circuit packs. Starting in Release 7.1, type=SOFT is valid for a Smart OLIU, DS1, DS3, TMUX, Ethernet, DATA, MUXPONDER and OMD circuit pack. Starting in Release 9.0, type=SOFT is not valid for Ethernet and DATA circuit packs.

OUTPUT FORMAT

Refer to the **RTRV -HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also.

OUTPUT PARAMETERS

Refer to the **RTRV -HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also.

EXAMPLE INPUT/OUTPUT

The following example initializes the system controller:

```
init-sys:LT-TID123:sysctl:123456::9;

IP 123456
<
  LT-TID123 00-11-26 16:42:11
M 123456 COMPLD
;
```

Since a full system initialization (phase parameter set to **9**) initializes the system controller or the entire system, all user sessions will be dropped.

The following example resets the system software, but does not affect the value of parameters that have been set.

```
init-sys:LT-TID123:sysctl:123456::3;  
  
IP 123456  
<  
;  
;
```

When the phase parameter is set to **3** and the **aid** is set to **SYSCtl**, the COMPLD message may not be displayed. Since the system controller is reset, all user sessions will be dropped.

Starting in Release 6.0, the following example initializes the system controller and resets the system level parameters to their default values. All user sessions will be dropped:

```
init-sys:LT-TID123:ctl-all:123456::9;  
  
IP 123456  
<  
    LT-TID123 06-03-18 16:42:11  
M 123456 COMPLD  
;  
;
```

Starting in Release 6.0, the following example initializes the system software without changing parameters. All user sessions will be dropped:

```
init-sys:LT-TID123:ctl-1:123456::3;  
  
IP 123456  
<  
    LT-TID123 06-06-03 16:42:11  
M 123456 COMPLD  
;  
;
```

Beginning in Release 3.0, history log entries are created for the above responses.

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to the **INIT-SYS** command also.

If the user attempts to execute **INIT-SYS** when an **APPLY** command is scheduled or in progress, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Apply command is IP */
;
```

If the NE receives an **INIT-SYS** command with an invalid **aid** value, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier */
;
```

If the NE receives an **INIT-SYS** command with an invalid phase value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid or missing PH */
;
```

Starting in Release 4.0, if the **aid** specified is a valid slot AID other than **aid=SYSCTL**, but the **ph=9**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, PH = 9 not valid when slot AID is
specified */
;
```

Starting in Release 6.0, **aid=SYSCTL** is not valid and is replaced by **aid=CTL-1** or **aid=CTL-ALL**. Thus, the previous error response will be returned if the **aid** specified is a valid slot AID other than **aid=CTL-1** or **aid=CTL-ALL**, but the **ph=9**.

Starting in Release 4.0, if the **aid** specified is a valid Smart CP slot AID and the **ph=3**, but the slot does not contain a Smart Pack, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, slot does not contain a Smart CP */
;
```

Starting in Release 4.0, if the **aid** specified is a valid slot AID, the **ph=3** and the Smart Pack is the active, service carrying circuit pack of a 1x1 equipment protected pair, the following error response is returned:

```
sid date time
M ctag DENY
SDNC
/* Status, Data Not Consistent, cannot reset a protected Smart CP
that is the active CP */
;
```

Starting in Release 7.0, the previous error response applies only if **type** is not specified or for **type=HARD**.

Starting in Release 7.1, for 1X1 equipment protected Ethernet circuit packs, the previous error response applies for both **type=HARD** and **type=SOFT**.

Starting in Release 9.0, **type=SOFT** is not valid for Ethernet and DATA circuit packs. The preceding statement is no longer applicable.

If an **INIT-SYS** command is entered with an invalid **type** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TYPE value */
;
```

If an **INIT-SYS** command is entered with a valid **type** and a valid combination of **ph** and **aid**, but with **ph=9** or with an **aid** value that is not the AID of a Smart circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, TYPE inconsistent with PH or AID */
;
```

If an **INIT-SYS** command is entered with **type=SOFT** and **aid** specifying a Smart DS1, DS3, TMUX, Ethernet or DATA circuit pack, the command will be denied and the following error response is returned:

```
sid date time
M ctag DENY
  SDNC
/* Status, Data Not Consistent, type=SOFT not supported for this CP */
;
```

Starting in Release 7.1, **type=SOFT** is valid for a Smart DS1, DS3, TMUX, Ethernet or DATA circuit pack and the previous error response is obsolete.

Starting in Release 9.0, **type=SOFT** is not valid for Ethernet and DATA circuit packs. For these packs, the previous error response is once again applicable.

RELATED TL1 MESSAGES

None.

NAME

INS-PRGM: Install Program

The **INS-PRGM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

Starting in Release 6.0, software downloads through the serial port are not supported and **INS-PRGM** is obsolete.

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

INS-PRGM:*tid::ctag::,,,[dest_tid][:spec_block];*

DESCRIPTION

The **INS-PRGM** command supports program installation to a Network Element (NE) from a PC connected to the front serial port of the target system.

The software to be installed will be stored as a compressed, non-executing, dormant copy of a software generic. This command supports local or remote program installation into the memory of the target NE where it will reside as a dormant copy.

The **APPLY** command is used later to overwrite the currently executing generic with a copy of the generic included in the dormant area.

This command must be supported by a PC with the program to be installed in its hard disk or on CD-ROM.

Local **INS-PRGM** will halt the system's Operations interfaces for the duration of the software download without affecting service.

When a new NE software is installed to an NE as a non-executing dormant copy, a standing condition will exist on the receiving NE until an **APPLY** command is issued which causes the dormant copy to be installed as the executing copy. This condition is triggered when the release number of the dormant copy does not match the release number of the executing copy. The condition type is EOC and the message sent is "dormant/executing code mismatch".

Prior to Release 2.0, this command will also be used to install Smart Pack software (for a list of Smart Packs, refer to Appendix D) from a PC connected to

the front CIT port of the target system. When executing this command, the Smart Pack generic to be installed will be stored in the target NE's memory as a compressed, non-executing, dormant copy of the generic. The **APPLY** command is used to overwrite the current Smart Pack generic with a copy of the generic included in the dormant area.

When a local **INS-PRGM** for **NESW** is issued, a condition "nesw program installation IP" is reported when command execution is started. The controller will reset and a "p" will appear on the IND.

When a local **INS-PRGM** for a non-**NESW** *pgmtype* is issued, a condition "*pgmtype* program installation IP" is reported when command execution is started.

When a remote **INS-PRGM** for **NESW** is issued, a standing condition "nesw program installation IP" is reported while the command executes; it exists as a reminder that a software download is in progress but has not been completed.

When a remote **INS-PRGM** for a non-**NESW** *pgmtype* is issued, a standing condition "*pgmtype* program installation IP" is reported while the command executes; it exists as a reminder that a software download is in progress but has not been completed.

The condition type for the messages above is EOC.

Starting in Release 5.0, while the system controller is resetting, and before there is any other indication displayed on the IND, a flashing "b" will be displayed to indicate that a controller reboot is in progress. There is a short delay between the time that the system controller starts to reset and the time that the flashing "b" is displayed.

This command can be used for both local and remote software downloads, but in both cases, this command is addressed to the local NE. The remote NE must have DCC or OSI LAN connectivity to the local NE. A local NE supports remote software download to DMX, DMXpress, DMXtend, DMXplore, DDM-2000 OC-3, DDM-2000 OC-12, or FiberReach.

This command can be used to download a software generic for a compatible NE of a *different* type to DMX, too. The compatible product types are DMXpress, DDM-2000 OC-3, DDM-2000 OC-12 and FiberReach. The related command **CPY-PRGM** command can be used to copy a software generic from DMX to any one of those compatible NEs.

DMX Releases R2.1.3 and R3.0.2 and later (but not R3.0 or R3.0.1) support remote software download of DMXtend to DMX.

Starting in Release 4.0, this command can also be used to download a software generic for DMXplore.

Software downloads are not service-affecting, but operations interfaces, alarming and protection switching are temporarily disabled for the duration of a local software download (including local software downloads of software generics for other compatible product types), and a "P" appears in the 7-segment LED display on the faceplate of the system controller (SYSCTL) circuit pack.

When the system controller resets as a result of a *local* software download, all alarm and status conditions are cleared and then rediscovered by the new software generic. After the local software download completes, the user needs to reestablish communications with the NE.

While an NE is in the initial local software installation phase (during download and automatic apply), such as when a new system controller circuit pack is installed that doesn't already have an active or dormant software generic, only a minimal subset of TL1 commands is supported (please note that other than the parameters specified below, any values set with an ENT- command during this phase are forgotten after the automatic or manual apply).

Enhanced initial software download is supported by DMX release 3.0.2 and later. Enhanced features include remote download. If the generic running on the controller is unknown, and the system has at least one main pack, then if a login using the system's provisioned TID (rather than the default) succeeds, the controller supports enhanced initial software download.

The following commands are supported during the initial software phase:

- **ACT - USER** (and **CANC - USER**). These commands use the default TID, user ID and password values to login.
 - a. If the controller supports enhanced initial software download, and at least one main pack is present in the shelf, the system's provisioned TID should be used, rather than the default.
- **ENT - SYS** (and **RTRV - SYS**). These commands are used to enable the NE as a TL1 TCP/IP GNE (Gateway Network Element). **ftp** defaults to **ENABLED**. If **new_tid**, **tcpipgw** or **ftp** are changed, the new values will be used after the apply.
 - a. If the controller supports enhanced initial software download, and at least one main pack is present in the shelf, the shelf will default to the NE's provisioned values for **tcpipgw**, **ftp**, and **ftamftpgw**.
- **ENT - IPMAP** (and **RTRV - IPMAP**). These commands are used to authorize and specify an IP calling address. The default value of **tcpipaddr** is **NULL**. If **tcpipaddr**, **tcpiphost** or **acid** are changed, the new values will be used after the apply.
 - a. If the controller supports enhanced initial software download, and at least one main pack is present in the shelf, and **ENT-SYS** parameter **tcpipgw** is enabled, then **tcpipaddr** is set to **255.255.255.255**, **tcpiphost** is set to **NULL**, and **acid** is set to **TL1TEST**.
- **CPY - MEM**.
- **INS - PRGM**.

- NOTE: **INS-PRGM** is not supported starting in Release 6.0.
- **RTRV-COND**. If the controller supports enhanced initial software download, the command supports **modifier** of **COM**.
- If the controller supports enhanced initial software download, and at least one main pack is present in the shelf, and DCC connectivity is good, a remote **CPY-PRGM** command can be used to copy software into this shelf.
- If the controller supports enhanced initial software download, the **RTRV-EQPT** command is allowed with **aid=SYSCTL**.
- If the controller supports enhanced initial software download, **RTRV-MAP-NETWORK** and **RTRV-MAP-NEIGHBOR** are allowed.
- **APPLY**.
- **ENT-ULS** (and **RTRV-ULS**). These commands are used to assign an IP address and subnet mask to the Front or Rear IAO LAN port, and enable TCP/IP communications. For lan-1 and lan-2, the default values are **ipaddr=NULL**, **ipsnmk= NULL**, **ipdrad= NULL** and **tcpip= DISABLED**. If these 4 parameters are changed for lan-1 and lan-2, the new values will be used after the apply.
 - a. If the controller supports enhanced initial software download, and at least one main pack is present in the shelf, then for lan-1 and lan-2, **ipaddr**, **ipsnmk**, **ipdrad** and **tcpip** are set to their provisioned values.
- **ENT-FECOM** (and **RTRV-FECOM**). lan-1 and lan-2 **com** default to **ENABLED**. If lan-1 or lan-2 **com** are changed, the new values will be used after the apply.
 - a. If the controller supports enhanced initial software download, and at least one main pack is present in the shelf, then lan-1 and lan-2 **com** are set to their provisioned values.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

INPUT PARAMETERS

Table 2-249. **INS-PRGM** Input Parameters (cont 1 of 2)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-249. INS-PRGM Input Parameters (cont 2 of 2)

Parameter Name	Description
dest_tid	Destination Target Identifier. This is the target identifier of the destination NE into which the program will be installed. Destination target identifier is an optional parameter when executing local INS-PRGM and if no value is entered, it will default to Local TID. Destination target identifier is required when executing Remote INS-PRGM.
spec_block	Specific Parameter Block. The following are the spec_block parameters.

Table 2-250. INS-PRGM Input **spec_block** Parameters (cont 1 of 2)

Parameter Name	Description of spec_block Parameters
pgmtype	Program Type. This parameter specifies the software generic type to be installed. This parameter can only have one of the following values: ■ NESW The software to be loaded is the NE generic (default prior to R2.0) ■ ALL In Release 2.0 and later, this is the default and only legal value. The system loads the whole software generic for the system controller and all Smart Packs. The following values are not legal in Release 2.0 and later: ■ ETHSW The software to be loaded is the 10/100 Fast Ethernet and/or the 1GbE Ethernet generic. ■ DS1SW The software to be loaded is the Low Speed DS1 generic. ■ DS3SW The software to be loaded is the Low Speed DS3 generic.
prodtype	This specifies the product type of the software generic to be downloaded: ■ DMX Default ■ DMXTEND ■ DMXPRESS ■ DMXPLORE

Table 2-250. INS-PRGM Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
	■ DDMOC3 DDM-2000 OC-3 ■ DDMOC12 DDM-2000 OC-12 ■ FBRRCH FiberReach If the product type is the same as the local system, the software generic for itself is downloaded and stored as a dormant software generic. A compressed software generic for the other compatible product types can also be downloaded to the system (but never activated in the system itself) and then copied to remote NEs of that product type. At most one software generic for itself and one software generic for any other product type can be stored in a system at a time. If the release number of the dormant software generic for the local system itself does not match the currently executing software generic, a standing status condition "dormant/executing code mismatch" is reported. The standing status condition is cleared when the dormant software generic is activated. Starting in Release 5.0, at most one dormant software generic can be stored in the system at a time. This software generic can be for the local NE or it can be for a different product type. A subsequent software download overwrites the dormant software generic, regardless of whether the dormant software generic is for the local NE or for a different product type and regardless of whether the downloaded software generic is for the local NE or for a different product type. The standing status condition is also cleared if a software generic for a different product type is downloaded to the NE.

OUTPUT FORMAT

If the command syntax is correct, the NE sends the following normal completion response just prior to transmitting the software:

```
IP ctag
<

    sid date time
M ctag COMPLD
;
```

Starting in 1.1, the NE sends the following autonomous message for a remote download, when transmitting the software generic begins:

```
sid date time
A <atag> REPT EVT COM
  "address:E0C,SC,date,time,,,:\<pgmtype> install program IP\"";
```

A history log is created for the above condition.

Starting in 1.1, the NE sends the following autonomous message upon completion of the software generic remote install program command:

```
sid date time
A <atag> REPT EVT COM
  "address:E0C,CL,date,time,,,:\<pgmtype> install program compl.\"";
```

A history log is created also for the above condition.

No history log is created for local software download (no autonomous message is sent upon completion).

In Release 2.0, the local NE sends the following TL1 autonomous message just before the software download begins:

```
sid date time
A atag REPT EVT COM
  "cit-1:E0C,SC,date,time,,,:\install program IP\"";
```

A history log entry in the local NE is created also for the above condition only if it is a remote software download.

Starting in 2.0, the local NE sends the following TL1 autonomous message upon completion of a remote software download. This message is specifically intended to clear the preceding standing status condition that reported a remote software

download in progress (IP), not to indicate whether the software copy was successful or failed:

```
sid date time
A atag REPT EVT COM
  "cit-1:E0C,CL,date,time,,,:\install program compl.\"";
```

A history log entry in the local NE is created also for the above condition only if it is a remote software download.

For a local software download, no history log entry is created and no TL1 autonomous message is sent upon completion of the download.

Starting Release 2.1, the "CL" message has the same text as "SC" message.

The source NE sends the following TL1 autonomous message just before the software download begins:

```
sid date time
A atag REPT EVT COM
  "cit-1:E0C,SC,date,time,,,:\install program IP\"";
```

A history log entry is created for the above condition.

Starting in Release 2.1, the source NE sends the following TL1 autonomous message upon completion of the remote software download:

```
sid date time
A atag REPT EVT COM
  "cit-1:E0C,CL,date,time,,,:\install program IP\"";
```

A history log entry is created also for the above condition.

Starting in Release 2.0, the *remote* NE sends the following TL1 autonomous message if a remote software download succeeds:

```
sid date time
A atag REPT EVT COM
  ":EOC,TC,date,time,,,:\remote install/copy program successful\""
;
```

A history log entry is created for the above condition.

Starting in Release 2.0, the *remote* NE sends the following TL1 autonomous message if the requested remote software download fails:

```
sid date time
A atag REPT EVT COM
  ":EOC,TC,date,time,,,:\remote install/copy program failed\""
;
```

A history log is created also for the above condition.

The *date* and *time* in the header of all the TL1 autonomous messages above indicates the date and time the message is actually output and may be different than the *date* and *time* in the body of the same TL1 autonomous messages.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command also.

EXAMPLE INPUT/OUTPUT

The following example shows an input and output of the remote **INS-PRGM** command for a DMX system:

```
INS-PRGM:LT-DMX::123456::,,,:pgmttype=nesw;  
  
IP 123456  
<  
  
LT-DMX 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following example shows an input and output of local **INS-PRGM** command for a DMX system:

```
INS-PRGM:LT-DMX::123456::,,,:pgmttype=nesw;  
  
IP 123456  
<  
  
LT-DMX 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

Starting in Release 2.0, the following example shows input and output of the **INS-PRGM** command loading DMXpress software into the dormant area:

```
INS-PRGM:LT-TID::123456::,,,:prodtype=dmxpress;  
  
IP 123456  
<  
  
LT-TID 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following example shows a remote software download of the software generic for the remote NE itself:

```
INS-PRGM:LT-TID::123456::,,LT-DMXOTHER;  
  
IP 123456  
<  
  
LT-TID 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the ***dest_tid*** is syntactically incorrect, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid destination TID */  
;
```

Starting in Release 1.1, if the user issues a **INS-PRGM** command for a ***pgmtype*** software generic which the PC doesn't have, the following error response is returned:

```
sid date time  
M ctag DENY  
SROF  
/* Status, Requested Operation Failed, mismatch between PC files and  
requested operation */  
;
```

Starting in Release 1.1, if the user attempts to install a **pgmtype** software generic to an NE that does not support the feature, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Target NE does not support this
feature */
;
```

If the **pgmtype** is invalid, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid Program Type */
;
```

If the **prodtype** is invalid, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid Product Type */
;
```

If the **prodtype** value doesn't match the product type of any of the software generics on the PC, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, product type software generic is not available */
;
```

If the destination TID (*dest_tid*) shelf type does not match the *prodtype* value, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, destination TID is of different
product type */
;
```

If an NE has a software download or copy in progress (i.e., *receiving* software via a remote **INS-PRGM**, **CPY-MEM** or **CPY-PRGM** or *sending* software via a **CPY-PRGM**), and another **INS-PRGM** command is entered, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Program installation
is already IP in Target NE */
;
```

If the user attempts to install an NE generic program to a target NE that has either an **APPLY** command in progress, or **APPLY** has already been scheduled, the following error response will be returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Apply command is IP or scheduled in
Target NE */
;
```

If the user attempts to install an NE generic program to a target NE that has a **CPY-PRGM** command in progress, the following error response will be returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Program installation
is already IP in Target NE */
;
```

If this command is executed from a NE that is not directly connected to a PC through the front serial (CIT-1) port, the following error response will be returned:

```
sid date time
M  unkwn DENY
SSTP
/* Status, execution STOPped,PC communication link could not be established. */
;
```

If the communication link between the PC and the system that it connects to fails, the following error response will be returned:

```
sid date time
M  ctag DENY
SSTP
/* Status, execution STOPped,PC communication link failure. */
;
```

To support remote program installation from a PC, the PC, the local system that it connects to and the target system must be running compatible software generics. If the software generic programs are not compatible, the following error response will be returned:

```
sid date time
M  ctag DENY
SSTP
/* Status, execution STOPped,communication protocol failure. */
;
```

For remote **INS-PRGM**, if communications cannot be established to the **dest_tid** because of a DCC failure condition, the following error response will be returned:

```
sid date time
M  ctag DENY
SROF
/* Status, Requested Operation Failed, remote communication failure */
;
```

If an invalid destination TID (**dest_tid**) is entered (that is, the corresponding **dest_tid**-NSAP translation information is not found in the local TARP Data Cache

(TDC) and the **dest_tid** entered cannot be found in the subnetwork), the following error response will be returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, destination TID not found by
   source */
;
```

If the user enters a destination TID (**dest_tid**) that has a corresponding **dest_tid**-NSAP translation in the local TARP Data Cache (TDC), but the association setup attempt to the destination NE fails (for example, the destination NE is currently unreachable — TID is kept the same, but NSAP must have been changed), the following error response will be returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Association Setup Failure,
   NSAP = xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx */
;
```

If the user enters an otherwise valid destination TID (**dest_tid**), but the local TDC translation results in an association setup request to a remote NE whose TID does not match the **dest_tid** (**dest_tid** did not match, but NSAP matched), the following error response will be returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, Inconsistent dest_tid,
   NSAP = xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx */
;
```

If the program installation fails, the following error response will be returned on the PC screen:

```
sid date time
M ctag DENY
SSTP
/* Status, execution STOPped,
   Program installation failed due to XXXX. */
;
```

"XXXX" can indicate different types of failures, including:

- SYSCTL boot software error
- SYSCTL RAM failure
- SYSCTL EEPROM failure
- SYSCTL timeout
- PC handshake failure
- PC link timeout

If the user attempts to execute **APPLY** command when the NE is in Ring Upgrade mode, the following error response shall be returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed in Ring Upgrade mode */
;
```

RELATED TL1 MESSAGES

APPLY

CPY-PRGM

RTRV-SYS

NAME

MEAS-SIG: Measure Test Access Signal

The **MEAS-SIG** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, and Maintenance access.

INPUT FORMAT

Input format of **MEAS-SIG** is as shown below.

MEAS-SIG-modifier:*tid::ctag:::spec_block;*

DESCRIPTION

The **MEAS-SIG** command is used to assign or remove a test signal detector from a test access session established to an internal test head. A test signal detector is assigned until removed by another **MEAS-SIG** command, or until a **DISC-TACC** command terminates a session.

When the **MEAS-SIG** command is issued, and the detectors are allocated, the NE attempts to sync to an incoming signal of the specified type. If the signal is not detected within 2 seconds, the command is denied, and the detectors are freed. Once the signal is detected, counting bins are initialized, and counting of errors on the signal begins. The NE maintains a current 15-minute bin, up to 32 previous 15-minute bins, a current day bin, a previous day bin, and a total bin. **RTRV-RSLT** is used to retrieve the bins; see **RTRV-RSLT** for the list of measured parameters. If a **MEAS-SIG** command is issued while measurement is in progress, the command is accepted, and the bins are initialized to 0.

The VLF main packs (see Appendix D) have 12 STS1 signal detectors. For an STS3c, 3 contiguous detectors on an STS3c boundary must be available for the request to be accepted.

The **RTRV-TACC** command indicates whether test signal detectors are assigned to a session, and/or if data from a current or previous **MEAS-SIG** command is available.

Execution of this command, whether successful or denied, will be recorded in the Security log.

A **REPT DBCHG** message is issued whenever detectors are assigned or removed by successful completion of this command, or by **DISC - TACC**.

No **REPT DBCHG** message is issued if detectors are temporarily assigned, no signal is detected in 2 seconds, and the command is denied.

INPUT PARAMETERS

Table 2-251. MEAS-SIG Input Parameters

Parameter Name	Description
<i>modifier</i>	Modifier. The modifier is a required field, and has one of the following values: ■ STS1 ■ STS3c
<i>tid</i>	Target Identifier. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-252. MEAS-SIG *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>tsn</i>	Test Session Number. The <i>tsn</i> identifies the test access session (previously established) for which test signal monitoring is being requested. The value is in the range 1-12 . This parameter is required. This command is only valid for sessions established with a <i>tsn</i> , and is denied for sessions established using a <i>tatrib</i> (see CONN - TACC).
<i>tstsig</i>	Test signal type. Test signal type specifies the type of signal (if any) to be monitored. Valid values are:

Table 2-252. MEAS-SIG *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
■ PRS	A Pseudo-Random bit sequence is monitored. For STS1 and STS3c modifiers, a $2^{23}-1$ PRBS is inserted. The counters are initialized to 0 when monitoring starts, or if monitoring is restarted by reissuing this command. Whenever the monitor detects an out-of-sync second, active counters are incremented by 65535 (each second). Note that the signal expected by the internal test head may not be compatible with some external test sets. The following settings are recommended: For STS1: mode=SDH payload =AU-3, Bulkfilled pattern=$2^{23}-1$ PRBS, NORMAL For STS3c: The same as for STS1, for 3 STS1s. This may require the test set to be set to background=foreground for the entire signal.
■ NULL	If no value is provided, no signal is monitored, and any detectors that were assigned to the test session are removed. Any bins associated with the session remain available until the session is terminated with DISC-TACC, or monitoring is restarted, or the shelf is restarted.

OUTPUT FORMAT

Upon receiving a valid request, or upon receiving a duplicate request, the NE responds with the following:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also.

EXAMPLE INPUT/OUTPUT

The following is an example of a **MEAS-SIG** response:

```
MEAS-SIG-STS1:LT-TID::123::tsn=9,ttsig=PRS;  
IP 123  
<  
  LT-TID 06-02-09 16:04:43  
M 123 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **MEAS-SIG** command.

If the NE receives a request where the specified **modifier** does not match that of the specified test session, **tsn**, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, modifier inconsistent with specified session */  
;
```

If the NE receives a request where there is no test session associated with the specified **tsn**, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, test session doesn't exist */
;
```

If the NE receives a request with an invalid value for ***tsig***, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid TTSIG */
;
```

If the NE receives a request, and the requested test signal detector(s) are not available (for an STS3c request, 3 contiguous detectors on an STS3c boundary must be available), the following error response is returned:

```
sid date time
M ctag DENY
  SSRB
/* Status, System Resources Busy, requested signal detectors(s) not available */
;
```

If the NE receives a request to start measurement, and a signal (or 3 signals for STS3c) is not detected within 2 seconds, the following error response is returned:

```
sid date time  
M ctag DENY  
SNVS  
/* Status, Not in Valid State, signal not detected */  
;
```

RELATED TL1 MESSAGES

CHG-ACCMD-rr

CHG-TSTSIG-rr

CONN-TACC-rr

DISC-TACC-rr

RTRV-RSLT

RTRV-TACC-rr

NAME

OPR-ACO: Operate Alarm Cutoff

The **OPR-ACO** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

OPR-ACO *-modifier:tid:[aid]:ctag;*

DESCRIPTION

OPR-ACO commands can be initiated to request that the network element (NE) operate the alarm cutoff (ACO) to silence the audible office alarms. Alarms remain silent until a new alarm condition occurs that results in a **REPT ALM** message being issued.

If this command is executed while there is an active alarm condition in the system, it will:

- Silence active audible office alarms
- Light the ACO LED on the user panel

This command is equivalent to pushing the ACO button on the user panel.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

INPUT PARAMETERS

Table 2-253. OPR-ACO Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>modifier</i>	Modifier. The <i>modifier</i> value must be ALL .

Table 2-253. OPR-ACO Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> value must be ALL or NULL (default = ALL), because the entire system is affected.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the operate ACO request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the NE receives a valid **OPR-ACO** command, but no alarm condition exists or existing alarms have already been cut off by a previous **OPR-ACO** command, the NE provides a normal completion response.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **RTRV-HDR OUTPUT PARAMETERS** section.

EXAMPLE INPUT/OUTPUT

```
OPR-ACO-ALL:LT-TID123:all:123456;
IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```


ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to the **OPR-ACO** command.

If an **OPR-ACO** command is received with an invalid **aid** value (anything other than ALL or null), the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid ACcess identifier */
;
```

RELATED TL1 MESSAGES

None .

NAME

OPR-EXT-CONT: Operate External Control

The **OPR-EXT-CONT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General and Maintenance access.

INPUT FORMAT

OPR-EXT-CONT: *tid:aid:ctag::dur;*

DESCRIPTION

The **OPR-EXT-CONT** command can be used to operate an external miscellaneous discrete environmental control output point, such as activating a relay, a fan, a light, a sprinkler, etc.

The control point to operate is specified by *aid*.

The system controller needs to be reset to *release* an operated control point. This is only true until the TL1 command **RLS-EXT-CONT** is supported in R1.1.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

INPUT PARAMETERS

Table 2-254. OPR-EXT-CONT Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier (<i>aid</i>). The <i>aid</i> specifies the external miscellaneous discrete control point to be operated. For information on the related AIDs, refer to Appendix A.

Table 2-254. OPR-EXT-CONT Input Parameters (cont 2 of 2)

Parameter Name	Description
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
dur	Duration. This parameter is used by Telcordia GR-833 to specify the duration of the external discrete control operation. Because control points operate until they are released, “momentary” operation is meaningless and this parameter must be continuous (CONTS). A momentary (MNTRY) or NULL value is denied. The only legal value is: ■ CONTS Operate the control continuously.

OUTPUT FORMAT

If the NE fully complies with the **OPR-EXT-CONT** request, the following normal completion response is returned:

```
IP ctag
<
    sid date time
M ctag COMPLD
;
```

If the requested **OPR-EXT-CONT** command does not alter the existing condition, that is, the control referenced by the AID is already being operated, the NE doesn’t deny the command. Instead, the system responds with the normal completion response shown above.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to the **OPR-EXT-CONT** command.

EXAMPLE INPUT/OUTPUT

The following example shows a command for the system to operate discrete control point 1.

```
OPR-EXT-CONT:LT-TID123:CONT-1:123456::conts;  
  
IP 123456  
<  
    LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to the **OPR-EXT-CONT** command.

The NE may return the following error response if the AID value is missing or is invalid.

```
sid date time  
M ctag DENY  
    IIAC  
    /* Input, Invalid Access Identifier */  
;
```

If an **OPR-EXT-CONT** command is received with an invalid duration parameter, the following error response may be returned:

```
sid date time  
M ctag DENY  
    IDNV  
    /* Input, Data Not Valid, invalid DUR */  
;
```

RELATED TL1 MESSAGES

RTRV-ATTR-CONT

OPR-EXT-CONT
TL1 Message Details

OPR-EXT-CONT
Alcatel-Lucent 1665 DMX, R9.0

RTRV - COND

NAME

OPR-LPBK: Operate Loopback

The **OPR-LPBK** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

Prior to Release 3.1, the input syntax for **OPR-LPBK** is:

OPR-LPBK-modifier:tid:aid:ctag::,,,[lpbktype];

The input syntax for **OPR-LPBK** beginning in Release 3.1 is:

OPR-LPBK-modifier:tid:aid:ctag::,,,[lpbktype][:spec_block];

DESCRIPTION

Caution: Executing this command may affect service.

This command creates a manual terminal or facility loopback at the specified interface. This command is used during pre-service testing of facilities and during fault diagnostics.

The loopback request remains active until released; for example, by the TL1 command **RLS-LPBK**, or until overridden by an NE initialization or repowering.

As the result of a database restore (**CPY-MEM: RESTORE**), loopback requests remain active on ports for which the interface type is unchanged by the restore.

For optical **TERMINAL** loopbacks in 1+1 applications, in order to see the effect of the loopback, the looped-back line must be active. If it is not, it can be made active using **OPR-PROTNSW**. The loopback is service-affecting when the looped-back line is active. Establishing the loopback may cause line switching.

For optical **TERMINAL** loopbacks in UPSR applications, in order to see the effect of the loopback, the paths to be tested must be switched to the looped-back side. If they are not, they can be switched using **OPR-PROTNSW**. The loopback is service-affecting only for those paths switched to the looped-back side. Establishing the loopback may cause path switching. If there are paths for which interrupting service is not desirable, the paths should be forced switched away

from the line to be looped back using **OPR-PROTNSW** before the loopback is established.

For optical **TERMINAL** loopbacks in BLSR applications, it is recommended, but not required, that the ring protection be locked out using **OPR-PROTNSW** before the loopback is established. The loopback may be service-affecting throughout the ring.

Establishing a SONET optical **FACILITY** loopback causes line AIS to be inserted downstream (i.e. in the original direction of transmission before the signal is looped back); on a line with a primary state of **IS** (see **RTRV-rr**, the *pst* parameter) this will generate an AIS-L alarm (which may be overridden by a LOS-L or LOF-L), and (regardless of primary state) will generate line or path switch requests. A line signal degrade alarm may occur while the loopback is established, or briefly when the loopback is removed.

The insertion of line AIS causes path alarms, other than service-affecting AIS, to be masked.

Beginning in Release 6.0, the line AIS insertion masks all path alarms.

Beginning in Release 6.0, an AIS alarm is not reported when the optical **FACILITY** loopback is established. AIS is still inserted as described above.

In unidirectional **1+1** pairs, if the *uniprotprio* value of **RTRV-SYS** is **SFPROT**, and an optical **FACILITY** loopback is established on the protection line, forced line switching to the looped-back line will be denied (because of the AIS). The *uniprotprio* value must be reprovisioned to **FRCD**, using **ENT-SYS**, for the switch to succeed.

Optical loopbacks may cause loss of DCC connectivity to the shelf.

For any Ethernet pack, an **ENET** loopback is allowed on only one LAN port at a time. Loopbacks are not allowed on VCGs (WAN ports).

The above statement does not apply to **ENET** loopbacks on Muxponder packs. Multiple client ports of any type except STNA (see **RTRV-OTPE:signaltype**) may be simultaneously looped.

Beginning in Release 7.0, **ENET** LAN ports which are members of a Link Aggregation Group (see **RTRV-LAGRP**) may have simultaneous **FACILITY** loopbacks. The **FACILITY** loopbacks are addressed to individual LAN ports (not to the Link Aggregation Group). If any ports within the group have **FACILITY** loopbacks, then Link Aggregation Group alarms are suppressed.

Beginning in Release 7.0, if an **ENET** port is part of a link aggregation group, then **TERMINAL** loopbacks are only allowed to the Link Aggregation Group, and not to

the individual LAN port. The statements in the next paragraph apply to all ports in the group, and link aggregation group alarms are also suppressed.

When an **ENET** loopback is in place, Ethernet alarms on that port are suppressed (not generated and cleared if present) and PM counting is halted. When the loopback is released, the PM counters are cleared and alarms and PM counting may resume. If the port was in the *epmode* of AUTO (**RTRV-EPORT**), the port is not allowed to transition to **IS** during the loopback. The operational parameters of **RTRV-EPORT** take on forced values during a **TERMINAL** loopback of *dplxmdo*=FULL, *fcmdo*=DISABLE, and, for a Fast Ethernet port, *Inrateo*=100M. Changes made to the corresponding provisioned values during the loopback using **ED-EPORT** are accepted but don't take effect until the loopback is released.

Beginning in Release 7.0, during an **ENET FACILITY** loopback, *fcmdo*=DISABLE (see **RTRV-EPORT**). *dplxmdo* and *Inrateo* are unchanged.

Beginning in Release 4.0, a loopback request to a port or line is denied if the port or a tributary within the line is part of a test access connection.

Beginning in Release 7.0, port or line maintenance must not be inhibited for the request to be accepted (see **RTRV-PORTMNTC**, *portmntc*=INHIBIT). If the request is addressed to a link aggregation group (LAG), then none of the ports within the LAG may be inhibited.

Beginning in Release 7.1, this command applies to client ports of muxponder packs with all *signaltype* values other than STNA (see **RTRV-OTPE**).

Starting in Release 3.1, execution of this command, whether successful or denied, is recorded in the Security log.

INPUT PARAMETERS

Table 2-255. OPR-LPBK Input Parameters (cont 1 of 4)

Parameter Name	Description
<i>modifier</i>	This is the command modifier for the OPR-LPBK command. The modifier is a required field, and must have one of the following values: ■ EC1 This requests a loopback on an EC-1 interface. EC-1 ports support both FACILITY and TERMINAL loopbacks.

Table 2-255. OPR - LPBK Input Parameters (cont 2 of 4)

Parameter Name	Description
	■ ENET This requests a loopback on an Ethernet interface. Ethernet ports support TERMINAL loopbacks. Beginning in Release 7.0, FACILITY loopbacks are allowed on Ethernet ports on the LNW70 and LNW78. When a FACILITY loopback is established on a port with Remote Client Fail (RCF) enabled (see RTRV - EPORT, <i>rcf</i>), an RCF message is sent to the far end (away from the LAN port). ■ DATA This requests a loopback on a DATA interface. DATA ports support TERMINAL loopbacks. ■ OC3 This requests a loopback on an OC-3 interface. OC-3 lines support: - FACILITY loopbacks in low-speed slots (starting in Release 4.0 for OC3 packs which support facility loopbacks — refer to Appendix D). - TERMINAL loopbacks in low-speed slots (starting in Release 3.1). - FACILITY loopbacks in high-speed slots (starting in Release 7.1). ■ OC12 This requests a loopback on an OC-12 interface. OC-12 lines support: - FACILITY loopbacks in low-speed slots (starting in Release 3.1). - TERMINAL loopbacks in low-speed slots (starting in Release 3.1). - FACILITY loopbacks in high-speed slots (starting in Release 3.1). ■ OC48 This requests a loopback on an OC-48 interface. This is available starting in Release 3.1. OC-48 lines support: - FACILITY loopbacks in low-speed slots. - FACILITY loopbacks in high-speed slots. - TERMINAL loopbacks in low-speed slots.

Table 2-255. OPR - LPBK Input Parameters (cont 3 of 4)

Parameter Name	Description
	■ OC192 This requests a loopback on an OC-192 interface. This is available starting in Release 3.1. OC-192 lines support: - FACILITY loopbacks in high-speed slots. - TERMINAL loopbacks in low-speed slots (starting in Release 9.0). - FACILITY loopbacks in low-speed slots (starting in Release 9.0). ■ T1 This requests a loopback on a DS1 interface. DS1 ports support both FACILITY and TERMINAL loopbacks. For DS1 ports on LNW8 packs, any existing LOS alarm is cleared and/or not detected as long as a TERMINAL loopback is active. Loopbacks are allowed on LNW20 T1 ports when the encompassing T3 port is in a ported transmuted application, i.e. <i>elf</i>=T3, <i>pmd</i>=PORTED, and <i>tribmd</i>=CHAN (see RTRV - T3). ■ E1 This requests a loopback on an E1 interface. E1 ports support both FACILITY and TERMINAL loopbacks. For E1 ports, any existing LOS alarm is cleared and/or not detected as long as a TERMINAL loopback is active. ■ T3 This requests a loopback on a DS3 interface. DS3 ports support both FACILITY and TERMINAL loopbacks. Loopbacks are allowed on LNW20 T3 ports when the T3 port is in a ported application, i.e. <i>elf</i>=T3, and <i>pmd</i>=PORTED (see RTRV - T3).
tid	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
aid	Access Identifier. The aid determines the interface for which the loopback is being requested. The aid is a required parameter. See Appendix A - AID Table for valid AIDs. The aid value for each interface type is:

Table 2-255. OPR - LPBK Input Parameters (cont 4 of 4)

Parameter Name	Description
	T1 DS1 Port AID ALL is allowed in "VTG" field or the "VT1.5" field of the DS1 port AID. E1 E1 Port AID T3 DS3 Port AID EC1 EC1 Port AID ENET Ethernet LAN Port AID Beginning in Release 7.0, a Link Aggregation Group (LAG) AID is also allowed for TERMINAL loopbacks. If an Ethernet port is a member of a LAG (see <i>eplist</i> in RTRV - LAGRP), and a TERMINAL loopback is requested, then only the LAG AID is accepted. The LAG AID is not allowed for FACILITY loopbacks. DATA DATA Port AID OCn OC-n line AID Unless otherwise specified, ALL is not allowed in any field of the AID.
ctag	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
lpbktype	Loopback Type. This parameter indicates the type of loopback being operated. Valid values are: ■ FACILITY Facility loopback. This type of loopback connects the incoming received signal to the transmitter in the return direction. ■ TERMINAL Terminal loopback. In this type of loopback, a signal that is about to be transmitted is looped back to the associated incoming receiver. This is the default value.
spec_block	The spec_block parameters are covered in the following table.

Table 2-256. OPR - LPBK Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>cmdmode</i>	Command Mode. Beginning in Release 3.1, <i>cmdmode</i> is used only when establishing loopbacks on optical lines. ■ NORM This is the default. For FACILITY loopbacks, a request with <i>cmdmode</i>=NORM is denied unless the line is out of service (that is, in RTRV-rr, <i>pst</i> is OOS). A low-speed line may be placed out of service using ENT-rr, setting <i>pst</i>=OOS. To establish a FACILITY loopback on a high-speed line, <i>cmdmode</i> must be FRCD. ■ FRCD Forced. For FACILITY loopbacks, the loopback is established without regard to the line's state. This is the only valid value for TERMINAL loopbacks.

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **OPR-LPBK-rr** command. If the requested loopback command does not alter the existing loopback condition, the NE will not deny the command. Instead the NE will respond with a COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

EXAMPLE INPUT/OUTPUT

The following example requests a terminal loopback at a DS1 port.

```
OPR-LPBK-T1:LT-TID123:a-1-1:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following example requests a DS3 facility loopback:

```
OPR-LPBK-T3:LT-TID123:b-1:123456::,,facility;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

The following example requests a forced OC-12 facility loopback:

```
OPR-LPBK-OC12:LT-TID123:fn-d-1-1:123456::,,facility:cmdmode=FRCD;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **OPR-LPBK** command with a *modifier* other than that supported by the NE, or if the *modifier* does not match the *aid* type, the following error response is returned:

```
sid date time
M ctag DENY
  ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

If the NE receives an **OPR-LPBK** command without an *aid* or with an *aid* that is not valid, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

Beginning in Release 7.0, the above response is also returned if an individual AID is expected and a LAG AID is supplied, or vice versa.

If the NE receives an **OPR-LPBK** command with a valid *aid* value, but one for which the corresponding equipment is provisioned to be unequipped, the following error response is returned:

```
sid date time
M ctag DENY
  ENEQ
/* Equipage, Not Equipped */
;
```

If the NE receives an **OPR-LPBK** with a valid *aid* value but the command could not be completed by the NE, the following error response is returned:

```
sid date time
M ctag DENY
  SROF
/* Status, Requested Operation Failed */
;
```

If the Network Element receives an **OPR-LPBK** command with an invalid *lpbktype* value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid LPBKTYPE */
;
```

If the Network Element receives an **OPR-LPBK** command with an invalid *cmdmode* value, or with a *cmdmode* value inconsistent with the *lpbktype*, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid CMDMODE */
;
```

If the Network Element receives an **OPR-LPBK** command with a *modifier* that is inconsistent with the loopback type, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, modifier is inconsistent with lpbktype */
;
```

If the NE receives an **OPR-LPBK** command with a valid *aid* value, and the *aid* already contains a loopback, the following error response is returned:

```
sid date time
M ctag DENY
SAOP
/* Status, Already Operated, loopback active in the opposite direction
*/
;
```

If the NE receives an **OPR-LPBK** command with a valid *aid* value for an Ethernet interface but there is already a loopback active on any port on that pack, the following error message is returned:


```
sid date time
M ctag DENY
  SAOP
  /* Status, Already OPerated, loopback active on this pack */
;
```

Beginning in Release 7.0, the above response does not apply when simultaneous **FACILITY** loopbacks are requested to separate LAN ports within the same Link Aggregation Group (see **RTRV - LAGRP**). The request is accepted.

If the NE receives an **OPR-LPBK-rr FACILITY** command for an optical line with **cmdmode=NORM**, and the line is not in the Out Of Service state, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, line state must be OOS for NORM
  FACILITY loopback */
;
```

Beginning in Release 4.0, if a loopback request is made to a port or line, and the port or a tributary within the line is part of a test access connection, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, test access active */
;
```

If a loopback request is made to a T3 AID which is provisioned to be portless (**RTRV-T3**, *pmd*=PORTLESS), the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, cannot loop PORTLESS T3 */
;
```

If a loopback request is made to a T3 AID which is provisioned to be unavailable (**RTRV-T3**, *pmd*=UNAVAIL), the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, cannot loop UNAVAIL T3 */
;
```

Beginning in Release 7.0, maintenance on the port or line must not be inhibited for the request to be accepted (see **RTRV-PORTMNTC**, *portmntc*=INHIBIT). If the request is addressed to a link aggregation group (LAG), none of the ports within the group may be inhibited (see *eplist* in **RTRV-LAGRP**). If maintenance is inhibited, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, specified port or line is in an
inhibited state */
;
```

If the NE receives a loopback request on an interface which has *signaltype* set to STNA (see **RTRV-rr**), the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, command not allowed when
signaltype=STNA */
;
```

If the NE receives an **OPR-LPBK** command on an optical line or port which has *portclass* not set to TRADITIONAL (see **RTRV-CPORT-rr**), and the line or port's *portcontrol* parameter is not set to LOCKOUT (also **RTRV-CPORT-rr**), the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, command not allowed when
portcontrol=NORMAL */
;
```

If the NE receives an **OPR-LPBK** command, but the requested loopback is not supported on the specified interface, the following error response is returned:

```
sid date time
M  ctag DENY
   SDNC
   /* Status, Data Not Consistent, requested loopback not supported on
specified interface */
;
```

Beginning in Release 9.0, if the NE receives an **OPR-LPBK** command and the NE is in ring upgrade mode (**RTRV-SYS:nemode=RING-UPGRADE**), the following error response is returned:

```
sid date time
M  ctag DENY
   SNVS
   /* Status, Not in Valid State, upgrade in progress */
;
```

RELATED TL1 MESSAGES

RLS-LPBK

RTRV-LPBK

ALW-PORTMNTC

INH-PORTMNTC

RTRV-PORTMNTC

NAME

OPR-NVM: Operate NVM

The **OPR-NVM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

OPR-NVM: *tid::ctag*;

DESCRIPTION

When running with only one NVM (due to NVM failure or removal), the NE enters the NVM write protected mode, where it protects the remaining NVM by avoiding writing to it. While commands which affect the database are allowed, changes are stored only in volatile memory (and are not logged), and are lost if the shelf restarts. (If both NVMs are failed, commands are also allowed, and stored only in volatile memory, but this command does not complete, and a shelf restart may not complete.)

This command causes the database changes to be written to the remaining NVM. If an unexpected reset (perhaps due to a power outage) occurs during the NVM write, the database may be lost, so it is recommended that a **CPY-MEM:BACKUP** be done before issuing this command (the backup includes the changes stored in volatile memory, and is also allowed when both NVMs are failed).

It is recommended that this command be run to completion just before pulling the controller in order to repair the NVM.

This command completes, but does nothing, if both NVMs are good.

Execution of this command will not be recorded in any logs.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-257. OPR-NVM Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to RTRV-HDR for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to RTRV-HDR for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

The following normal completion response is returned, even when running with multiple good NVMs (in which case the command does nothing):

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section.

EXAMPLE INPUT/OUTPUT

```
OPR-NVM:LT-TID::474;

IP 474

LT-TID 06-01-05 11:21:27
M 474 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If there is no good NVM, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, no good NVM */
;
```

RELATED TL1 MESSAGES

None.

TSS-5 R7.0NAME

OPR-PROTNSW: Operate Protection Switch

The **OPR-PROTNSW** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

Prior to Release 2.1, the format is:

OPR-PROTNSW-*modifier:tid:aid:ctag::sc[:dirn];*

With Release 2.1 and later, the format is:

OPR-PROTNSW-
*modifier:tid:[aid]:ctag::sc[:[dirn][,protype[,rid]]:[spec_b
lock]];*

DESCRIPTION

OPR-PROTNSW is initiated by an OS or OS user to request the NE to operate a manual or forced protection switch, or to lock out protection on a 1+1- or UPSR-protected OC-N line pair. The behavior and response of this command depends on the application mode of the OC-N interface, as configured with the **ENT-OCn** command.

When the NE receives an **OPR-PROTNSW-OCn** command, the NE will operate the protection switching request on the specified 1+1-protected linear OC-N line pair (see the **ENT-OCn** command).

Beginning in Release 4.0, 1+1 (not bold) applies to both unidirectional **1+1** and bidirectional optimized **1+1_OPTM** applications.

Beginning in Release 5.1, 1+1 (not bold) also applies to SONET bidirectional **1+1_BIDIR** applications.

Prior to Release 3.0.2, the forced, lockout, but not manual protection switching requests for unidirectional **1+1** linear OC-N lines remain active until released (for example, by TL1 command **RLS-PROTNSW-OCn** with **sc** parameter value **CLEAR**), or overridden by a higher priority protection switching request. Manual

protection switches are non-revertive, and the side remains selected until overridden by another manual or higher priority protection switching request (for example, by another **OPR-PROTNSW** with **sc** value **MAN**), or until overridden by automatic protection switching (APS).

In Release 3.0.2 and later, the forced, lockout, and manual protection switching requests for unidirectional **1+1** linear OC-N lines remain active until released (for example, by TL1 command **RLS-PROTNSW-0Cn** with **sc=CLEAR**), or overridden by a higher priority protection switching request. If a manual protection switch (**sc=MAN**) is active, it must be released before another manual request (**sc=MAN**) is accepted.

In Release 5.1 and later, the forced, lockout, and manual protection switching requests for bidirectional **1+1_BIDIR** linear OC-N lines remain active until released (for example, by TL1 command **RLS-PROTNSW-0Cn** with **sc=CLEAR**), or overridden by a higher priority protection switching request. If a manual protection switch (**sc=MAN**) is active, it must be released before another manual request (**sc=MAN**) is accepted.

In Release 3.1 and later, the forced, lockout, and manual protection switching requests for **UPSR** paths remain active until released (by **RLS-PROTNSW**, or a **CPY-MEM RESTORE** command), or overridden by a higher priority protection switching request. If a manual protection switch (**sc=MAN**) is active, it must be released before another manual request (**sc=MAN**) is accepted.

Beginning in Release 3.0.2, signal failure of the protection side of a unidirectional **1+1** line can be provisioned to be higher priority than a forced switch, on a per-system basis. Refer to **ENT-SYS**, the *uniprotprio* parameter.

Prior to Release 3.0, line switching is only valid on Function or Growth unit OLIUs with ports provisioned for the **1+1** mode.

Release 3.0 includes 1+1 protection to the main slots; this command is valid for main line pairs provisioned to be **1+1**.

The NE provides unidirectional **1+1** line protection switching. An **OPR-PROTNSW-0Cn** command only affects the selection at the near-end. Near-end and far-end switching operate independently of each other.

Beginning in Release 4.0, the system supports bidirectional optimized 1+1 linear switching (*application=1+1_OPTM* in **ENT-0Cn**) for mains, and for Function or Growth unit OLIUs. A switch request can affect which section is being used for receiving and for transmission. For this application, an **sc** of **MAN** is not accepted. If lockout is requested with a force already active, the lockout is accepted, and the force remains active. The first clear request (**RLS-PROTNSW-0Cn** with **sc=CLEAR**) releases the lockout; a second clear request is required to reset the force.

Beginning in Release 5.1, the system supports SONET bidirectional 1+1 linear switching (**application=1+1_BIDIR** in **ENT - 0Cn**) for mains, and for Function or Growth unit OLIUs. A switch request can affect which line is being used for receiving and for transmission.

Beginning in Release 6.0, the system supports Resilient Packet Ring (RPR) switching for Function unit Ethernet packs. A switch request can affect which VCG is being used for transmitting traffic.

Starting in release 3.1, execution of this command, whether successful or denied, is recorded in the Security log.

When the NE receives an **OPR-PROTNSW-STSn** command, the NE will operate the requested protection switching request on the specified STSn ring path in ring applications, provided that the path is provisioned for a path switched ring application (**UPSR** mode).

When the NE receives an **OPR-PROTNSW-STs1** command, the NE will operate the requested protection switching request on the specified STS1 ring path, provided that the path is in a **UPSR** application.

When the NE receives an **OPR-PROTNSW-VT1** command, the NE will operate the requested protection switching request on the specified VT1.5 ring path, provided that the path is in a **UPSR** application.

Beginning in Release 2.1, **OPR-PROTNSW** may be initiated by an OS or OS user request to the NE to operate a manual or forced protection switch, or to lock out protection on a **2F** BLSR. The command permits the user to address a BLSR protection group using a protection group AID or a ring ID. It also permits the user to specify the command destination using a pair of parameters to specify the logical destination (e.g. west working). Initially this command will support addressing a BLSR protection group using the BLSR protection group AID. The behavior and response of this command depends on the application mode of the OC-N interface as configured with the **ENT - 0Cn** command.

When the NE receives an **OPR-PROTNSW-RPR** command, the NE will operate the requested protection switching request on the specified VCG span, provided that a cross-connect exists and there is not an existing protection switch request of the same or higher priority.

Forced switches may co-exist on both VCG spans, but not on the same VCG span. Manual switches may not co-exist on both VCG spans.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-258. OPR-PROTNSW Input Parameters (cont 1 of 6)

Parameter Name	Description
<i>modifier</i>	The NE will only accept and perform the request for the supported OC-N line facility or protected ring path types. Valid modifiers are: ■ VT1 for UPSR UPSR STSn switching is done at the cross-connected rate, not the accepted received rate. ■ STS1 for UPSR ■ STS3c for UPSR ■ STS12c for UPSR ■ STS48c for UPSR ■ OC3 for 1+1 ■ OC12 for 1+1 ■ OC48 for 1+1 in FN or Growth ■ OC48 for 2FBLSR ■ OC48 for 1+1 in Main ■ OC192 for 2FBLSR ■ OC192 for 1+1 ■ RPR for Resilient Packet Rings
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. See Appendix A for a list of valid addresses. AID Types: Beginning in Release 6.0, a line-pair aid will no longer be accepted for 1+1 linear and BLSR protection groups. Instead, the aid of the line in slot 1 will be the identifier.

Table 2-258. OPR-PROTNSW Input Parameters (cont 2 of 6)

Parameter Name	Description
	1+1 Linear Protection Group aid UPSR Protection Groups: aid specifies the side to switch away from. STS-n Ring Channel Prior to R2.0, only a single STS-n path is allowed. In Release 2.0 and later, acceptable AIDs include all STS-Ns in a UPSR line pair. VT1.5 Ring Channel Acceptable AIDs include a single VT or a single VT group (4 VTs), or all VTs in an STS-1. Beginning in Release 4.0, locked cross-connections may not be switched. 2FBLSR Protection Group aid RPR: aid specifies the side steering the traffic RPR Span VCG Ports
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
prototype	Protection Type. Values are: ■ UPSR Prior to Release 3.1, this is the default. Beginning in Release 3.1, this is the default when the modifier is VT1 or any STSn value. ■ 1+1 Beginning in Release 3.1, this is the default when the modifier is any OCn value. ■ 1+1_OPTM ■ 1+1_BIDIR ■ 2F ■ RPR This is the default and only value when the modifier is RPR.

Table 2-258. OPR-PROTNSW Input Parameters (cont 3 of 6)

Parameter Name	Description
sc	Switch Command: The NE will accept and perform only the following requests (priority): ■ LOCKOUT LOCKOUT is applicable for the following <i>prototype</i> values: ■ 1+1 This requests protection switching lockout, preventing selection of the protection side (until released). If the protection side is currently selected, service will be switched to the working side. ■ 1+1_OPTM This requests protection switching lockout, preventing any protection switching until released. A lockout also freezes any Wait to Rename condition. The lockout request is denied if there is a local NE Kbyte request to the far-end NE which times out. ■ 1+1_BIDIR This requests protection switching lockout, preventing selection of the protection side (until released). If the protection side is currently selected, service will be switched to the working side. ■ UPSR, beginning in Release 3.1. This request is only valid with the side 2 Ring Path AID (i.e., only Lockout of Protection is allowed). This requests protection switching lockout, preventing selection of the protection side (until released). If the protection side is currently selected, service will be switched to the service side. ■ 2F as shown in Table 18. This requests protection switching lockout, preventing selection of the protection side (until released). If the protection side is currently selected, service will be switched to the working side. LOCKOUT is not supported for <i>prototype</i>=RPR.

Table 2-258. OPR-PROTNSW Input Parameters (cont 4 of 6)

Parameter Name	Description
	■ FRCD This requests a forced protection switch. Beginning in Release 3.0.2, in unidirectional 1+1 applications, if the system is provisioned such that a signal failure on the protection line has higher priority than a FRCD request, and if this signal failure exists when the FRCD request is made, the request is denied. Refer to ENT-SYS, the <i>uniprotprio</i> parameter. FRCD is applicable for the following <i>prototype</i> values: ■ 1+1 The standby side is selected unless there is an existing lockout or forced protection switching request. ■ 1+1_OPTM This requests a forced switch to the secondary section. The request is denied if there is a lockout or forced switch request active, or if the secondary section is failed, or if the far end does not respond to the switch request in 2.5 seconds. ■ 1+1_BIDIR This requests a forced switch to the standby line. The request is denied if there is a lockout or forced switch request active, or if the request is to switch to the protection line (side 2) and it is failed. ■ UPSR, beginning in Release 3.1. The system switches away from the <i>aid</i> side, unless there is an existing lockout or forced protection switching request. ■ 2F as shown in Table 18. ■ RPR This requests a forced deactivation of the specified VCG. A forced switch is allowed to exist on both VCGs in the RPR pair. ■ MAN This requests a manual protection switch. For UPSR, <i>aid</i> specifies the side to switch from. Prior to Release 3.1, for UPSR, the other side is selected provided it is good, and there are no existing higher priority protection switching requests.

Table 2-258. OPR-PROTNSW Input Parameters (cont 5 of 6)

Parameter Name	Description
	Beginning in Release 3.1, for UPSR, the other side is selected provided it is good, and there are no existing equal or higher priority protection switching requests. Prior to Release 3.0.2, for 1+1 Linear, the standby side is selected provided it is good, and there are no existing higher priority protection switching requests. Beginning in Release 3.0.2, for 1+1 Linear, the standby side is selected provided it is good, and there are no existing equal or higher priority protection switching requests. For 1+1_BIDIR, the standby side is selected provided it is good, and there are no existing higher priority protection switching requests. For 2F BLSR, the standby line is selected provided it is good, and there are no existing higher priority protection switching requests. MAN is applicable for the following <i>prototype</i> values: ■ UPSR ■ 1+1 ■ 1+1_BIDIR ■ 2F as shown in Table 18. ■ RPR This requests a manual deactivation of the specified VCG, provided that there are no existing equal or higher priority protection switching requests. A manual switch is not allowed to exist on both VCGs.
dirn	Direction. The following value is applicable for <i>prototype</i> = UPSR ■ RCV (default)

Table 2-258. OPR-PROTNSW Input Parameters (cont 6 of 6)

Parameter Name	Description
	The following value is applicable for prototype = 1+1 ■ RCV (default) The following value is applicable for prototype = 1+1_OPTM ■ BIDIR (default) The following value is applicable for prototype = 1+1_BIDIR ■ BIDIR (default) The following values are applicable for prototype = 2F as shown in the table below titled Mapping of BLSR Switch Requests. ■ EAST (default) ■ WEST dirn is not supported when prototype=RPR
rid	Ring Identification Name. This parameter is applicable to BLSR protection groups only (prototype=2F). Storage and retrieval of the rid is case sensitive, but using the rid to determine the corresponding protection group is case insensitive. Value: The rid parameter is a quoted text string of up to 15 characters consisting of 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language). If this parameter is specified, then the command will operate on the protection group associated with that ring ID. For a BLSR protection group, either the rid or the aid, but not both, must be specified.
spec_block	The spec_block parameters are covered in the following table.

Table 2-259. OPR-PROTNSW Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of Spec_Block Parameters	Value
<i>dest</i>	Destination. For a BLSR protection group, <i>dest</i> identifies the entity to be operated on. For example, for a protection type of 2F, the destination of a manual switch command specifies the entity that should be manually switched to protection. See the table below titled Mapping of BLSR Switch Requests. For 2F, the <i>dirn</i> and <i>dest</i> parameters identify the entity on which the OPR-PROTNSW command operates. For example in the table below titled Mapping of BLSR Switch Requests, execution of the OPR-PROTNSW command with <i>sc</i>=MAN and <i>dirn</i>=EAST switches traffic on the east side of the ring to protection, i.e. all traffic carried by the working tributaries on the EAST port is now carried by the associated protection tributaries on the WEST port. For 1+1 and 1+1_BIDIR, the <i>dest</i> and <i>sc</i> parameters identify the entity on which the OPR-PROTNSW command operates. For example, execution of the OPR-PROTNSW command with <i>sc</i>=MAN and <i>dest</i>=WKG requests the NE to switch traffic away from Working, regardless of which line is active. If <i>sc</i>=LOCKOUT, the only valid value for <i>dest</i> is PROTN. The default varies when <i>sc</i>=MAN or <i>sc</i>=FRCD. If <i>sc</i>=MAN or <i>sc</i>=FRCD, the default is whichever line is active at the time of the switch request. For example, if Working is active, then the NE will default <i>dest</i> to WKG. If Protection is active, then the NE will default <i>dest</i> to PROTN. See the table below titled "1+1 and 1+1_BIDIR External Switch Requests". <i>dest</i> is not supported when <i>protype</i>=RPR	WKG (default), PROTN WKG, PROTN

Table 2-259. OPR-PROTNSW Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of Spec_Block Parameters	Value
<i>swtype</i>	Switch type. For ring protection switching, a loopback mechanism is used such that the service route is looped back onto the protection route in the opposite direction. This parameter is applicable to BLSR protection groups only (<i>prototype=2F</i>) as described in the table below titled Mapping of BLSR Switch Requests. For other values of <i>prototype</i> the parameter is omitted. <i>swtype</i> is not supported when <i>prototype=RPR</i>	SPAN, RING

The following table maps the manual BLSR switch requests to the **OPR-PROTNSW** parameter settings:

Table 18. Mapping of BLSR Switch Requests

PS Request	<i>aid</i>	<i>dest</i> ^a	<i>dirn</i> ^b	<i>sc</i>	<i>swtype</i> ^a	<i>prototype</i>
MS-R	BLSR protection group aid	[WKG]	EAST, WEST	MAN	[RING]	2F
FS-R	BLSR protection group aid	[WKG]	EAST, WEST	FRCD	[RING]	2F
LP-S	BLSR protection group aid	PROTN	EAST, WEST	LOCKOUT	SPAN	2F

a. Parameter values in [] represent the default value in the TL1 command. Parameters with defaults need not be entered by the user in the TL1 command line.

b. EAST, WEST implies that one of the two values must be specified in the command line.

The following table identifies the defaults for 1+1 and 1+1_BIDIR external switch requests:

Table 19. 1+1 and 1+1_BIDIR External Switch Requests

Active Side	sc	dest ^a	Request	prototype ^a	Switched to:
Working	MAN FRCD	WKG	Switch away from Working	[1+1] 1+1_BIDIR	Protection
Protection	MAN FRCD	WKG	Switch away from Working	[1+1] 1+1_BIDIR	Protection
Working	MAN FRCD	PROTN	Switch away from Protection	[1+1] 1+1_BIDIR	Working
Protection	MAN FRCD	PROTN	Switch away from Protection	[1+1] 1+1_BIDIR	Working
Working	MAN FRCD	[default]	Switch away from Working	[1+1] 1+1_BIDIR	Protection
Protection	MAN FRCD	[default]	Switch away from Protection	[1+1] 1+1_BIDIR	Working
Working Protection	LOCKOUT	PROTN	Lockout of Protection	[1+1] 1+1_BIDIR	Working
Working Protection	LOCKOUT	WKG	Not Allowed	[1+1] 1+1_BIDIR	Working
Working Protection	LOCKOUT	[default]	Lockout of Protection	[1+1] 1+1_BIDIR	Working

a. Parameters with defaults need not be entered by the user in the TL1 command line.

OUTPUT FORMAT

When the NE fully complies with the protection switching request, or when the user-issued command does not change the condition or the database of the NE, then the following message is returned:

```
sid date time
M ctag COMPLD
;
```

This response is also returned whenever the **aid** ends in “-all”, even if the request could not be honored for any of the entities addressed.

If a switch occurs as a result of the command, a standing condition will also be generated. Refer to **REPT EVT**.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command as well.

EXAMPLE INPUT/OUTPUT

The following example shows a manual line switch on line pair 3 on function unit D, prior to Release 2.1.

```
OPR-PROTNSW-OC3:TID123:fn-d-3:1015::MAN:RCV;
```

```
IP 1015
<

TID123 70-01-01 01:16:34
M 1015 COMPLD
;
```

Beginning in Release 6.0, the linear protection group identified by a line-pair aid in the previous example is identified by a slot 1 line aid as shown below. The dest parameter in the example causes a switch away from working.

```
OPR-PROTNSW-OC3:TID123:fn-d-1-3:1015::MAN:RCV:dest=wkg;
```

```
IP 1015
<

TID123 70-01-01 01:16:34
M 1015 COMPLD
;
```

The following example shows a manual switch on an RPR VCG. A manual switch causes the span of the specified VCG to be deactivated.

```
OPR-PROTNSW-RPR:TID123:d1-v2:1015::MAN:,RPR;
```

```
IP 1015
<

TID123 70-01-01 01:16:34
M 1015 COMPLD
;
```

The following example shows an STS-1 manual path switch on STS-1 #2 on OC-N port 1 switching from main slot 1.

```
OPR-PROTNSW-STS1:TID123:m1-1-2:1015::MAN:RCV;
```

```
IP 1015  
<  
  
TID123 70-01-01 01:16:34  
M 1015 COMPLD  
;
```

The following example shows an STS-3c manual path switch on STS-3c #10 on OC-N port 1 switching from main slot 2.

```
OPR-PROTNSW-STS3C:DMX-PF-2000:m2-1-10:1015::MAN:RCV;
```

```
IP 1015  
<  
  
DMX-PF-2000 70-01-01 01:16:34  
M 1015 COMPLD  
;
```

The following example shows an STS-1 manual path switch on STS-1 #2 on OC-3 port 3 switching from function unit D slot 2.

```
OPR-PROTNSW-STS1:TID123:d2-3-2:1015::MAN:RCV;
```

```
IP 1015  
<  
  
TID123 70-01-01 01:16:34  
M 1015 COMPLD  
;
```

The following example shows a VT1.5 manual path switch on VT #2 in VTG group #4 in STS-1 #1 on OC-N port 1 switching from main slot 1.

```
OPR-PROTNSW-VT1:TID123:m1-1-1-4-2:1015::MAN:RCV;
```

```
IP 1015  
<  
  
TID123 70-01-01 01:16:34  
M 1015 COMPLD  
;
```

The following example shows a manual BLSR protection switch on a Line Pair on main-1.

```
OPR-PROTNSW-OC48:TID123:main-1:1015::MAN:west,2F:swtype=ring;  
  
IP 1015  
<  
  
TID123 70-01-01 01:16:34  
M 1015 COMPLD  
;
```

Beginning in Release 6.0, the linear protection group identified by a line-pair aid in the previous example is identified by a slot 1 line aid as shown below.

```
OPR-PROTNSW-OC48:TID123:main-1-1:1015::MAN:west,2F:swtype=ring;  
  
IP 1015  
<  
  
TID123 70-01-01 01:16:34  
M 1015 COMPLD  
;
```

ERROR RESPONSES

The NE will check and provide error responses for the following error conditions. The error messages in **RTRV-HDR** may also apply.

If the NE receives an **OPR-PROTNSW** command with an invalid **modifier**, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

If the NE receives an **OPR-PROTNSW** command without an **aid** value, or with an **aid** value that is invalid for a protected ring path, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier */
;
```

If the NE receives an **OPR-PROTNSW-rr** command with an **aid** value that is invalid for the **modifier** provided (that is, because the **aid** refers to a different type of entity than is specified by the **modifier**), the following error response is returned to the user:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong, or
inconsistent with modifier */
;
```

If the NE receives an **OPR-PROTNSW-rr** command with an invalid **sc** value in a 1+1 application, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, sc = LOCKOUT, FRCD or MAN
(no default) */
;
```

The above error response also applies to 2F applications.

If the NE receives an **OPR-PROTNSW** command in a UPSR application with an invalid **sc** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SC */
;
```

The above response also applies to **1+1_OPTM** applications.

The above response also applies to **RPR** applications.

If the NE receives an **OPR-PROTNSW** command in a **UPSR** application with **sc=LOCKOUT**, and an **aid** indicating side 1, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, Lockout of Working not allowed */
;
```

If the NE receives an **OPR-PROTNSW** command with an invalid **dirn** value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, dirn = RCV, EAST, WEST or null (allowable
  values and default depend on prototype) */
```

Beginning in Release 4.0, the above message is replaced with the following if the NE receives an **OPR-PROTNSW** command with an invalid **dirn** value:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, dirn = RCV, EAST, WEST, BIDIR or null
  (allowable values and default depend on prototype) */
```

If the NE receives an **OPR-PROTNSW** command with any extra (beyond the input format specification above) null or non-null command parameter blocks (:), parameters (,), or termination characters (;), the following error response is returned:

```
sid date time
M ctag DENY
  IISP
  /* Input, Invalid Syntax or Punctuation */
;
```

If the NE receives an **OPR-PROTNSW** command in a **UPSR** application with an otherwise valid **aid** value but the corresponding slots are not equipped with

compatible circuit packs or not cross connected, the following error response is returned:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, ring path not equipped
and/or not cross connected */
;
```

If the path address specified in the command is not cross-connected at the **modifier** rate, the command is denied with the following message:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, the specified path is not
properly cross-connected */
;
```

The above response also applies to **RPR** applications.

If the STS-1, or STS-Nc cross-connected **aid** specified in the command is not provisioned for path switching, the command will be denied with the following message:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, The specified path cannot be
switched */
;
```

If the NE receives an **OPR-PROTNSW** command with an OCn **modifier** and an otherwise valid **aid** value but for which the corresponding slots are not equipped with compatible OLIU circuit packs (that is, the group is configured for unprotected equipage), the following error response is returned:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, OLIUS not equipped */
;
```

If the NE receives an **OPR-PROTNSW** command with an RPR *modifier* and an otherwise valid *aid* value but for which the corresponding slot is not equipped with an RPR pack, the following error response is returned:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, RPR pack not equipped */
;
```

If the NE receives an **OPR-PROTNSW** with an OCn *modifier*, where n is a value supported by the system, and an otherwise valid *aid* value but the addressed interface is not provisioned for the appropriate application (1+1), then the following error response is returned:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, The specified function unit is
not in a 1+1 application */
;
```

This is applicable to 1+1 protection groups in system releases R2.0 and earlier.

If the NE receives an **OPR-PROTNSW** command with an otherwise valid *sc* value, but for which an equal or higher priority protection switching request already exists, the following error response is returned:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, equal or higher priority
switch request exists */
;
```

This is applicable to UPSR and 1+1 protection groups.

If the NE receives an **OPR-PROTNSW** command in a **1+1_OPTM** application with an otherwise valid *sc* value, but for which an equal or higher priority protection

switching request already exists, or the secondary section is failed or degraded, the following error response is returned:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, equal or higher priority
switch request exists */
;
```

If the NE receives an **OPR-PROTNSW-OCn** command with an **aid** that does not specify an existing protection group of the type indicated by the **prototype** parameter, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, aid not consistent with
prototype */
;
```

If the NE receives an **OPR-PROTNSW** command in which the value of **dirn** is not valid for the protection group type specified by the **prototype** parameter, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, dirn not consistent with prototype */
;
```

If the NE receives an **OPR-PROTNSW** command in which the value of **prototype** is not valid for **modifier**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, prototype not valid for modifier */
;
```

If the NE receives an **OPR-PROTNSW** command with **prototype=2F** and with parameter values not consistent with [Table 18](#) above, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, parameters not valid for BLSR */
;
```

If the NE receives an **OPR-PROTNSW** command with **prototype=1+1_OPTM** and with parameter values not consistent with this prototype (**swtype**), the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, parameters not valid for non-BLSR */
;
```

Beginning in Release 6.0, this error response replaces the previous error response. If the NE receives an **OPR-PROTNSW** command with **prototype=1+1_OPTM** and with parameter values not valid for this prototype, the command is denied and the following error response is returned to the OS:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, parameters not valid for prototype */
;
```

If the NE receives an **OPR-PROTNSW** command with **prototype** not **2F** and with a **rid** parameter, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, rid not allowed for specified prototype */
;
```

If the NE receives an **OPR-PROTNSW** command with **prototype=1+1**, or **1+1_BIDIR** and with parameter values not consistent with these prototypes (**swtype**), the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, parameters not valid for non-BLSR */
;
```

Beginning in Release 6.0, this error response replaces the previous error response. If the NE receives an **OPR-PROTNSW** command with **prototype=1+1**, or **1+1_BIDIR** and with parameter values not valid for these prototypes, the command is denied and the following error response is returned to the OS:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, parameters not valid for prototype */
;
```

If the NE receives an **OPR-PROTNSW** command with **modifier=RPR** and with parameter values not valid for RPR, the command is denied and the following error response is returned to the OS:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, parameters not valid for RPR */
;
```

If the NE denies an otherwise valid **OPR-PROTNSW** command with **prototype=2F** based on the priority of an existing switch request, the following error message is returned.

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, equal or higher-priority
switch request exists or standby failed */
;
```

Beginning in Release 3.1, if the NE receives an otherwise valid **OPR-PROTNSW** command with **prototype=2F**, and the requested switch already exists, the following error message is returned.

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, equal or higher priority
switch request exists */
;
```

Beginning in Release 4.0, if the NE receives an otherwise valid **OPR-PROTNSW** command with **prototype=1+1_OPTM**, and there is a time-out from the far end, the following error message is returned.

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, timeout from far end */
;
```

Beginning in Release 4.0, if the NE receives an otherwise valid **OPR-PROTNSW** command with **prototype=1+1_OPTM** and **sc=LOCKOUT**, and Kbyte signaling is in an extended transient condition, the following error message is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, protection group in transient condition
*/
;
```

Beginning in Release 5.2, if the NE receives an otherwise valid **OPR-PROTNSW** command with **prototype=1+1** or **prototype=1+1_BIDIR**, **sc=LOCKOUT**, and **dest=WKG**, the following error message is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Lockout of Working not allowed */
;
```

Beginning in Release 5.0, if the NE receives a switch request while BLSR ring switching is suspended, the command is denied. BLSR ring switching is suspended in a manual ring (**RTRV-PROTN-GRP**, *ard*=DISABLE) until the **SET-MAP-RING** command is executed, and in an automatic ring (**RTRV-PROTN-GRP**, *ard*=ENABLE) until ring discovery is completed. The following error message is returned.

```
sid date time
M ctag DENY
  SSRD
  /* Status, Switch Request Denied, BLSR uninitialized or in suspended
state */
;
```

If the NE denies an otherwise valid **OPR-PROTNSW** command with *modifier* **RPR** based on the priority of an existing switch request, the following error message is returned.

```
sid date time
M ctag DENY
  SSRD
  /* Status, Switch Request Denied, equal or higher priority
switch request exists */
;
```

Beginning in Release 6.0, if the NE receives an otherwise valid **OPR-PROTNSW** command with *modifier* **RPR**, and the requested switch already exists, the following error message is returned.

```
sid date time
M ctag DENY
  SSRD
  /* Denied, Switch Request Denied, equal or higher priority
switch request exists */
;
```


Beginning in Release 7.0, if the NE receives an otherwise valid **OPR-PROTNSW** command, and a pack required to complete the switch request is resetting, the following error message is returned.

```
sid date time
M  ctag DENY
   SNVS
/* Status, Not in Valid State, required pack is resetting */
;
```

RELATED TL1 MESSAGES

ED-PROTN-GRP

RLS-PROTNSW

RTRV-PROTN-GRP

RTRV-STATE-PATH

RTRV-STATE-EQPT

NAME

OPR-REARR: Operate Rearrangement

The **OPR-REARR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

OPR-REARR: *tid:aid:ctag;*

DESCRIPTION

The **OPR-REARR** command triggers a non-hitless rearrangement (optimization) of the connection bandwidth between the main packs and packs, in the specified LS group(s), that support the dynamic assignment of the backplane bandwidth.

This includes, but is not necessarily limited to, the LNW45 and LNW49, which support VT grooming on the tributary fabrics, and the LNW70, LNW73 and LNW74. Traffic hits on a rearranged cross-connection should not exceed the following times.

- 1 second for OC-n interfaces
- 3 seconds for Ethernet interfaces with LCAS disabled (see *lcasmd* in **RTRV-VCG**)
- 30 seconds for Ethernet interfaces with LCAS enabled (see *lcasmd* in **RTRV-VCG**)

When rearranging a single LS group, the command completes within 85 seconds. When rearranging all LS groups in the shelf, the command completes within 4 minutes.

NOTE: The rearrangement does not change the endpoints of any cross-connection. It only changes the internal cross-connection routing.

The **RTRV-STATE-EQPT** command provides visibility into the backplane utilization. This can aid in determining when rearrangements are required.

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **OPR-REARR** command does not generate **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-260. OPR-REARR Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> identifies the LS group(s) for which the connection bandwidth is to be rearranged. See Appendix A. Supported AID formats ■ Function unit pair ■ Growth unit pair ■ Function unit slot ■ Growth unit slot The slot <i>aid</i> can be used to target the rearrangement to a specific slot. This permits the user to independently rearrange the backplane bandwidth for each slot. In those cases where independent rearrangements are not supported, if a slot <i>aid</i> is specified, the backplane bandwidth for the LS group containing the specified slot is rearranged (assuming rearrangement is necessary). Specifying all slots of a specific group rearranges the backplane bandwidth for both slots. This is the equivalent of specifying a Function or Growth unit pair <i>aid</i>. ALL is a supported <i>aid</i> value used to initiate a rearrangement of the connection bandwidth on all applicable LS groups
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the **OPR-REARR** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the NE receives a valid **OPR-REARR** command, but no rearrangements occur either because the target LS group does not support the dynamic assignment of backplane bandwidth or no rearrangement of the connection bandwidth on the target LS group is necessary, the NE provides a normal completion response.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **RTRV-HDR OUTPUT PARAMETERS** section.

EXAMPLE INPUT/OUTPUT

The following example initiates the rearrangement of the backplane bandwidth to/from function group D.

```
OPR-REARR:LT-TID123:fn-d:123456;
IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```

The following example initiates the rearrangement of the backplane bandwidth to/ from slot 1 in function group D.

```
OPR-REARR:LT-TID123:fn-d-1:123456;  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there also apply to the **OPR-REARR** command.

If the NE receives an **OPR-REARR** command in which the *aid* contains a value that is not supported by the command, the command is denied and the following error response is returned:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier, AID is wrong or missing */  
;
```

If the NE receives an otherwise valid **OPR-REARR** command but there is an existing test access session in the NE, the command is denied and the following error response is returned:

```
sid date time  
M ctag DENY  
SNVS  
/* Status, Not in Valid State, existing test access connection */  
;
```

If the NE receives an otherwise valid **OPR-REARR** command but the NE is in ring upgrade mode, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed in Ring Upgrade
mode */
;
```

RELATED TL1 MESSAGES

RTRV-STATE-EQPT

NAME

OPR-SYNCNSW: Operate Synchronization Switch

The **OPR-SYNCNSW** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

OPR-SYNCNSW: *tid:aid:ctag::sc, [syncfunction];*

DESCRIPTION

The **OPR-SYNCNSW** command is initiated by the user to request the NE to operate a synchronization reference, source, mode or circuit pack protection switch.

It is possible that some path switching may occur during a **CIRCUITPACK** switch.

Starting in Release 7.0, when the NE is equipped with VLF MAIN circuit packs, the timing signals from the timing generators (TGs) on the MAIN circuit packs are synchronized within a very tight tolerance to reduce the transmission hits that may occur when the timing signal is switched from one TG to the other. When executing **OPR-SYNCNSW:syncfunction=CIRCUITPACK** to switch TGs, it takes about 10 seconds for the standby TG to re-synchronize to the active TG. Executing multiple **OPR-SYNCNSW:syncfunction=CIRCUITPACK** commands before the standby TG is re-synchronize to the active TG may result in a cumulative timing signal error.

Starting in release 3.1, execution of this command, whether successful or denied, is recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-261. OPR-SYNCNSW Input Parameters (cont 1 of 4)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
aid	Access Identifier. This identifies the associated facility. The aid can only have the value ALL. In a multi-shelf DCS system, ALL applies to the main shelf only. To execute the command on a specific subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
sc	Switch Command. This is the requested switch action. When the system is in External time mode and has a syncfunction value of REFERENCE, the valid values of sc are as follows: ■ INHIBIT Freeze the protection switching mechanism. Automatic protection switching is disabled until this command is executed again with the same syncfunction and with sc set to RESET. Starting in Release 4.0 it is also cleared when SET-SYNCN syncnmod is changed to a non-external timing mode. ■ MANUAL Switch from the active timing reference to the standby timing reference. Starting in Release 4.0 when in revertive reference switch mode (see RTRV-SYNCN refswmod) the manual switch can only switch from the primary to the secondary reference resulting in a standing condition that can be cleared by executing this command again with the same syncfunction and with sc set to RESET. It is also cleared when SET-SYNCN syncnmod is changed to a non-external timing mode. INHIBIT may be applied over a revertive manual switch to prevent automatic switching.

Table 2-261. OPR-SYNCNSW Input Parameters (cont 2 of 4)

Parameter Name	Description
	■ RESET Clear active protection switch requests. Starting in Release 4.0 this includes clearing a manual switch when in revertive reference switch mode (see RTRV-SYNCN refswmod). If INHIBIT is in place, RESET will clear it first and another RESET will clear the revertive manual switch. When the system is not in the free running mode, for a syncfunction value of MODE, the valid values of sc are as follows: Starting in Release 1.0, When the system is not in the free running mode and is not in the Backplane mode, for a syncfunction value of MODE, the valid values of sc are as follows: ■ HLDOVR Holdover synchronization mode. This switches from the provisioned timing mode to holdover mode. The system remains in holdover mode. Automatic protection switching is disabled until this command is executed again with the same syncfunction and with sc set to NORM. ■ NORM Normal synchronization mode. Clears any active holdover mode. This will allow the system to switch back to the provisioned timing mode if the system is provisioned for nonrevertive mode switching, or if it has been manually switched to holdover mode. When the system is in LineTimed mode, with or without sync out, for a syncfunction value of SRC, the valid value of sc is as follows: ■ MANUAL Switch from the active synchronization source to the standby source.

Table 2-261. OPR-SYNCNSW Input Parameters (cont 3 of 4)

Parameter Name	Description
	Starting in Release 4.0 when in revertive reference switch mode (see RTRV-SYNCN refswmod) the manual switch can only switch from the primary to the secondary source resulting in a standing condition that can be cleared by executing this command again with the same syncfunction and with sc set to RESET. It is also cleared when SET-SYNCN syncnmod is changed to a non-line timing mode. ■ RESET Clear a manual switch when in revertive reference switch mode (see RTRV-SYNCN refswmod). For a syncfunction value of CIRCUITPACK, the valid value of sc is as follows: ■ MANUAL Switch from the main OLIU circuit pack that currently is used as the timing source to the other main OLIU circuit pack, if the other main is good. Transmission equipment will also switch to the new main OLIU circuit pack. ■ RESET Clear an autolock state.
syncfunction	Synchronization Function. This function may take one of the following values: ■ CIRCUITPACK Selects protection switching of the optical circuit packs that provide system timing. This will also result in an equipment protection switch, and may result in transmission hits. ■ MODE Selects protection switching of timing mode. This is valid when the system is not provisioned for FREERUNNING. ■ REFERENCE Selects protection switching of the external timing references. This is valid when the system is provisioned for EXTERNAL timing or External Timing with sync out.

Table 2-261. OPR-SYNCNSW Input Parameters (cont 4 of 4)

Parameter Name	Description
	■ SRC Selects the optical line from which shelf line timing is derived. This is valid when the system is provisioned for LINE timing or Line Timing with sync out, and if SyncAutoreconfiguration is enabled using the SET-SYNCN command. The synchronization sources that can be switched are MAIN-1-1 and MAIN-2-1. Starting in Release 7.0, The synchronization sources that can be switched are the OC-n optical line reference and its companion line on the companion circuit pack in the MAIN, FN or Growth slots. Note: The value SRC does not apply to the LNW80. Starting in Release 7.0, the value SRC also applies to the LNW80. If the value is omitted, the default value is MODE.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the requested **OPR-SYNCNSW** command does not alter the existing condition, the NE will respond with a COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to the **OPR-SYNCNSW** command.

EXAMPLE INPUT/OUTPUT

```
OPR-SYNCNSW:LT-TID123:all:123456::norm;  
  
IP 123456  
<  
  LT-TID123 01-03-22 16:12:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **OPR-SYNCNSW** command.

The NE returns the following error response if the **aid** value is missing or is invalid.

```
sid date time  
M ctag DENY  
  IIAC  
  /* Input, Invalid ACcess identifier */  
;
```

If an equal or higher priority switch already exists, the command will be denied with the following message:

```
sid date time  
M ctag DENY  
  SSRD  
  /* Status, Switch Request Denied, equal or higher-priority  
  switch request exists or standby unavailable */  
;
```

The NE returns the following error response if the **sc** value is missing or invalid:

```
sid date time  
M ctag DENY  
  IDNV  
  /* Input, Data Not Valid, invalid SC */  
;
```

The NE returns the following error response if the **syncfunction** value is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid SYNCFUNCTION */
;
```

If the switch request is issued for the **syncfunction** value of **SRC** and SyncAutoconfiguration is not enabled, the command will be denied with the following message:

```
sid date time
M ctag DENY
  SSRD
  /* Status, Switch Request Denied, SyncAutoreconfiguration is not
  enabled */
;
```

The NE returns the following error response if both timing slots are empty:

```
sid date time
M ctag DENY
  ENEQ
  /* Equipage, Not Equipped, both timing slots are unequipped */
;
```

Beginning in Release 7.0, if the NE receives an otherwise valid **OPR-SYNCNSW** command, and a pack required to complete the switch request is resetting, the following error message is returned.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, required pack is resetting */
;
```

RELATED TL1 MESSAGES

SET-SYCN

NAME

OPR-VCGTRIB: Operate Virtual Concatenation Tributary Switch

The **OPR-VCGTRIB** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 5.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

OPR-VCGTRIB: *tid:aid:ctag::sc;*

DESCRIPTION

This command causes preemption of a running wait-to-restore condition of a VCG tributary. The wait-to-restore status (see **RTRV-VCGTRIB** *outmbst*) can occur when LCAS is enabled (see **RTRV-VCG** *lcsmd*) and a failed tributary recovers.

Starting in Release 7.1, when **RTRV-EQPT** *prot_state* = PROT, the **OPR-VCGTRIB** command affects the addressed slot and its companion.

Execution of this command, whether successful or denied, will be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-262. OPR-VCGTRIB Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access identifier. This is the SONET tributary within the Ethernet or Data pack. Refer to the AID Table (Appendix A) for valid AIDs. An "ALL" <i>aid</i> range is supported at the pack or VCG level. A specific tributary <i>aid</i> is not accepted unless a cross-connection is present on the tributary.

Table 2-262. OPR-VCGTRIB Input Parameters (cont 2 of 2)

Parameter Name	Description
	This parameter applies to the following packs: ■ LNW74 ■ LNW70 ■ LNW73 ■ LNW78 ■ LNW63 ■ LNW64
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
sc	Switch Command. This is the requested switch action. ■ CLRWTR Set the wait-to-restore timer of the addressed VCG tributary to the expired state. This may cause an autonomous notification for this VCGTRIB for the change of state of the parameter <i>inmbst</i> (see RTRV-VCGTRIB). This is the default value.

OUTPUT FORMAT

If the NE fully complies with the request, or if LCAS is not enabled (see **RTRV-VCG lcasmd**) the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the requested **OPR-VCGTRIB** command does not alter the existing condition, the NE will respond with a COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to the **OPR-VCGTRIB** command.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number is included in the Access Identifier.
Refer to the AID Table in Appendix A for a list of valid AIDs.

```
OPR-VCGTRIB:LT-TID123:d1-v1-all:123456::clrwtr;  
  
IP 123456  
<  
  LT-TID123 01-03-22 16:12:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **OPR-VCGTRIB** command.

The NE returns the following error response if the **aid** value is missing or invalid:

```
sid date time  
M ctag DENY  
  IIAC  
  /* Input, Invalid ACcess identifier */  
;
```

The NE returns the following error response if no cross-connection to the tributary **aid** exists; the cross-connection sets the rate and creates the tributary:

```
sid date time  
M ctag DENY  
  SNVS  
  /* Status, Not in Valid State, cross-connection must exist to set  
rate */
```

The NE returns the following error response if the *sc* value is invalid:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid SC */
;
```

RELATED TL1 MESSAGES

ED-VCG, OPR-VCGRIB, RTRV-VCG, RTRV-VCGRIB, RTRV-VCG-DATA,
ED-VCG-DATA

NAME

REPT ALM: Report Alarm

The **REPT ALM** message is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

DESCRIPTION

REPT ALM messages are generated by a network element (NE) to report the occurrence of an event that requires immediate attention by the craft at the OS. Alarm messages have alarm severity associated with them.

If a condition defaults to or is provisioned as having an alarm level of critical, major or minor the occurrence (and clearance) of that condition is reported in a **REPT ALM** message.

OUTPUT FORMAT

```
<SID><date><time>  
<almcode><atag>REPT ALM<modifier>  
"[aid]:ntfcncde,condtype,srveff,ocrdat,ocrtm[, , , thlev]:\conddescr\"[: ,tblislt]"  
;
```

OUTPUT PARAMETERS

Table 2-263. REPT ALM Output Parameters (cont 1 of 5)

Parameter Name	Description
<i>date</i>	Date. This has the format YY-MM-DD (year-month-day). This reflects the current date of the system when the message is generated, which could differ from the occurrence date due to the alarm holdoff delay.
<i>time</i>	Time of Day. This has the format HH:MM:SS (hours:minutes:seconds). This reflects the current time of day of the system when the message is generated, which could differ from the occurrence time due to the alarm holdoff delay.

Table 2-263. REPT ALM Output Parameters (cont 2 of 5)

Parameter Name	Description
<i>almcde</i>	Alarm Code. The alarm code shall have one of the following values: *C Critical alarm ** Major alarm * Minor alarm A Automatic message (non-alarm)
<i>atag</i>	Automatic tag. The <i>atag</i> is used for message sequencing. The number is incremented by one for each autonomous message sent by the NE, on a per-OS-type basis. The NE uses only whole numbers from 000 through 999.
<i>modifier</i>	This parameter is a message modifier to the output. It has one of the following values: ■ COM Common. A common alarm. ■ EQPT An equipment-related alarm ■ T3 A facility-related alarm at the DS-3 level ■ T1 A timing reference alarm at the DS-1 level ■ E1 A facility-related alarm at the E1 level ■ EC1 A facility-related alarm at the electrical carrier signal level 1 ■ OC3 A facility-related alarm at the optical carrier signal level 3 ■ OC12 A facility-related alarm at the optical carrier signal level 12 ■ OC48 A facility-related alarm at the optical carrier signal level 48 ■ OC192 A facility-related alarm at the optical carrier signal level 192 ■ OCH A facility-related alarm at the optical channel level ■ OTS A facility-related alarm at the optical transmission section ■ ODU2 A facility-related alarm at the optical channel data unit 2

Table 2-263. REPT ALM Output Parameters (cont 3 of 5)

Parameter Name	Description
	■ OTU2 A facility-related alarm at the optical channel transport unit 2 ■ STS1 A facility-related alarm at synchronous transport signal level 1 ■ STS3C A facility-related alarm for a concatenated STS3 signal ■ STS12C A facility-related alarm for a concatenated STS12 ■ STS48C A facility-related alarm for a concatenated STS48 ■ VT1 A facility-related alarm at VT1.5 ■ VC12 A facility-related alarm at VC12 ■ FELAN A facility-related alarm at an Ethernet 10/100T ■ GELAN A facility-related alarm at an Ethernet GbE ■ VCG A facility-related alarm at a Virtual Concatenation Group ■ DATA A facility-related alarm at a Data port ■ LAG A facility-related alarm at a Link Aggregation Group
<i>aid</i>	If <i>modifier</i> is EQPT or "rr" (facility), then the <i>aid</i> of the equipment or facility for which an alarm is being reported are specified in the REPT ALM message. If modifier is COM, <i>aid</i> may be NULL. The following provides sample <i>aids</i> that are reported with their corresponding alarms. If modifier is EQPT, the <i>aid</i> would specify the equipment <i>aid</i> (e.g., main-1, main-2). If modifier is T1, T3, EC1, <i>aid</i> would specify the port <i>aid</i>. If modifier is E1, <i>aid</i> would specify the port <i>aid</i>. If modifier is FELAN, GELAN, DATA, or VCG <i>aid</i> would specify the port <i>aid</i>. If modifier is OCH <i>aid</i> would specify the optical channel <i>aid</i>. If modifier is ODU2 <i>aid</i> would specify the ODU2 Tributary <i>aid</i>. If modifier is OTU2 <i>aid</i> would specify the port <i>aid</i>.

Table 2-263. REPT ALM Output Parameters (cont 4 of 5)

Parameter Name	Description								
	If modifier is OTS <i>aid</i> would specify the port <i>aid</i>. If modifier is STSn, or VT, <i>aid</i> would specify the ring channel <i>aid</i>. If modifier is VC12, <i>aid</i> would specify the ring channel <i>aid</i>. If modifier is OCn, <i>aid</i> would specify the line <i>aid</i>. If modifier is LAG <i>aid</i> would specify the LAG <i>aid</i>. Refer to Appendix A for a complete list of valid <i>aids</i>.								
<i>ntfncde</i>	Notification Code. This parameter shall have one of the following values: <table> <tr> <td>CR</td><td>Critical alarm</td></tr> <tr> <td>MJ</td><td>Major alarm</td></tr> <tr> <td>MN</td><td>Minor alarm</td></tr> <tr> <td>CL</td><td>Cleared alarm</td></tr> </table> The same alarm level (when it is critical, major or minor) is specified in the <i>almcde</i> and <i>ntfncde</i> parameters.	CR	Critical alarm	MJ	Major alarm	MN	Minor alarm	CL	Cleared alarm
CR	Critical alarm								
MJ	Major alarm								
MN	Minor alarm								
CL	Cleared alarm								
<i>condtype</i>	Condition Type. This parameter identifies the type of alarm indication being reported. Refer to Appendix C for parameter syntax and description of this parameter.								
<i>srveff</i>	Service Effect. The <i>srveff</i> parameter is the effect on service and will have one of the following values: <table> <tr> <td>■ SA</td><td>Service-affecting condition</td></tr> <tr> <td>■ NSA</td><td>Nonservice-affecting condition</td></tr> </table>	■ SA	Service-affecting condition	■ NSA	Nonservice-affecting condition				
■ SA	Service-affecting condition								
■ NSA	Nonservice-affecting condition								
<i>ocrdat</i>	Occurrence Date. The date when the alarm occurred.								
<i>ocrtm</i>	Occurrence Time. The time of day when the alarm occurred.								
<i>thlev</i>	Threshold level. This is the threshold level for used for Threshold Crossing Alerts (TCAs).								
<i>conddescr</i>	Condition description. The <i>conddescr</i> field is used in all REPT ALM messages. Refer to Appendix C for valid <i>conddescr</i> values and descriptions.								

Table 2-263. REPT ALM Output Parameters (cont 5 of 5)

Parameter Name	Description
<i>tblist</i>	If a reported condition is isolated to the reported <i>aid</i> , the <i>tblist</i> parameter shall be used with value ISLTD to indicate that the <i>aid</i> identifies the circuit pack that should be replaced by craft to correct the reported condition. Otherwise, the <i>tblist</i> parameter shall be null, for example, for incoming facility failures, DCC failures, etc.

EXAMPLE OUTPUT

The following message is sent when the NE reports an incoming STS-1 AIS alarm on the main OLIU:

```
LT-TID123 00-10-01 08:00:00
* 082 REPT ALM STS1
  "m1-1-3:MN,AIS,NSA,01-01,08-00-00:\"inc. STS1 AIS\"
;
```

The following message is sent when the NE reports the removal of a circuit pack from Fn-b group, slot 1:

```
LT-TID123 00-10-01 08:00:00
* 155 REPT ALM EQPT
  "fn-b-1:MN,TERM,NSA,01-01,08-00-00:\"CP removed\":,ISLTD"
;
```

The following message is sent when the NE reports a signal degrade alarm on MAIN-1:

```
LT-TID123 03-08-19 16:20:41
* 312 REPT ALM OC48
  "main-1-1:MN,T-BERL,NSA,08-19,16-20-39,,,,6:\"inc. OC48 sig. degrade
(BER)\"
;
```

Beginning in Release 5.0, the following example shows the alarms for the STS1 constituents of a tributary cross-connected at the STS3c rate.

```
LT-TID123 01-10-26 16:42:11
* 810 REPT ALM STS1
  "m1-1-1:MN,AIS,NSA,10-26,16-42-11:\"inc. STS1 AIS\""
;
LT-TID123 01-10-26 16:42:12
* 810 REPT ALM STS1
  "m1-1-2:MN,AIS,NSA,10-26,16-42-12:\"inc. STS1 AIS\""
;
LT-TID123 01-10-26 16:42:13
* 810 REPT ALM STS1
  "m1-1-3:MN,AIS,NSA,10-26,16-42-13:\"inc. STS1 AIS\""
;
```

The following message is sent when the NE reports an OTS LOS alarm:

```
LT-TID123 01-10-26 16:42:12
* 155 REPT ALM OTS
  "d1-OTS:MJ,LOS,SA,10-26,16-42-12:\"inc. OTS LOS\""
;
```

RELATED TL1 MESSAGES

REPT ALM ENV

REPT EVT

NAME

REPT ALM ENV: Report Alarm Environment

The **REPT ALM ENV** message is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

DESCRIPTION

REPT ALM ENV messages are generated autonomously by the network elements (NEs) to inform the OS of the occurrence of an environmental alarm.

If a miscellaneous discrete environmental point defaults to or is provisioned to have an alarm level of critical, major, or minor, the occurrence (and clearance) of that miscellaneous discrete environmental point is reported in a **REPT ALM ENV** message.

If a miscellaneous discrete environmental point default is changed via **SET-ATTR-ENV** during an existing alarm condition, the NE will generate a **REPT ALM ENV** message indicating that the alarm cleared, followed by another **REPT ALM ENV** message indicating the existence of the alarm condition with the new default value(s). The message indicating the alarm clear shall have an *ocrdat* and *ocrtm* of the current date and time, while the message showing the alarm with the new default value shall have an *ocrdat* and *ocrtm* reflecting the date and time that the alarm originally occurred.

OUTPUT FORMAT

```
<SID><date><time>  
<almcde><atag> REPT ALM ENV  
"aid:ntfcncde,almtype,[ocrdat],[ocrtm][,almmsg]"  
;
```

OUTPUT PARAMETERS

Table 2-264. REPT ALM ENV Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>almcde</i>	Alarm Code. The alarm code shall have one of the following values: *C Critical alarm ** Major alarm * Minor alarm - A Automatic message (non-alarm) The <i>almcde</i> value of "A" is used only to report miscellaneous discrete environmental alarm clears.
<i>atag</i>	Automatic tag. The <i>atag</i> is used for message sequencing. The number is incremented by one for each autonomous message sent by the NE, on a per-OS-type basis. The NE uses only whole numbers from 000 through 999.
<i>aid</i>	The <i>aid</i> value is the miscellaneous discrete environmental point <i>aid</i>, for example, env-1, env-2, ... Refer to Appendix A for a complete list of valid <i>aids</i>.
<i>ntfcncde</i>	Notification Code. This parameter shall have one of the following values: - CR Critical alarm - MJ Major alarm - MN Minor alarm - CL Cleared alarm The system will generate one message per miscellaneous discrete environmental alarm. The same alarm level (when it is critical, major or minor) is specified in the <i>almcde</i> and <i>ntfcncde</i> parameters.
<i>almtype</i>	Alarm type. The value of the <i>almtype</i> parameter is MISC. If the MISC discrete alarm level is provisioned as NA, then it will be reported by the RTRV-COND command, not RTRV-ALM-ENV. The <i>almtype</i> for environmental input point 15 is always EXT.

Table 2-264. REPT ALM ENV Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>ocrdat</i>	Occurrence Date. This indicates the date of the condition being reported and has the format MM-DD (month-day).
<i>ocrtm</i>	Occurrence Time. This indicates the time of the condition being reported and has the format HH-MM-SS (hours-minutes-seconds).
<i>almmsg</i>	Alarm message. The value of the <i>almmsg</i> parameter is the user-provisioned text [enclosed within a pair of escaped quotes (\")] associated with the miscellaneous discrete environmental alarm point whose condition is reported. The <i>almmsg</i> for environmental input point 15 is always "fan shelf failed". The text of the <i>almmsg</i> parameter is output as specified for the Description field of the RTRV-ALM (and RTRV-COND) report.

EXAMPLE OUTPUT

The following **REPT ALM ENV** message is generated autonomously by the network elements (NEs) to inform the OS of the occurrence of an environmental alarm (on env-1).

```
LT-TID123 00-10-02 08:00:00
** 082 REPT ALM ENV
"ENV-1:MJ,MISC,10-03,07-15-30,\"OPEN DOOR\""
;
```

RELATED TL1 MESSAGES

REPT ALM

REPT ALM ENV
TL1 Message Details

REPT ALM ENV
Alcatel-Lucent 1665 DMX, R9.0

REPT EVT

NAME

REPT COND: Report Condition

The **REPT COND** message is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

DESCRIPTION

REPT -COND messages are generated periodically and autonomously to report the active *status* conditions at the network element (NE).

REPT -COND messages are generated every 6 hours, that is, at 6:00 a.m., 12:00 noon, 6:00 p.m., and 12:00 midnight.

Each **REPT COND** message reports one active status condition similar to the autonomous **REPT EVT** message used to report each status condition (non-alarmed event) when it occurred.

Any status condition reported by an autonomous **REPT -EVT** message, which is active when the periodic **REPT COND** messages are output, is included in a **REPT -COND** message.

Any *active* status condition that was initially reported by an autonomous **REPT -EVT** message *with a standing condition effect* (*condeff* = SC) is included in one of the periodic **REPT -COND** messages.

The information content of each **REPT -COND** message is effectively equivalent to a line in the response to a **RTRV -COND** command.

OUTPUT FORMAT

If there are no active status conditions to report, the following report is output:

```
sid date time
A atag REPT COND
;
```

If there are active status conditions to report, the following report is output:

```
sid date time
A atag REPT COND modifier
  "aid:ntfcncde,condtype,srveff,ocrdat,ocrtm,,,\"conddescr\"";
```

OUTPUT PARAMETERS

Table 2-265. REPT COND Output Parameters (cont 1 of 3)

Parameter Name	Description
<i>sid</i>	Source identifier. This is the system name.
<i>date</i>	Date output message is generated. This has the form YY-MM-DD (year-month-day).
<i>time</i>	Time output message is generated. This has the format HH:MM:SS (hours:minutes:seconds).
<i>A</i>	This indicates that the message is sent autonomously.
<i>atag</i>	Automatic tag. The <i>atag</i> is used for message sequencing.
<i>modifier</i>	This is the message modifier to the REPT COND message and has one of the following values: ■ COM A common condition ■ EQPT An equipment-related condition ■ T3 A facility-related condition at the DS-3 level ■ T1 A timing reference condition at the DS-1 level ■ E1 A facility-related condition at the E1 level ■ EC1 A facility-related condition at the electrical carrier signal level 1 ■ OCH A facility-related condition at the optical channel level ■ OTS A facility-related condition at the optical transmission section ■ ODU2 A facility-related condition at the optical channel data unit 2

Table 2-265. REPT COND Output Parameters (cont 2 of 3)

Parameter Name	Description
	■ OTU2 A facility-related condition at the optical channel transport unit 2 ■ OC3 A facility-related condition at the optical carrier signal level 3 ■ OC12 A facility-related condition at the optical carrier signal level 12 ■ OC48 A facility-related condition at the optical carrier signal level 48 ■ OC192 A facility-related condition at the optical carrier signal level 192 ■ STS1 A facility-related condition at synchronous transport signal level 1 ■ STS3C A facility-related condition for a concatenated STS3 signal ■ STS12C A facility-related condition for a concatenated STS12 ■ STS48C A facility-related condition for a concatenated STS48 ■ VT1 A facility-related condition at VT1.5 ■ VC12 A facility-related condition at VC12 ■ FELAN A condition at an Ethernet 10/100T ■ GELAN A condition at an Ethernet GbE ■ ENET An Ethernet condition ■ VCG A facility-related condition at a Virtual Concatenation Group ■ DATA A facility-related condition at a Data port ■ LAG A facility-related condition at a Link Aggregation Group. The modifier value is null only if there aren't any active status conditions to report.
<i>aid</i>	Access identifier. This is the address of the equipment component, or facility for which a condition is being reported. Refer to Appendix A at the end of this section for a list of valid addresses.

Table 2-265. REPT COND Output Parameters (cont 3 of 3)

Parameter Name	Description
<i>ntfcncde</i>	Notification code. This parameter value is always NA (not alarmed) for status conditions.
<i>condtype</i>	Condition type. This has one of the values listed in Appendix C at the end of this section.
<i>srveff</i>	Service effect. This indicates the effect of the reported condition on service. This parameter value is always NSA (not service affecting) for status conditions.
<i>ocrdat</i>	Occurrence date. This indicates the date of the condition being reported and has the format MM-DD (month-day).
<i>ocrtm</i>	Occurrence time. This indicates the time of the condition being reported and has the format HH-MM-SS (hours-minutes-seconds).
<i>conddescr</i>	Condition description. This is the text description of the reported condition.

EXAMPLE OUTPUT

```
LT-TID123 93-10-26 06:00:01
A 810 REPT COND STS1
  "m1-1-3:NA,AIS,SC,10-26,01-03-29,,,\\"inc. STS1 AIS\\"
;
```

Beginning in Release 5.0, the following example shows the conditions for the STS1 constituents of a tributary cross-connected at the STS3c rate.

```
LT-TID123 01-10-26 16:42:11
A 810 REPT COND STS1
  "m1-1-1:NA,AIS,SC,10-26,16-42-11,,,,\"inc. STS1 AIS\""
;
LT-TID123 01-10-26 16:42:12
A 810 REPT COND STS1
  "m1-1-2:NA,AIS,SC,10-26,16-42-12,,,,\"inc. STS1 AIS\""
;
LT-TID123 01-10-26 16:42:13
A 810 REPT COND STS1
  "m1-1-3:NA,AIS,SC,10-26,16-42-13,,,,\"inc. STS1 AIS\""
;
```

The following message is sent when the NE reports an OTS LOS condition:

```
LT-TID123 01-10-26 16:42:12
* 155 REPT COND OTS
  "d1-OTS:NA,LOS,SC,10-26,16-42-12:\"inc. OTS LOS\""
;
```

RELATED TL1 MESSAGES

REPT ALM

REPT EVT

RTRV-ALM

RTRV-AO

RTRV-COND

NAME

REPT CONNCHG: Report Control Plane Connection Database Change

The **REPT CONNCHG** message is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

DESCRIPTION

The **REPT CONNCHG** message is used to report changes in the network element's (NE's) control plane connection database. For an end-to-end control plane connection, **REPT CONNCHG** messages are issued at the ingress node of each domain through which the connection is routed. Changes to the database can be the result of TL1 commands, or autonomous internally-generated connection changes.

If the control plane connection database change occurs as a result of a TL1 command, a **REPT CONNCHG** message will be transmitted to users provisioned to receive **REPT CONNCHG** messages, including the user who issued the command. Therefore, a memory management OS must expect to receive database change messages for changes it caused.

OUTPUT FORMAT

```
sid date time
A atag REPT CONNCHG
  "umb:ccb::nodeid,msgcode,eventtext,callid=x,connid=x
  [:spec_block]"
;
```

Trailing commas after the last non-null parameter value within a parameter block are **not** included in the output message. Also, trailing colons after the last non-null parameter block are **not** included in the output message.

For an originating node, the output format for the successful creation of an end-to-end connection is shown below. The actual order of the spec_block parameters (which are not position sensitive) may be different than indicated.

```
LT-TID123 07-10-01 08:00:00
A 888 REPT CONNCHG
  "umb:ccb::nodeid,msgcode,eventtext,callid=x,connid=x:
servlevel=x,dir=x,bandwidth=x,protoype=x,connorigin=x,srcnatype=x,
srcnaaddress=x,srclogportid=x,srclabel=x,desttnatype=x,
desttnaaddress=x,destlogportid=x,destlabel=x,ennisegid=x,
ero=x,remotetid=x"
;
```

For a destination node, the output format for the successful creation of an end-to-end connection is shown below. The actual order of the spec_block parameters (which are not position sensitive) may be different than indicated.

```
LT-TID123 07-10-01 08:00:00
A 888 REPT CONNCHG
  "umb:ccb::nodeid,msgcode,eventtext,callid=x,connid=x:
servlevel=x,dir=x,bandwidth=x,protoype=x,connorigin=x,desttnatype=x,
desttnaaddress=x,destlogportid=x,destlabel=x,ennisegid=x,
ero=x"
;
```

The output format for the deletion of an end-to-end connection is shown below.

```
LT-TID123 07-10-01 08:00:00
A 888 REPT CONNCHG
  "umb:ccb::nodeid,msgcode,eventtext,callid=x,connid=x"
;
```

If a **REPT CONNCHG** message is less than or equal to 420 characters, a single **REPT CONNCHG** message will be sent. If the addition of another parameter would cause the **REPT CONNCHG** message to be greater than 420 characters, a second **REPT CONNCHG** message will be generated which includes information not included in the first **REPT CONNCHG** message.

OUTPUT PARAMETERS

Table 2-266. REPT CONNCHG Output Parameters (cont 1 of 3)

Parameter Name	Description
<i>sid</i>	Source Identifier (or target identifier, <i>tid</i>). This is the system name.
<i>date</i>	Date the output message is generated. This has the format YY-MM-DD (year-month-day).
<i>time</i>	Time output message is generated. This has the format HH:MM:SS (hours:minutes:seconds).
<i>A</i>	Autonomous. This indicates the message is sent autonomously.
<i>atag</i>	Automatic Tag. The <i>atag</i> is used for message sequencing. The number is incremented by one for each autonomous message sent by the NE, on a per-OS-type basis. The NE uses only whole numbers from 000 through 999.
<i>umb</i>	Update Management Block. This parameter field is used for returning the time and date of the database change. Within <i>umb</i> , the values are separated by commas. Possible values include: ■ TIME This reflects the time that the database change occurred and is in the form: HH-MM-SS. The time is the same as the time that is recorded in the history log for the database change record. ■ DATE This reflects the date that the database change occurred and is in the form: YY-MM-DD. The date is the same as the date that is recorded in the history log for the database change record.
<i>ccb</i>	Command Code Block. This single position-defined parameter block indicates the trigger information of the action that created the database update. Values ENT-CONN change caused by ENT-CONN command DLT-CONN change caused by DLT-CONN command
<i>nodeid</i>	Node Identifier. The local node ID in the transport topology. It is an IPv4 formatted identifier consisting of four dot-separated decimal numbers ranging from 0 to 255.

Table 2-266. REPT CONNCHG Output Parameters (cont 2 of 3)

Parameter Name	Description								
<i>msgcode</i>	Message Code. Indicates the know or suspected reason for the message. <table> <tr> <td>Values</td><td>Event Text</td></tr> <tr> <td>C001</td><td>Network Connection successfully setup</td></tr> <tr> <td>C060</td><td>Network Connection graceful deleted</td></tr> <tr> <td>C100</td><td>Network Connection forced deleted</td></tr> </table>	Values	Event Text	C001	Network Connection successfully setup	C060	Network Connection graceful deleted	C100	Network Connection forced deleted
Values	Event Text								
C001	Network Connection successfully setup								
C060	Network Connection graceful deleted								
C100	Network Connection forced deleted								
<i>eventtext</i>	Event Text. A quoted text string that explains the meaning of the message code. See <i>msgcode</i> for values.								
<i>callid</i>	Call Identifier. Operator-specific call identifiers are supported. An operator-specific <i>callid</i> is a fixed-length 12-byte (24-character) hexadecimal string. One suggested format is where the first 4 bytes (8 characters) represent the source network element address (the hexadecimal encoding of the <i>nodeid</i> (see RTRV-NODE-ENNI)) and the remaining 8 bytes (16 characters) represent the local identifier.								

Table 2-266. REPT CONNCHG Output Parameters (cont 3 of 3)

Parameter Name	Description
<i>connid</i>	Connection Identifier. <i>connid</i> is a unique identifier for a connection segment within the local domain. There may be more than one <i>connid</i> associated with a single <i>callid</i>. <i>connid</i> is a character string containing up to 41 characters that is composed of the source node ID, a tributary aid and an index number. The format is as follows. <i>nodeid&tributary_aid&index</i> where <i>nodeid</i> The node ID of the ingress node within the local domain for this connection. It is an IPv4 formatted identifier consisting of four dot-separated integers ranging from 0 to 255. <i>tributary_aid</i> A dash-separated string of 5 integers, representing Bay/Frame #, Shelf #, Slot #, Port #, Tributary #, that identifies the ingress port's tributary within the local domain for this connection, with — Bay/Frame # = 1 — Shelf # = 1 — Slot # = 1-12 (see Table 2-268 for a mapping of NE slots to integer values.) — Port # = 1-48 — Tributary # = 1-192 For slots equipped with Ethernet packs, the Port # corresponds to a VCG number. For example, Port # = 1 represents VCG v1. <i>index</i> An integer in the range 0-4294967295 Example 200.10.10.10&1-1-1-1&100
<i>spec_block</i>	Specific block. The <i>spec_block</i> parameters are listed and described in the following table. Unless otherwise indicated, all parameter are reported.

Table 2-267. REPT CONNCHG Output spec_block Parameters (cont 1 of 5)

Parameter Name	Description
<i>bandwidth</i>	Bandwidth. <i>bandwidth</i> specifies the signal rate of the connection. Values: ■ STS1 ■ STS3c ■ STS12c ■ STS48c
<i>connorigin</i>	Connection Origin. <i>connorigin</i> indicates whether the connection was originally initiated (via ENT - CONN) at the local node or at a remote node. Values ■ LOCAL ■ REMOTE
<i>destlabel</i>	Destination Label. <i>destlabel</i> identifies a timeslot (tributary) on the destination EDGE port identified by <i>destlogportid</i> . In conjunction with <i>desttna</i> and <i>destlogportid</i> , it identifies the destination of the connection. See <i>srclabel</i> for the format description.
<i>destlogportid</i>	Destination Logical Port Identifier. <i>destlogportid</i> is an integer that identifies the destination EDGE port (within the TNA). In conjunction with <i>desttna</i> and <i>destlabel</i> , it identifies the destination of the connection. Values: ■ 1 - 4294967295
<i>desttnaaddress</i>	Destination Transport Network Assigned Address (TNA). <i>desttnaaddress</i> identifies an address assigned to one endpoint of the connection by the transport service provider. <i>desttnaaddress</i> , in conjunction with <i>destlogportid</i> and <i>destlabel</i> , identifies the destination of the connection. See <i>desttnatype</i> for the allowable <i>desttnaaddress</i> values as a function of the <i>desttnatype</i> value.
<i>desttnatype</i>	Destination Transport Network Assigned Address (TNA) Type. See <i>srctnatype</i> for the format description.

Table 2-267. REPT CONNCHG Output spec_block Parameters (cont 2 of 5)

Parameter Name	Description
<i>dir</i>	Direction. <i>dir</i> specifies whether the connection is unidirectional or bidirectional. Values: ■ 1WAY Unidirectional connection ■ 2WAY Bidirectional connection
<i>ennisegid</i>	E-NNI Segment Identifier. A unique identifier for an E-NNI connection segment (between eNNI-U and eNNI-D) that is assigned by the upstream node (eNNI-U). <i>ennisegid</i> format = <i>spcid-tunnelid-lspid</i> where <i>spcid</i> Signaling Protocol Controller Identifier. An IPv4 formatted identifier of the upstream signaling protocol controller, consisting of four dot-separated integers ranging from 0 to 255, for example: 10.10.10.10. <i>tunnelid</i> Tunnel Identifier. An integer in the range 0-65535. <i>lspid</i> LSP (Label Switched Path) Identifier. An integer in the range 0-65535. Example 220.10.10.10-1-10

Table 2-267. REPT CONNCHG Output spec_block Parameters (cont 3 of 5)

Parameter Name	Description						
<i>ero</i>	Explicit Route Object. <i>ero</i> specifies the Level 1 routing for the connection as a list of Level 1 node IDs and link IDs (logical port IDs). The <i>ero</i> retrieved from an intermediate or destination domain will not include upstream node IDs or Link IDs. <i>ero</i> format = <code>localadvnodeid-locallinkID&localadvnodeid-locallinkid&...&localadvnodeid</code> where <i>localadvnodeid</i> Local Advertised Node Identifier. Identifies a node in the transport topology. It is an IPv4 formatted identifier consisting of four dot-separated integers ranging from 0 to 255. <i>locallinkid</i> Local Link Identifier. An integer in the range 1-4294967295 that identifies the local link. Example 220.10.10.10-34219&29.10.10.10-43910&220.10.10.20						
<i>protype</i>	Protection Type. <i>protype</i> specifies the protection type for the E-NNI segments of the SPC. The following values are defined for E-NNI segments <table> <tr> <td>Value</td><td>E-NNI Protection Type</td></tr> <tr> <td>■ 0x1</td><td>unprotected</td></tr> <tr> <td>■ 1+1</td><td>1+1 protected</td></tr> </table>	Value	E-NNI Protection Type	■ 0x1	unprotected	■ 1+1	1+1 protected
Value	E-NNI Protection Type						
■ 0x1	unprotected						
■ 1+1	1+1 protected						
<i>remotetid</i>	Remote Node Target Identifier. <i>remotetid</i> is the TID of the node to which the downstream ENNI port belongs, i.e., the node to which the ENNI segment is connected. Refer to the RTRV-HDR command for the parameter syntax and description of this parameter. <i>remotetid</i> is not reported at a destination node.						
<i>servlevel</i>	Service Level. <i>servlevel</i> is an integer in the range 0-255 that specifies the service level for the I-NNI segments of the Soft Permanent Connection (SPC).						

Table 2-267. REPT CONNCHG Output spec_block Parameters (cont 4 of 5)

Parameter Name	Description												
<i>srclabel</i>	Source Label. <i>srclabel</i> identifies a timeslot (tributary) on the source EDGE port identified by <i>srclogportid</i>. In conjunction with <i>srctna</i> and <i>srclogportid</i>, it identifies the source of the connection. <i>srclabel</i> is only reported at the node where the connection originated (<i>connorigin</i>=LOCAL). <i>srclabel</i> has format S-U-K-L-M, where: S identifies a particular STS-3 group within an STS-N, U specifies a particular STS-1 within an STS-3 group, K specifies a particular TUG-3 within an VC-4 and is only significant for SDH, L specifies a particular VT group within an STS-1, and M specifies a particular VT1.5 within a VTG. <table> <tr> <td>Field</td><td>Value</td></tr> <tr> <td>S</td><td> ■ 0 (on port/line with a rate of STS1 or less) ■ 1 (1st STS-3c within an STS-N) ■ 2 (2st STS-3c within an STS-N) ■ ... ■ N/3 (N/3th STS-3c within an OC-N port) </td></tr> <tr> <td>U</td><td> ■ 0 (on port/line with a rate of STS1 or less, and when bandwidth=STS3c or greater) ■ 1 (1st STS-1 within an STS-3) ■ 2 (2nd STS-1 within an STS-3) ■ 3 (3rd STS-1 within an STS-3) </td></tr> <tr> <td>K</td><td> ■ 0 (SDH not supported) </td></tr> <tr> <td>L</td><td> ■ 0 (VT not supported) </td></tr> <tr> <td>M</td><td> ■ 0 (VT not supported) </td></tr> </table>	Field	Value	S	■ 0 (on port/line with a rate of STS1 or less) ■ 1 (1st STS-3c within an STS-N) ■ 2 (2st STS-3c within an STS-N) ■ ... ■ N/3 (N/3th STS-3c within an OC-N port)	U	■ 0 (on port/line with a rate of STS1 or less, and when bandwidth=STS3c or greater) ■ 1 (1st STS-1 within an STS-3) ■ 2 (2nd STS-1 within an STS-3) ■ 3 (3rd STS-1 within an STS-3)	K	■ 0 (SDH not supported)	L	■ 0 (VT not supported)	M	■ 0 (VT not supported)
Field	Value												
S	■ 0 (on port/line with a rate of STS1 or less) ■ 1 (1st STS-3c within an STS-N) ■ 2 (2st STS-3c within an STS-N) ■ ... ■ N/3 (N/3th STS-3c within an OC-N port)												
U	■ 0 (on port/line with a rate of STS1 or less, and when bandwidth=STS3c or greater) ■ 1 (1st STS-1 within an STS-3) ■ 2 (2nd STS-1 within an STS-3) ■ 3 (3rd STS-1 within an STS-3)												
K	■ 0 (SDH not supported)												
L	■ 0 (VT not supported)												
M	■ 0 (VT not supported)												
<i>srclogportid</i>	Source Logical Port Identifier. <i>srclogportid</i> is an integer that identifies the source EDGE port (within the TNA). In conjunction with <i>srctna</i> and <i>srclabel</i>, it identifies the source of the connection. <i>srclogportid</i> is only reported at the node where the connection originated (<i>connorigin</i>=LOCAL). Values: ■ 1 - 4294967295												

Table 2-267. REPT CONNCHG Output spec_block Parameters (cont 5 of 5)

Parameter Name	Description								
<i>srctnaaddress</i>	Source Transport Network Assigned Address (TNA). <i>srctnaaddress</i> identifies an address assigned to one endpoint of the connection by the transport service provider. <i>srctnaaddress</i> , in conjunction with <i>srclogportid</i> and <i>srclabel</i> , identifies the source of the connection. <i>srctnaaddress</i> is only reported at the node where the connection originated (<i>connorigin</i> =LOCAL). See <i>srctnatype</i> for the allowable <i>srctnaaddress</i> values as a function of the <i>srctnatype</i> value.								
<i>srctnatype</i>	Source Transport Network Assigned Address (TNA) Type. <i>srctnatype</i> is only reported at the node where the connection originated (<i>connorigin</i> =LOCAL). <table> <tr> <td>Values:</td><td>Description</td></tr> <tr> <td>■ IPV4</td><td>An IPv4 formatted Source TNA address consisting of four dot-separated decimal numbers ranging from 0 to 255, for example, 220.10.10.10.</td></tr> <tr> <td>■ IPV6</td><td>An IPv6 formatted Source TNA address consisting of 8 dash-separated 4-digit hexadecimal numbers. For example, fedc:0000-0000-76b4-417a-1080-3210-1111.</td></tr> <tr> <td>■ NSAP</td><td>An NSAP formatted Source TNA address consisting of a 40-digit hexadecimal string. For example, 39840f800000000000000000000000008006a067197aa.</td></tr> </table>	Values:	Description	■ IPV4	An IPv4 formatted Source TNA address consisting of four dot-separated decimal numbers ranging from 0 to 255, for example, 220.10.10.10.	■ IPV6	An IPv6 formatted Source TNA address consisting of 8 dash-separated 4-digit hexadecimal numbers. For example, fedc:0000-0000-76b4-417a-1080-3210-1111.	■ NSAP	An NSAP formatted Source TNA address consisting of a 40-digit hexadecimal string. For example, 39840f800000000000000000000000008006a067197aa.
Values:	Description								
■ IPV4	An IPv4 formatted Source TNA address consisting of four dot-separated decimal numbers ranging from 0 to 255, for example, 220.10.10.10.								
■ IPV6	An IPv6 formatted Source TNA address consisting of 8 dash-separated 4-digit hexadecimal numbers. For example, fedc:0000-0000-76b4-417a-1080-3210-1111.								
■ NSAP	An NSAP formatted Source TNA address consisting of a 40-digit hexadecimal string. For example, 39840f800000000000000000000000008006a067197aa.								

The format of the *tributary_aid* field of the *connid* parameter is *Bay/frame #-Shelf #-Slot #-Port #-Tributary #* where *Slot #* is a 2-digit field defined in the following table.

Table 2-268. connid slot Mapping

Slot AID	Slot #
main-1	1
main-2	2
fn-a-1	3
fn-a-2	4
fn-b-1	5

Table 2-268. *connid slot* Mapping

Slot AID	Slot #
fn-b-2	6
fn-c-1 ¹	7
fn-c-2 ¹	8
fn-d-1	9
fn-d-2	10
growth-1	11
growth-2	12

1. DMX only

EXAMPLE OUTPUT

In response to the completion of an end-to-end connection, the originating node issues the following message:

```
LT-TID123 07-10-01 08:00:00
A 888 REPT CONNCHG
  "TIME=07-59-20,DATE=07-10-01:ENT-CONN::220.10.10.10,C001,
  \"Network Connection successfully setup\",
  callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-1&1:
  servlevel=0,dir=2WAY,bandwidth=STS1,prototype=0x1,connorigin=LOCAL,
  srctnatype=IPV4,srctnaaddress=220.10.10.10,srclogportid=15,
  srclabel=3-1-0-0-0,desttnatype=IPV4,desttnaaddress=220.10.10.20,
  destlogportid=3,destlabel=1-2-0-0-0,ennisegid=220.10.10.10-1-10,
  ero=220.10.10.10-34219&220.10.10.30-43910&220.10.10.20,
  remotetid=ALU-TID789"
;
```

In response to the completion of a connection, the destination node issues the following message:

```
LT-TID123 07-10-01 08:00:00
A 888 REPT CONNCHG
"TIME=07-59-20,DATE=07-10-01:ENT-CONN::220.10.10.20,C001,
\"Network Connection successfully setup\",
callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-1&1:
servlevel=0,dir=2WAY,bandwidth=STS1,prototype=0x1,connorigin=REMOTE,
desttnatype=IPV4,desttnaaddress=220.10.10.20,destlogportid=3,
destlabel=1-2-0-0-0,ennisegid=220.10.10.10-1-10,ero=220.10.10.20"
;
```

In response to the graceful deletion of a connection, the originating node issues the following message:

```
LT-TID123 07-10-01 08:00:00
A 888 REPT CONNCHG
"TIME=07-59-20,DATE=07-10-01:DLT-CONN::220.10.10.20,C060,
\"Network Connection graceful deleted\",callid=DC640A0A0102030405060708,
connid=200.10.10.10&1-1-1-1-1&1"
;
```

In response to the graceful deletion of a connection, a destination node issues the following message :

```
LT-TID123 07-10-01 08:00:00
A 888 REPT CONNCHG
"TIME=07-59-20,DATE=07-10-01:DLT-CONN::220.10.10.20,C060,
\"Network Connection graceful deleted\",callid=DC640A0A0102030405060708,
connid=200.10.10.10&1-1-1-1-1&1"
;
```


In response to a forced deletion of a connection, the originating node issues the following message:

```
LT-TID123 07-10-01 08:00:00
A 888 REPT CONNCHG
  "TIME=07-59-20,DATE=07-10-01:CONN::220.10.10.10,C100,
  \"Network Connection forced deleted \",callid=DC640A0A0102030405060708,
  connid=200.10.10.10&1-1-1-1&1"
;
```

In response to a forced deletion of a connection, a downstream node issues the following message:

```
LT-TID123 07-10-01 08:00:00
A 888 REPT CONNCHG
  "TIME=07-59-20,DATE=07-10-01:CONN::220.10.10.10,C100,
  \"Network Connection forced deleted \",callid=DC640A0A0102030405060708,
  connid=200.10.10.10&1-1-1-1&1"
;
```

RELATED TL1 MESSAGES

ENT-CONN

DLT-CONN

REPT CONNCHG
TL1 Message Details

REPT CONNCHG
Alcatel-Lucent 1665 DMX, R9.0

NAME

REPT CONNEVT: Report Control Plane Connection Event

The **REPT CONNEVT** message is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

DESCRIPTION

In response to a request to establish or delete an end-to-end soft permanent connection (SPC), the source node generates a **REPT CONNEVT** message to report the success or failure of the request. When a control plane connection request (**ENT/DLT-CONN**) is executed, the NE issues a COMPLD message if the TL1 command is accepted. The **REPT CONNEVT** message indicates the subsequent success/failure of the request in the form of a transient condition. If the request is successful, this message is accompanied by an associated **REPT CONNCHG** message.

In response to forced deletion (**DLT-CONN:cmdmde=FRCD**) of an end-to-end soft permanent connection or a connection fragment, the NE generates a **REPT CONNEVT** message to report the success of the request. When a forced deletion request is executed, the NE issues a COMPLD message if the TL1 command is accepted. The **REPT CONNEVT** message indicates the subsequent success of the request in the form of a transient condition. This message is accompanied by an associated **REPT CONNCHG** message.

OUTPUT FORMAT

The general format of a **REPT CONNEVT** autonomous message is as follows:

```
sid date time
A atag REPT CONNEVT
  ":condtype,condeff,ocrdat,ocrtm:\"conddescr\",callid=x,connid=x"
;
```

OUTPUT PARAMETERS

Table 2-269. REPT CONNEVT Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>date</i>	Date. This has the format YY-MM-DD (year-month-day). This reflects the current date of the system when the message is generated, which could differ from the occurrence date.
<i>time</i>	Time of Day. This has the format HH:MM:SS (hours:minutes:seconds). This reflects the current time of day of the system when the message is generated, which could differ from the occurrence time.
<i>atag</i>	Automatic Message Tag: The <i>atag</i> is used for message sequencing. The number is incremented by one for each autonomous message sent by the NE, on a per-OS-type basis. The NE uses only whole numbers from 000 through 999.
<i>condtype</i>	Condition Type. This parameter identifies the type of event indication being reported. Refer to Table 2-270 for parameter values.
<i>condeff</i>	Condition Effect. This indicates the effect of the event on the condition and is one of the following values: ■ TC Transient Condition
<i>ocrdat</i>	Occurrence Date. The date when the triggering event occurred.
<i>ocrtm</i>	Occurrence Time. The time of day when the triggering event occurred.
<i>conddescr</i>	Condition description. The <i>conddescr</i> field is used in all REPT CONNEVT messages. Refer to Table 2-270 for parameter values.
<i>callid</i>	Call Identifier. Operator-specific call identifiers are supported. An operator-specific <i>callid</i> is a fixed-length 12-byte (24-character) hexadecimal string. One suggested format is where the first 4 bytes (8 characters) represent the source network element address (the hexadecimal encoding of the <i>nodeid</i> (see RTRV-NODE-ENNI)) and the remaining 8 bytes (16 characters) represent the local identifier.

Table 2-269. REPT CONNEVT Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>connid</i>	Connection Identifier. <i>connid</i> is a unique identifier for a connection segment within the local domain. There may be more than one <i>connid</i> associated with a single <i>callid</i>. <i>connid</i> is a character string containing up to 41 characters that is composed of the source node ID, a tributary aid and an index number. The format is as follows. <i>nodeid&tributary_aid&index</i> where <i>nodeid</i> The node ID of the ingress node within the local domain for this connection. It is an IPv4 formatted identifier consisting of four dot-separated integers ranging from 0 to 255. <i>tributary_aid</i> A dash-separated string of 5 integers, representing Bay/Frame #, Shelf #, Slot #, Port #, Tributary #, that identifies the ingress port's tributary within the local domain for this connection, with — Bay/Frame # = 1 — Shelf # = 1 — Slot # = 1-12 (see Table 2-271 for a mapping of NE slots to integer values.) — Port # = 1-48 — Tributary # = 1-192 For slots equipped with Ethernet packs, the Port # corresponds to a VCG number. For example, Port # = 1 represents VCG v1. <i>index</i> An integer in the range 0-4294967295 Example 200.10.10.10&1-1-1-1-1&100

The following table defines the supported *condtype* and *conddescr* values.

Table 2-270. *condtype* and *conddescr* Values

<i>condtype</i>	<i>conddescr</i>
CSUS	connection setup success
CSUF-T0	connection setup fail - timeout

Table 2-270. *condtype* and *conddescr* Values

condtype	conddescr
CSUF-ER	connection setup fail - error
CDES	connection deletion success
CDES-FRC	connection deletion success - forced
CDEF-TO	connection deletion fail - timeout
CDEF-ER	connection deletion fail - error

The format of the *tributary_aid* field of the *connid* parameter is *Bay/frame #- Shelf #-Slot #-Port #-Tributary #* where *Slot #* is a 2-digit field defined in the following table.

Table 2-271. *connid slot* Mapping

Slot AID	Slot #
main-1	1
main-2	2
fn-a-1	3
fn-a-2	4
fn-b-1	5
fn-b-2	6
fn-c-1 ¹	7
fn-c-2 ¹	8
fn-d-1	9
fn-d-2	10
growth-1	11
growth-2	12

1. DMX only

EXAMPLE OUTPUT

The NE issues the following **REPT CONNEVT** message upon successful completion of the **ENT-CONN** command.

```
LT-TID 07-11-29 11:12:45
A 003 REPT CONNEVT
  ":CSUS,TC,07-11-29,11-12-44:\"connection setup success\",
  callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-1&1"
;
```

The NE issues the following **REPT CONNEVT** message if the **ENT-CONN** command fails due to a connection setup request timeout.

```
LT-TID 07-11-29 11:12:45
A 003 REPT CONNEVT
  ":CSUF-T0,TC,07-11-29-07,11-12-44:\"connection setup fail - timeout\",
  callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-1&1"
;
```

The NE issues the following **REPT CONNEVT** message the **ENT-CONN** command fails due to the receipt of a negative connection setup response.

```
LT-TID 07-11-29 11:12:45
A 003 REPT CONNEVT
  ":CSUF-ER,TC,07-11-29,11-12-44:\"connection setup fail - error\",
  callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-1&1"
;
```

The NE issues the following **REPT CONNEVT** message upon successful completion of the **DLT-CONN** command.

```
LT-TID 07-11-29 11:12:45
A 003 REPT CONNEVT
  ":CDES,TC,07-11-29,11-12-44:\"connection deletion success\",
  callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-1&1"
;
```

The source node issues the following **REPT CONNEVT** message upon completion of a forced connection deletion (**DLT-CONN:cmdmde=FRCD**).

```
LT-TID 07-11-29 11:12:45
A 003 REPT CONNEVT
  ":CDES-FRC,TC,07-11-29,11-12-44:\"connection deletion success -
forced\",callid=DC640A0A0102030405060708,
connid=200.10.10.10&1-1-1-1&1"
;
```

The NE issues the following **REPT CONNEVT** message if the **DLT-CONN** command fails due to a connection deletion request timeout.

```
LT-TID 07-11-29 11:12:45
A 003 REPT CONNEVT
  ":CDEF-T0,TC,07-11-29,11-12-44:\"connection deletion fail -
timeout\",callid=DC640A0A0102030405060708,
connid=200.10.10.10&1-1-1-1&1"
;
```

The NE issues the following **REPT CONNEVT** message if the **DLT-CONN** command fails due to the receipt of a negative connection setup response.

```
LT-TID 07-11-29 11:12:45
A 003 REPT CONNEVT
  ":CDEF-ER,TC,07-11-29,11-12-44:\"connection deletion fail -
error\",callid=DC640A0A0102030405060708,
connid=200.10.10.10&1-1-1-1&1"
;
```

RELATED TL1 MESSAGES

ENT-CONN

DLT-CONN

REPT CONNCHG

NAME

REPT DBCHG: Report Database Change

The **REPT DBCHG** message is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

DESCRIPTION

The **REPT DBCHG** message is used to report database changes in the system.

The **REPT DBCHG** message is used to automatically report *every* change in the network element's (NE's) provisionable database so that the provisioning operations system (OS) has a current view of that database. The new or deleted provisioning values are included in the **REPT DBCHG** message.

Changes in user provisionable attributes are reported as the equivalent TL1 command that would cause that change. Changes in non-user provisionable attributes are reported using only the *aid* and the *block* parameters.

Any time a command is entered that causes a system reset which results in the issuing of a **REPT DBCHG** message, the **REPT DBCHG** message is transmitted before the system resets.

Any time the system controller resets (including on power up), a **REPT DBCHG** message is transmitted after the controller has successfully recovered from the reset.

If a database change occurs as a result of a TL1 command in which an *aid* range is entered, the system will output separate **REPT DBCHG** messages for each affected *aid*.

If the database change occurs as a result of a TL1 command, a **REPT DBCHG** message will be transmitted to users provisioned to receive **REPT DBCHG** messages, including the user who issued the command. Therefore, a memory management OS must expect to receive database change messages for changes it caused.

When using the **ENT-rr** command to provision OC-n *aisnc*, *sftthr* and *application* of **1+1** or **2F**, two **REPT DBCHG** messages are generated whether a single line or line pair *aid* is used because it is applied to both lines (refer to the examples below).

The *application* parameter is set to **1+1** and the *syncmsg* parameter is set using a single line or line pair *aid*. A **REPT DBCHG** message will be generated for each line.

The *application* parameter is set to **1+1** and the *syncmsg* parameter is set using a line pair *aid*. A **REPT DBCHG** message will be generated for each line.

Starting in release 6.0, line pair AIDs are not supported. For parameters which must be the same on both lines of the line pair, **REPT DBCHG** messages will be issued for both lines, regardless of the **aid** used in the provisioning command.

Starting in release 6.0, all cross-connect AIDs will be ring-channel aids.

Starting in Release 9.0, **REPT DBCHG** messages will be issued on a subshelf for provisioning commands applied directly to the subshelf, by a user logged into the subshelf.

OUTPUT FORMAT

```
sid date time
A atag REPT DBCHG
  "umb:ccb:aid:[com_block]:[spec_block][:state_block]"
;
```

Trailing commas after the last non-null parameter value within a parameter block are *not* included in the output message. Also, trailing colons after the last non-null parameter block are *not* included in the output message.

Starting in Release 7.0.1, if a **DBCHG** message is less than or equal to 420 characters, a single **DBCHG** message will be sent. If the addition of another *com_block*, *spec_block* or *state_block* parameter would cause the **DBCHG** message to be greater than 420 characters, a second **DBCHG** message will be generated which includes information not included in the first **DBCHG** message.

OUTPUT PARAMETERS

Table 2-272. **REPT DBCHG** Output Parameters (cont 1 of 3)

Parameter Name	Description
<i>sid</i>	Source Identifier (or target identifier, <i>tid</i>). This is the system name.
<i>date</i>	Date the output message is generated. This has the format YY-MM-DD (year-month-day).
<i>time</i>	Time output message is generated. This has the format HH:MM:SS (hours:minutes:seconds).

Table 2-272. REPT DBCHG Output Parameters (cont 2 of 3)

Parameter Name	Description
<i>A</i>	Autonomous. This indicates the message is sent autonomously.
<i>atag</i>	Automatic Tag. The <i>atag</i> is used for message sequencing. The number is incremented by one for each autonomous message sent by the NE, on a per-OS-type basis. The NE uses only whole numbers from 000 through 999.
<i>umb</i>	Update Management Block. This parameter field is used for returning the time and date of the database change, and the source ID of the command that caused the change (when applicable). Possible values include: ■ TIME This reflects the time that the database change occurred and is in the form: HH-MM-SS. The time is the same as the time that is recorded in the history log for the database change record. ■ DATE This reflects the date that the database change occurred and is in the form: YY-MM-DD. The date is the same as the date that is recorded in the history log for the database change record. ■ SOURCE If the database change occurs as a result of a TL1 command with a non-null <i>ctag</i>, the SOURCE field contains this value. Otherwise, this parameter is not included in the message.
<i>ccb</i>	Command Code Block. This single position-defined parameter block indicates the trigger information of the action that created the database update.
<i>aid</i>	Access Identifier. This is the address of the object entity, which the database update has affected. For cross connect changes, this is the pair of <i>aids</i> specified in the cross connect command. The <i>aids</i> are separated by a comma (,). For circuit pack insertions, this field contains the <i>aid</i> of the slot.
<i>com_block</i>	Common Block. This is a position-defined field. If the database change is the result of a TL1 command which contains parameters in this block, the parameter values are included in this block in the same order as the corresponding TL1 command. When an electrical or optical port is addressed, this parameter would have the value of PORT. If a cross-connect is created for an <i>aid</i> , and the protection mode is set to UPSR, a REPT DBCHG message is generated, with a positional parameter value of PATH (for STSn cross-connects), or VT (for VT1.5 cross-connects) .

Table 2-272. REPT DBCHG Output Parameters (cont 3 of 3)

Parameter Name	Description				
	If a physical circuit pack is addressed, this parameter would have the value of EQUIP.				
<i>spec_block</i>	Specific block. This is a name defined field. If the database change is the result of a TL1 command, which contains parameters in this block, the parameter names and values are included in this block. Parameters within the specific block are positionally independent and are specified using a name defined construct of PARAMETER = value in a comma separated list. The parameter names are the same as those for the corresponding TL1 command. This field is null if the value in the <i>ccb</i> is one of the following: INIT-SYS, RESET, UPD-SYS, PLUGIN or UNPLUG. Starting in Release 4.0, this field is also null if the value in the <i>ccb</i> is one of the following: PLUGIN-OM or UNPLUG-OM. Starting in Release 6.0, this field is also null if the value in the <i>ccb</i> is one of the following: PLUGIN-PTM or UNPLUG-PTM. This field will have parameters associated with protection switching if the REPT DBCHG message results from the creation of a protection group.				
<i>state_block</i>	State Block. This is a position defined field. If a state change is being reported, the new state is included in this block. If the state change is associated with a port or channel, the value of the <i>pst</i> parameter will be reported. If the state change is associated with a slot (examples are <i>ccb</i> values of plugin or unplug), the value of the <i>circuitpack-state</i> parameter will be reported. It contains the value of one of the following parameter(s): <table> <tr> <td><i>pst</i></td><td>Primary port or channel State. Values: See the ENT-rr command for valid values.</td></tr> <tr> <td><i>circuitpack-state</i></td><td>Circuit pack state. Values: See the RTRV-STATE-EQPT command for valid values.</td></tr> </table>	<i>pst</i>	Primary port or channel State. Values: See the ENT-rr command for valid values.	<i>circuitpack-state</i>	Circuit pack state. Values: See the RTRV-STATE-EQPT command for valid values.
<i>pst</i>	Primary port or channel State. Values: See the ENT-rr command for valid values.				
<i>circuitpack-state</i>	Circuit pack state. Values: See the RTRV-STATE-EQPT command for valid values.				

Table 2-273 is a table of commands that generate **REPT DBCHG** messages whenever a database change occurs as a result of a command execution. The table lists the command and the associated *ccb* value that will be found in the **REPT DBCHG** message. The other parameters that will appear in the **REPT DBCHG** message will be the parameters entered in the command causing the DBCHG. See the associated TL1 command page for details.

In some cases, executing a command to change one or more database parameters may also cause database parameters associated with other commands to change. When that occurs, a **REPT DBCHG** message will be generated for the command executed, specifying that command as the ccb value, and a **REPT DBCHG** message will be generated for the changed parameters associated with each of the other commands, reporting each other command as a ccb value and the values of the changed parameters.

Database changes may also occur as a result of an action or a change in state that is not the direct result of executing a command, such as when a circuit pack is inserted into an unequipped slot. When such a database change occurs, an autonomous **REPT DBCHG** message will be issued, with the ccb value specifying the command associated with parameter and the changed parameter value. The ccb values for these autonomous **REPT DBCHG** messages are specified in [Table 2-274](#).

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 1 of 27)

Command Name	ccb value	Description
ALW-PORTMNTC-rr	ALW-PORTMNTC-rr	A REPT DBCHG message will be generated with a ccb value of ALW-PORTMNTC-rr, and the new provisioning values included in the message.
ALW-TRIBMNTC-rr	ALW-TRIBMNTC-rr	A REPT DBCHG message will be generated with a ccb value of ALW-TRIBMNTC-rr, and the new provisioning values included in the message.
CHG-ACCMD-rr	CHG-ACCMD-rr	If a CHG-ACCMD-rr command results in a new value of the tstmd parameter for an existing test access session, then a REPT DBCHG message will be generated with a ccb value of CHG-ACCMD-rr, and the provisioning values will be included in the message.
CHG-TSTSIG-rr	CHG-TSTSIG-rr	If a CHG-TSTSIG-rr command results in assigning or removing a test signal generator for an existing test access session, then a REPT DBCHG message will be generated with a ccb value of CHG-TSTSIG-rr. The values of <i>tsn</i> and <i>tsnsig</i> will be included in the message. The reported value of <i>tsnsig</i> is either "PRS" or "" (null string).

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 2 of 27)

Command Name	ccb value	Description
CONN-TACC-rr	CONN-TACC-rr	A REPT DBCHG message will be generated with a ccb value of CONN-TACC-rr, and the provisioning values will be included in the message.
DISC-TACC-rr	DISC-TACC-rr	A REPT DBCHG message will be generated with a ccb value of DISC-TACC-rr, and the provisioning values will be included in the message.
DLT-ASAP-PROF	DLT-ASAP-PROF	A REPT DBCHG message will be generated with a ccb value of DLT-ASAP-PROF, and the deleted provisioning values will be included in the message.
DLT-CONN	DLT-CRS-rr	A REPT DBCHG message will be generated with a ccb value of DLT-CRS-rr, for the deletion of the cross-connection which results from the execution of the DLT-CONN command. The new provisioning values will be included in the message.
DLT-CRS-OCH	DLT-CRS-OCH	A REPT DBCHG message will be generated with a ccb value of DLTCRS-OCH, and the deleted provisioning values will be included in the message.
DLT-CRS-rr	DLT-CRS-rr	Whenever a cross-connect is deleted, a REPT DBCHG message will be generated with a ccb value of DLT-CRS-rr, and the deleted provisioning values will be included in the message.
	DLT-PROTN-GRP	When the DLT-CRS-rr command is used to delete cross-connections containing one or more path protection groups, the NE will generate a REPT DBCHG message with a ccb value of DLT-PROTN-GRP.
DLT-ERATE	DLT-ERATE	A REPT DBCHG message will be generated with a ccb value of DLT-ERATE, and the deleted provisioning values will be included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 3 of 27)

Command Name	ccb value	Description
DLT - IPMAP	DLT-IPMAP	A REPT DBCHG message will be generated with a ccb value of DLT-IPMAP, and the deleted provisioning values will be included in the message.
DLT - IP - ROUTE	DLT-IP-ROUTE	A REPT DBCHG message will be generated with a ccb value of DLT-IP-ROUTE, and the deleted provisioning values will be included in the message.
DLT - LAGRP	DLT-LAGRP	A REPT DBCHG message will be generated with a ccb value of DLT-LAGRP and the AID of the Link Aggregation Group (LAG) when a LAG is deleted.
	ED-EPORT	When DLT - LAGRP deletes a Link Aggregation Group (LAG), a REPT DBCHG message will be generated with a ccb value of ED-EPORT and the AID of the Ethernet/LAN port member which inherits the LAG provisioning values. The REPT DBCHG will be issued only for ED-EPORT provisioning values that are different from the ED-EPORT default values. The new provisioning values will be included in the message.
	ED-VLAN	When DLT - LAGRP deletes a Link Aggregation Group (LAG), a REPT DBCHG message may be generated with a ccb value of ED-VLAN and the <i>vlanid</i> and <i>vrtswid</i> of the LAG's VLAN. The LAG AID will be included in the message as the new provisioning value of <i>delep</i> and the LAG Ethernet/LAN port member AID will be included in the message as the new provisioning value of <i>addep</i> . The new provisioning values will be included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 4 of 27)

Command Name	ccb value	Description
	ED-STGRP	When DLT - LAGRP deletes a Link Aggregation Group (LAG), a REPT DBCHG message will be generated with a ccb value of ED-STGRP and the AID of the Ethernet/LAN port member which inherits the LAG provisioning values. The new provisioning values will be included in the message.
	ED-ERATE	When DLT - LAGRP deletes a Link Aggregation Group (LAG), a REPT DBCHG message will be generated with a ccb value of ED-ERATE and the AID of the Ethernet/LAN port member which inherits the LAG provisioning values. The new provisioning values will be included in the message.
	ED-VRTSW	When DLT - LAGRP deletes a Link Aggregation Group (LAG), a REPT DBCHG message will be generated with a ccb value of ED-VRTSW and the values of the LAG's Virtual Switch. The LAG AID will be included in the message as the new provisioning value of delep and the LAG Ethernet/LAN port member AID will be included in the message as the new provisioning value of addep .
	ENT-MAC	When DLT - LAGRP deletes a Link Aggregation Group (LAG), a REPT DBCHG message will be generated with a ccb value of ENT-MAC and the values of the layer 2 provisioning that is copied from the LAG to the member port.
DLT - MAC	DLT-MAC	A REPT DBCHG message will be generated with a ccb value of DLT-MAC, and the deleted provisioning values will be included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 5 of 27)

Command Name	ccb value	Description
DLT - NTP - SERVER	DLT-NTP-SERVER	A REPT DBCHG message will be generated with a ccb value of DLT-NTP-SERVER, and the deleted provisioning values included in the message.
DLT - OSACMAP	DLT-OSACMAP	A REPT DBCHG message will be generated with a ccb value of DLT-OSACMAP and the deleted provisioning values will be included in the message. DLT - OSACMAP is not supported starting in Release 6.0.
DLT - RC - NEIGHBOR	DLT-RC-NEIGHBOR	A REPT DBCHG message will be generated with a ccb value of DLT-RC-NEIGHBOR, and the deleted provisioning values will be included in the message.
DLT - ROUTE - SCN	DLT-ROUTE-SCN	A REPT DBCHG message will be generated with a ccb value of DLT-ROUTE-SCN, and the deleted provisioning values will be included in the message.
DLT - SNMP - USER	DLT-SNMP-USER	A REPT DBCHG message will be generated with a ccb value of DLT-SNMP-USER, and the deleted provisioning values will be included in the message.
DLT - STGRP	DLT-STGRP	A REPT DBCHG message will be generated with a ccb value of DLT-STGRP, and the deleted provisioning values will be included in the message.
DLT - SUBSHELF	DLT-SUBSHELF	A REPT DBCHG message will be generated with a ccb value of DLT-SUBSHELF, and the deleted provisioning values will be included in the message.
DLT - ULSDCC - L4	DLT-ULSDCC-L4	A REPT DBCHG message will be generated with a ccb value of DLT-ULSDCC-L4, and the deleted provisioning values will be included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 6 of 27)

Command Name	ccb value	Description
DLT-USER-SECU	DLT-USER-SECU	A REPT DBCHG message will be generated with a ccb value of DLT-USER-SECU, and the deleted provisioning values included in the message.
DLT-VLAN	DLT-VLAN	A REPT DBCHG message will be generated with a ccb value of DLT-VLAN and the deleted provisioning values will be included in the message.
DLT-VRTSW	DLT-VRTSW DLT-VRTSW	A REPT DBCHG message will be generated with a ccb value of DLT-VRTSW, and the deleted provisioning values will be included in the message. If a virtual switch is deleted for which a Link Aggregation Group (LAG) is a member, a REPT DBCHG is issued for the LAG but not for the Ethernet/LAN ports that will be members of the LAG.
ED-ASAP-PROF	ED-ASAP-PROF	A REPT DBCHG message will be generated with a ccb value of ED-ASAP-PROF, and the new or changed provisioning values will be included in the message.
ED-CRS-rr	ED-CRS-rr ED-CRS-rr	Whenever the circuit id parameter is modified, a REPT DBCHG message will be generated with a ccb value of ED-CRS-rr, and the new or deleted provisioning values will be included in the message. Whenever the source or destination TIDs of an existing cross-connection is modified, a REPT DBCHG message will be generated with a ccb value of ED-CRS-rr, and the new provisioning value is included in the message. Starting in Release 4.0, this REPT DBCHG message also includes new values of the vtloca, vtlocz and vtacc parameters.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 7 of 27)

Command Name	ccb value	Description
		Starting in Release 6.0, vtlocz is not supported and is not included in this REPT DBCHG message. Starting in Release 1.0, whenever the xcnum or xcapl parameters are modified, a REPT DBCHG message will be generated with a ccb value of ED-CRS-rr, and the new or deleted provisioning values will be included in the message.
ED - DAT	ED-DAT	A REPT DBCHG message will be generated with a ccb value of ED-DAT, and the new or deleted provisioning values will be included in the message.
ED - DPORT	ED-DPORT	A REPT DBCHG message will be generated with a ccb value of ED-DPORT, and the new or deleted provisioning values will be included in the message.
ED - EPORT	ED-EPORT ED-EPORT	A REPT DBCHG message will be generated with a ccb value of ED-EPORT, and the new or deleted provisioning values will be included in the message. When ED - EPORT is used to change the provisioning values of a Link Aggregation Group (LAG), a REPT DBCHG message will be generated with a ccb value of ED-EPORT and the AID of the LAG. REPT DBCHG messages will not be generated for the LAN/Ethernet port members of the LAG.
ED - EQPT	ED-EQPT	A REPT DBCHG message will be generated with a ccb value of ED-EQPT, and the new or deleted provisioning values will be included in the message.

Table 2-273. *ccb* Values in REPT DBCHG (cont 8 of 27)

Command Name	ccb value	Description
		Starting in Release 7.1, when ED-EQPT:prot_state is provisioned to PROT for a slot equipped with an LNW170, the companion slot inherits certain parameter values from the addressed slot and Link Aggregation Groups (LAG) will be created. REPT DBCHG messages will be issued as follows:
	ENT-LAGRP ENT-PROTN-GRP	A REPT DBCHG messages with a CCB of ENT-LAGRP will be issued for the creation of the LAGs and a REPT DBCHG messages with a CCB of ENT-PROTN-GRP will be issued for the creation of a 1+1 protection group
	ED-EPORT ED-VRTSW ED-VLAN ED-STGRP ED-ERATE ENT-MAC DLT-CRS DLT-MAC	For the addressed slot, REPT DBCHG messages will be issued with CCBs of ED-EPORT, ED-VRTSW, ED-VLAN, ED-STGRP, ED-ERATE and ENT-MAC as appropriate for layer 2 provisioning that is copied from the member port to the LAG. REPT DBCHG messages will be issued with CCBs of ED-VRTSW, ED-VLAN, ED-STGRP, and DLT-MAC as appropriate for the removal of the member port. If the pack is in slot 2, a REPT DBCHG message will be issued with CCBs of DLT-CRS.
	ED-VCG ED-VCGTRIB ENT-ERATE ENT-MAC ED-STGRP ENT-VRTSW ENT-VLAN PLUGIN ENT-CRS	For the companion slot, REPT DBCHG messages will be issued with CCBs of ED-VCG, ED-VCGTRIB, ENT-ERATE, ENT-MAC, ED-STGRP, ENT-VRTSW and ENT-VLAN as appropriate for provisioning that is inherited from the addressed slot to create services on the companion. If the NE is equipped with non-VLF MAIN circuit packs and the companion LNW170 pack is present, a REPT DBCHG message will be issued with CCBs of PLUGIN. If the companion pack is in slot 1, a REPT DBCHG message will be issued with CCBs of ENT-CRS.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 9 of 27)

Command Name	ccb value	Description
	DLT-LAGRP DLT-PROTN-GRP ED-EPORT ED-VRTSW ED-VLAN ED-STGRP ED-ERATE ENT-CRS ENT-MAC DLT-VRTSW UNPLUG DLT-CRS	Starting in Release 7.1, when ED-EQPT:prot_state is provisioned to UNPROT for a slot equipped with an LNW170, REPT DBCHG messages will be issued as follows: A REPT DBCHG messages with a CCB of DLT-LAGRP will be issued for the deletion of the LAGs and a REPT DBCHG messages with a CCB of DLT-PROTN-GRP will be issued for the deletion of the 1+1 protection group For the addressed slot, REPT DBCHG messages will be issued with CCBs of ED-EPORT, ED-VRTSW, ED-VLAN, ED-STGRP, ED-ERATE and ENT-MAC as appropriate for layer 2 provisioning that is copied from the LAG to the member port. If the pack is in slot 2, a REPT DBCHG message will be issued with CCBs of ENT-CRS. For the companion slot, if the NE is equipped with VLF MAIN circuit packs, a REPT DBCHG message will be issued with CCBs of DLT-VRTSW for the removal of the virtual switch. if the NE is equipped with non-VLF MAIN circuit packs, a REPT DBCHG message will be issued with CCBs of UNPLUG. If the companion pack is in slot 1, a REPT DBCHG message will be issued with CCBs of DLT-CRS.
ED - ERATE	ED-ERATE	A REPT DBCHG message will be generated with a ccb value of ED-ERATE, and the new or deleted provisioning values will be included in the message.
ED - FETID	ED-FETID	A REPT DBCHG message will be generated with a ccb value of ED-FETID, and the new or deleted provisioning values will be included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 10 of 27)

Command Name	ccb value	Description
ED - IP - TUNNEL	ED-IP-TUNNEL	A REPT DBCHG message will be generated with a ccb value of ED-IP-TUNNEL, and the new or deleted provisioning values will be included in the message.
ED - LAGRP	ED-LAGRP	A REPT DBCHG message will be generated with a ccb value of ED-LAGRP and the AID of the Link Aggregation Group (LAG) when members will be added to, or deleted from, the LAG, or when other provisioned values are changed. The new provisioning values will be included in the message.
ED - MAP - RING	ED-MAP-RING	A REPT DBCHG message will be generated with a ccb value of ED-MAP-RING, and the new or deleted provisioning values will be included in the message.
ED - NE - SECU	ED-NE-SECU	A REPT DBCHG message will be generated with a ccb value of ED-NE-SECU, and the new or deleted provisioning values will be included in the message.
ED - NTP	ED-NTP	A REPT DBCHG message will be generated with a ccb value of ED-NTP and the new or deleted provisioning values will be included in the message.
ED - PID	ED-PID	A REPT DBCHG message will be generated with a ccb value of ED-PID. It displays only the CTAG and UID, the password is not displayed.
ED - PROTN - ACC	ED-PROTN-ACC	Whenever the ED-PROTN-ACC command is used to modify the local NUT attributes of the working tributaries of a 2F line protection group, the NE will generate a REPT DBCHG message with a ccb value of ED-PROTN-ACC and the new or deleted provisioning values included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 11 of 27)

Command Name	ccb value	Description
ED - PROTN - GRP	ED-PROTN-GRP	Whenever the ED-PROTN-GRP command is used to modify the wait-to-restore attribute and, when supported, the ring ID of the 2F line protection group, the NE will generate a REPT DBCHG message with a ccb value of ED-PROTN-GRP, and the new or deleted provisioning values will be included in the message. Starting in Release 5.2, whenever the ED-PROTN-GRP command is used to modify the wait-to-restore or revertive mode enable attributes associated with 1+1 and 1+1_BIDIR protection groups, the NE will generate a REPT DBCHG message with a ccb value of ED-PROTN-GRP, and the new or changed provisioning values will be included in the message.
	ED-CRS	Some time after the ED-PROTN-GRP command is entered to change from manual to automatically-generated squelch maps, if this results in new values of loca and locz for existing cross connections, the NE will generate a REPT DBCHG message with a ccb value of ED-CRS with the new values of loca and locz. Starting in Release 4.0, this REPT DBCHG message will also include new values of the vtloca, vtlocz and vtacc parameters. Starting in Release 6.0, vtlocz is not supported and is not included in this REPT DBCHG message.
	ED-PROTN-ACC	When automatic ring discovery is provisioned from enabled to disabled via ED-PROTN-GRP, the operational NUT values will be copied to the local NUT values at each node in the ring. Any local NUT values which are changed as a result of the copying will be reported in a REPT DBCHG with a ccb value of ED-PROTN-ACC.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 12 of 27)

Command Name	ccb value	Description
ED - RPR	ED-RPR	A REPT DBCHG message will be generated with a ccb value of ED-RPR, and the new or deleted provisioning values will be included in the message.
ED - SNMP - USER	ED-SNMP-USER	A REPT DBCHG message will be generated with a ccb value of ED-SNMP-USER, and the deleted provisioning values will be included in the message.
ED - STGRP	ED-STGRP	A REPT DBCHG message will be generated with a ccb value of ED-STGRP, and the new or deleted provisioning values will be included in the message.
ED - SUBSHELF	ED-SUBSHELF	A REPT DBCHG message will be generated with a ccb value of ED-SUBSHELF, and the modified provisioning values will be included in the message.
ED - USER - SECU	ED-USER-SECU	A REPT DBCHG message will be generated with a ccb value of ED-USER-SECU, and the new or deleted provisioning values will be included in the message.
ED - VCG	ED-VCG	A REPT DBCHG message will be generated with a ccb value of ED-VCG and the new or deleted provisioning values will be included in the message.
ED - VCG - DATA	ED-VCG-DATA	A REPT DBCHG message will be generated with a ccb value of ED-VCG-DATA, and the new or deleted provisioning values will be included in the message.
ED - VCG - RPR	ED-VCG-RPR	A REPT DBCHG message will be generated with a ccb value of ED-VCG-RPR, and the new or deleted provisioning values will be included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 13 of 27)

Command Name	ccb value	Description
ED - VCGTRIB	ED-VCGTRIB	A REPT DBCHG message will be generated with a ccb value of ED-VCGTRIB, and the new or deleted provisioning values will be included in the message.
ED - VLAN	ED-VLAN	A REPT DBCHG message will be generated with a ccb value of ED-VLAN, and the new or deleted provisioning values will be included in the message.
ED - VRTSW	ED-VRTSW	A REPT DBCHG message will be generated with a ccb value of ED-VRTSW, and the new or deleted provisioning values will be included in the message.
ENT - ASAP - PROF	ENT-ASAP-PROF	A REPT DBCHG message will be generated with a ccb value of ENT-ASAP-PROF, and the new provisioning values will be included in the message.
ENT - ASAP - ASGNMT	ENT-ASAP-ASGNMT	A REPT DBCHG message will be generated with a ccb value of ENT-ASAP-ASGNMT, and the new provisioning values will be included in the message.
ENT - BANNER	ENT-BANNER	A REPT DBCHG message will be generated with a ccb value of ENT-BANNER and the new provisioning values included in the message.
ENT - CID - SECU	ENT-CID-SECU	A REPT DBCHG message will be generated with a ccb value of ENT-CID-SECU, and the new provisioning values will be included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 14 of 27)

Command Name	ccb value	Description
ENT - CONN	ENT-CRS-rr	A REPT DBCHG message will be generated with a ccb value of ENT-CRS-rr, for the creation of the cross-connection which results from the execution of the ENT-CONN command. The new provisioning values will be included in the message. The REPT DBCHG will also include the values of the non-provisionable cross-connection parameters in accordance with the reporting rules specified in RTRV-CRS-rr.
ENT - CPORT - rr	ENT-CPORT-rr	A REPT DBCHG message will be generated with a ccb value of ENT-CPORT-rr, and the new provisioning values will be included in the message.
ENT - CRS - OCH ENT - CRS - rr	ENT-CRS-UCH	A REPT DBCHG message will be generated with a ccb value of ENT-CRS-UCH, and the new provisioning values will be included in the message.
	ENT-CRS-rr	A REPT DBCHG message will be generated with a ccb value of ENT-CRS-rr, and the new provisioning values will be included in the message. The REPT DBCHG will also include the values of the non-provisionable cross-connection parameters in accordance with the reporting rules specified in RTRV-CRS-rr.
	ENT-PROTN-GRP	When the ENT-CRS-rr command is used to create cross-connections containing one or more path protection groups, the NE will generate a REPT DBCHG message with a ccb value of ENT-PROTN-GRP, and the new provisioning values will be included in the message. The new provisioning values of cst, side1, side2, prototype, actunit and swreq will be included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 15 of 27)

Command Name	ccb value	Description
	ED-CRS	Some time after the ENT-CRS-rr command is entered, if automatic squelch map generation is enabled and results in new values of loca and locz, the NE will generate a REPT DBCHG message with a ccb value of ED-CRS with the new values of loca and locz. Starting in Release 1.0, this REPT DBCHG message will also include new values of the vtlocz and vtacc parameters Starting in Release 6.0, vtlocz is not supported and is not included in this REPT DBCHG message.
ENT - ERATE	ENT-ERATE	A REPT DBCHG message will be generated with a ccb value of ENT-ERATE, and the new provisioning values will be included in the message.
ENT - FECOM	ENT-FECOM	A REPT DBCHG message will be generated with a ccb value of ENT-FECOM, and the new provisioning values will be included in the message.
ENT - FECOM - SCN	ENT-FECOM-SCN	A REPT DBCHG message will be generated with a ccb value of ENT-FECOM-SCN. The new provisioning values will be included in the message.
ENT - IPMAP	ENT-IPMAP	A REPT DBCHG message will be generated with a ccb value of ENT-IPMAP, and the new provisioning values included in the message.
ENT - IP - ROUTE	ENT-IP-ROUTE	A REPT DBCHG message will be generated with a ccb value of ENT-IP-ROUTE, and the new provisioning values will be included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 16 of 27)

Command Name	ccb value	Description
ENT - LAGRP	ENT-LAGRP	A REPT DBCHG message will be generated with a ccb value of ENT-LAGRP and the AIDs of the Link Aggregation Group (LAG) and the Ethernet/LAN port member when a new LAG is created. The provisioning values will be included in the message.
	ED-EPORT	When ENT - LAGRP creates a new Link Aggregation Group (LAG), a REPT DBCHG message will be generated with a ccb value of ED-EPORT and the AID of the new LAG. The new provisioning values will be included in the message.
	ED-VLAN	When ENT - LAGRP creates a new Link Aggregation Group (LAG), a REPT DBCHG message will be generated with a ccb value of ED-VLAN and the <i>vlanid</i> and <i>vrtswid</i> of the VLAN inherited from the LAG Ethernet/LAN port member. The LAG AID will be included in the message as the new provisioning value of <i>addep</i> and the LAG Ethernet/LAN port member AID will be included in the message as the new provisioning value of <i>delep</i> . The new provisioning values will be included in the message.
	ED-STGRP	When ENT - LAGRP creates a new Link Aggregation Group (LAG), a REPT DBCHG message will be generated with a ccb value of ED-STGRP and the AID of the new LAG. The new provisioning values will be included in the message.
	ED-ERATE	When ENT - LAGRP creates a new Link Aggregation Group (LAG), a REPT DBCHG message will be generated with a ccb value of ED-ERATE and the AID of the new LAG. The new provisioning values will be included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 17 of 27)

Command Name	ccb value	Description
	ED-VRTSW	When ENT - LAGRP creates a new Link Aggregation Group (LAG), a REPT DBCHG message will be generated with a ccb value of ED-VRTSW and the <i>vrtswid</i> of the Virtual Switch inherited from the LAG Ethernet/LAN port member. The LAG AID will be included in the message as the new provisioning value of <i>addep</i> and the Ethernet/LAN port member AID will be included in the message as the new provisioning value of <i>delep</i> .
	ENT-MAC	When ENT - LAGRP creates a new Link Aggregation Group (LAG), a REPT DBCHG message will be generated with a ccb value of ENT-MAC and the values of the layer 2 provisioning that is copied from the the member port to the LAG.
ENT - MAC	ENT-MAC	A REPT DBCHG message will be generated with a ccb value of ENT-MAC, and the new provisioning values will be included in the message.
ENT - NODE	ENT-NODE	A REPT DBCHG message will be generated with a ccb value of ENT-NODE. The new provisioning values will be included in the message.
ENT - NTP - SERVER	ENT-NTP-SERVER	A REPT DBCHG message will be generated with a ccb value of ENT-NTP-SERVER, and the new provisioning values will be included in the message.
ENT - OCH	ENT-OCH	A REPT DBCHG message will be generated with a ccb value of ENT-OCH. The new provisioning values will be included in the message.
ENT - ODU2	ENT-ODU2	A REPT DBCHG message will be generated with a ccb value of ENT-ODU2. The new provisioning values will be included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 18 of 27)

Command Name	ccb value	Description
ENT - OSACMAP	ENT-OSACMAP	A REPT DBCHG message will be generated with a ccb value of ENT-OSACMAP, and the new provisioning values included in the message. The affected virtual circuits reset.
ENT - OTPE	ENT-OTPE	A REPT DBCHG message will be generated with a ccb value of ENT-OTPE, and the new provisioning values will be included in the message.
ENT - OTS	ENT-OTS	A REPT DBCHG message will be generated with a ccb value of ENT-OTS. The new provisioning values will be included in the message.
ENT - OTU2	ENT-OTU2	A REPT DBCHG message will be generated with a ccb value of ENT-OTU2. The new provisioning values will be included in the message.
ENT - RC - NEIGHBOR	ENT-RC-NEIGHBOR	A REPT DBCHG message will be generated with a ccb value of ENT-RC-NEIGHBOR, and the new provisioning values will be included in the message.
ENT - ROLL - rr	DLT-CRS-rr	A REPT DBCHG message will be generated with a ccb value of DLT-CRS-rr, for the deletion of the cross-connection which existed prior to the execution of the ENT-ROLL-rr command (i.e. the rolled from cross-connection) and the deleted provisioning values will be included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 19 of 27)

Command Name	ccb value	Description
	DLT-CRS-rr	If the execution of the ENT-ROLL-rr command results in the creation of a 2-way cross-connection, a REPT DBCHG message will be generated with a ccb value of DLT-CRS-rr, for the deletion 1-way cross-connection which was combined with the resultant rolled cross-connection to form the 2-way cross-connection. The deleted provisioning values will be included in the message. Note: 2-way cross-connections are not supported starting in Release 6.0.
	ENT-CRS-rr	A REPT DBCHG message will be generated with a ccb value of ccb=ENT-CRS-rr, for the creation of the cross-connection which results from the execution of the ENT-ROLL-rr command whether it be a 1-way cross-connection or a 2-way cross-connection. The new provisioning values will be included in the message. Note: 2-way cross-connections are not supported starting in Release 6.0. The REPT DBCHG will also include the values of the non-provisionable cross-connection parameters in accordance with the reporting rules specified in RTRV-CRS-rr.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 20 of 27)

Command Name	ccb value	Description
	ENT-CRS-rr	If the execution of the ENT-ROLL-rr command results in the splitting of a 2-way cross-connection, a REPT DBCHG message will be generated with a ccb value of ccb=ENT-CRS-rr, for the creation of the 1-way cross-connection which is the remaining leg of the original 2-way cross-connection. The new provisioning values will be included in the message. Note: 2-way cross-connections are not supported starting in Release 6.0. The REPT DBCHG will also include the values of the non-provisionable cross-connection parameters in accordance with the reporting rules specified in RTRV - CRS - rr.
	DLT-PROTN-GRP	If the execution of the ENT-ROLL-rr command results in the deletion of the path protection group which existed prior to the execution of the ENT-ROLL-rr command, a REPT DBCHG message will be generated with a ccb value of ccb=DLT-PROTN-GRP, for the deletion of the path protection group.
	ENT-PROTN-GRP	If the execution of the ENT-ROLL-rr command results in the creation of a path protection group, a REPT DBCHG message will be generated with a ccb value of ccb=ENT-PROTN-GRP, for the path protection group. The new provisioning values will be included in the message.
	ED-CRS-rr	Some time after the ENT-ROLL-rr command is entered, if automatic squelch map generation is enabled and results in new values of loca and locz, the NE will generate a REPT DBCHG message with a ccb value of ED-CRS-rr with the new values of loca and locz. The REPT DBCHG message will also include new values of the vtloca, vtlocz and vtacc parameters

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 21 of 27)

Command Name	ccb value	Description
	ED-CRS-rr	Starting in Release 6.0, vtlocz is not supported and is not included in this REPT DBCHG message. Starting in Release 6.0, when the ENT-ROLL-rr command results in the xcnun or xcappl parameters being modified, a REPT DBCHG message will be generated with a ccb value of ED-CRS-rr, and the new provisioning values will be included in the message.
ENT - ROUTE - SCN	ENT-ROUTE-SCN	A REPT DBCHG message will be generated with a ccb value of ENT-ROUTE-SCN, and the new provisioning values will be included in the message.
ENT - rr	ENT-rr	A REPT DBCHG message will be generated with a ccb value of ENT-rr, and the new provisioning values included in the message.
	ENT-PROTN-GRP	When the ENT-rr command is used to change the value of the application parameter to 1+1, if both sides are equipped the NE generates a REPT DBCHG message with a ccb value of ENT-PROTN-GRP, indicating that a line protection group has been created. The new provisioning values of cst, side1, side2, prototype, actunit and swreq will be included in the message. Starting in Release 5.2, the default values of rme and wtr will be included in the message.
	ENT-PROTN-GRP	When the ENT-rr command is used to change the value of the application parameter to 1+1_BIDIR, if both sides are equipped the NE generates a REPT DBCHG message with a ccb value of ENT-PROTN-GRP, indicating that a line protection group has been created. The new provisioning values of cst, side1, side2, prototype, actunit and swreq will be included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 22 of 27)

Command Name	ccb value	Description
	ENT-PROTN-GRP	Starting in Release 5.2, the default values of rme and wtr will be included in the message. When the ENT-rr command is used to change the value of the application parameter to 1+1_OPTM, the NE generates a REPT DBCHG message with a ccb value of ENT-PROTN-GRP, indicating that a line protection group has been created. The new provisioning values of cst, side1, side2 and prototype will be included in the message.
	ENT-PROTN-GRP	When the ENT-rr command is used to change the value of the application parameter to 2F, the NE will generate a REPT DBCHG message with a ccb value of ENT-PROTN-GRP, indicating that a line protection group has been created. The new provisioning values of cst, prototype, east, west, wtr and rid will be included in the message.
	DLT-PROTN-GRP	When the ENT-rr command is used to change the value of the application parameter from 1+1, the NE will generate a REPT DBCHG message with a ccb value of DLT-PROTN-GRP, indicating that a line protection group has been deleted. The deleted provisioning values will be included in the message. Starting in Release 4.0, this message also applies to the deletion of 1+1_OPTM protection groups. Starting in Release 5.1, this message also applies to the deletion of 1+1_BIDIR protection groups.

Table 2-273. *ccb* Values in REPT DBCHG (cont 23 of 27)

Command Name	ccb value	Description
	DLT-PROTN-GRP	When the ENT-rr command is used to change the value of the application parameter from 2F, the NE will generate a REPT DBCHG message with a ccb value of DLT-PROTN-GRP, indicating that a line protection group has been deleted. The deleted provisioning values will be included in the message.
	ENT-STS3C	Starting in Release 7.0, when the value of ENT-STS1:sfthr is changed, the value of ENT-STS3C:sfthr is changed to be the value of ENT-STS1:sfthr and a REPT DBCHG message is generated with a ccb value of ENT-STS3C. The new value of ENT-STS3C:sfthr is included in the message.
	ENT-STS3C	Starting in Release 7.0, when the value of ENT-STS1:sfail is changed, the value of ENT-STS3C:sfail is changed to be the value of ENT-STS1:sfail and a REPT DBCHG message is generated with a ccb value of ENT-STS3C. The new value of ENT-STS3C:sfail is included in the message.
	ENT-STS1	Starting in Release 7.0, when the value of ENT-STS3C:sfthr is changed, the value of ENT-STS1:sfthr is changed to be the value of ENT-STS3C:sfthr and a REPT DBCHG message is generated with a ccb value of ENT-STS1. The new value of ENT-STS1:sfthr is included in the message.
	ENT-STS1	Starting in Release 7.0, when the value of ENT-STS3C:sfail is changed, the value of ENT-STS1:sfail is changed to be the value of ENT-STS3C:sfail and a REPT DBCHG message is generated with a ccb value of ENT-STS1. The new value of ENT-STS1:sfail is included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 24 of 27)

Command Name	ccb value	Description
ENT - SNMP - USER	ENT-SNMP-USER	A REPT DBCHG message will be generated with a ccb value of ENT-SNMP-USER, and the deleted provisioning values will be included in the message.
ENT - STGRP	ENT-STGRP	A REPT DBCHG message will be generated with a ccb value of ENT-STGRP, and the new provisioning values are included in the message.
ENT - SUBSHELF	ENT-SUBSHELF	A REPT DBCHG message will be generated with a ccb value of ENT-SUBSHELF, and the new provisioning values are included in the message.
ENT - SYS	ENT-SYS	A REPT DBCHG message will be generated with a ccb value of ENT-SYS, and the new provisioning values will be included in the message. This command may cause a system reset, and/or may cause a TL1 session to be dropped.
ENT - TL1MSGMAP	ENT-TL1MSGMAP	A REPT DBCHG message will be generated with a ccb value of ENT-TL1MSGMAP, and the new provisioning values will be included in the message. This command may result in REPT DBCHG reporting being turned off on the virtual circuit.
ENT - ULS	ENT-ULS	A REPT DBCHG message will be generated with a ccb value of ENT-ULS, and the new provisioning values included in the message.
ENT - ULSDCC - L3	ENT-ULSDCC-L3	A REPT DBCHG message will be generated with a ccb value of ENT-ULSDCC-L3, and the new provisioning values will be included in the message. This command causes a system reset when NSAP fields are changed, or NE is set as an IS-IS Level 2 router.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 25 of 27)

Command Name	ccb value	Description
ENT - ULSDCC - L4	ENT-ULSDCC-L4	A REPT DBCHG message will be generated with a ccb value of ENT-ULSDCC-L4, and the new provisioning values will be included in the message. This command causes a system reset when NSAP fields are changed, or NE is set as an IS-IS Level 2 router.
ENT - USER - SECU	ENT-USER-SECU	A REPT DBCHG message will be generated with a ccb value of ENT-USER-SECU, and the new provisioning values will be included in the message.
ENT - VLAN	ENT-VLAN	A REPT DBCHG message will be generated with a ccb value of ENT-VLAN, and the new provisioning values included in the message.
ENT - VRTSW	ENT-VRTSW	A REPT DBCHG message will be generated with a ccb value of ENT-VRTSW, and the new provisioning values included in the message.
INH - PORTMNTC - rr	INH-PORTMNTC-rr	A REPT DBCHG message will be generated with a ccb value of INH-PORTMNTC-rr, and the new provisioning values included in the message.
INH - TRIBMNTC - rr	INH-TRIBMNTC-rr	A REPT DBCHG message will be generated with a ccb value of INH-TRIBMNTC-rr, and the new provisioning values included in the message.
INIT - ASAP - PROF	INIT-ASAP-PROF	A REPT DBCHG message will be generated with a ccb value of INIT-ASAP-PROF, and the new provisioning values will be included in the message.
INIT - SYS	INIT-SYS	A REPT DBCHG message will be generated (before the system resets) with a ccb value of INIT-SYS, and the new provisioning values are not included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 26 of 27)

Command Name	ccb value	Description
		The INIT-SYS command issues a REPT DBCHG message when <i>ph</i>=9 and <i>aid</i>=SYSCTL or ALL. A REPT DBCHG message is not issued when <i>aid</i>=SYSCTL and <i>ph</i>=3. Starting in Release 6.0, the AID "SYSCTL" is not supported and is replaced by "CTL-1". Starting in this release, the INIT-SYS command issues a REPT DBCHG message when <i>ph</i>=9 and <i>aid</i>=CTL-ALL, CTL-1 or ALL. A REPT DBCHG message is not issued when <i>aid</i>=CTL-1 or CTL-ALL and <i>ph</i>=3. A REPT DBCHG message is not issued by the INIT-SYS command when <i>ph</i>=3 and the <i>aid</i> is the AID of a slot that contains a Smart Pack
MEAS-SIG-rr	MEAS-SIG-rr	If a MEAS-SIG-rr command results in assigning or removing a test signal detector for an existing test access session, then a REPT DBCHG message will be generated with a <i>ccb</i> value of MEAS-SIG-rr. The values of <i>tsn</i> and <i>tsnsig</i> will be included in the message. The reported value of <i>tsnsig</i> is either "PRS" or "" (null string).
SCHED-BACKUP	SCHED-BACKUP	A REPT DBCHG message will be generated with a <i>ccb</i> value of SCHED-BACKUP, and the new provisioning values included in the message.
SET-ATTR-ALM	SET-ATTR-ALM	A REPT DBCHG message will be generated with a <i>ccb</i> value of SET-ATTR-ALM and the new provisioning values will be included in the message.
SET-ATTR-CONT	SET-ATTR-CONT	A REPT DBCHG message will be generated with a <i>ccb</i> value of SET-ATTR-CONT, and the new provisioning values will be included in the message.

Table 2-273. *ccb* Values in **REPT DBCHG** (cont 27 of 27)

Command Name	ccb value	Description
SET-ATTR-ENV	SET-ATTR-ENV	A REPT DBCHG message will be generated with a ccb value of SET-ATTR-ENV, and the new provisioning values will be included in the message.
SET-MAP-RING	SET-MAP-RING	A REPT DBCHG message will be generated with a ccb value of SET-MAP-RING. The message will only include the provisioned values of the 2F line protection group aid and the rid (ring ID).
SET-SID	SET-SID	A REPT DBCHG message will be generated with a ccb value of SET-SID, and the new provisioning values included in the message.
SET-SYCN	SET-SYCN	A REPT DBCHG message will be generated with a ccb value of SET-SYCN, and the new provisioning values included in the message.
SET-TH	SET-TH-rr	A REPT DBCHG message will be generated with a ccb value of SET-TH, and the new provisioning values included in the message.
UPD-SYS	UPD-SYS	A REPT DBCHG message will be generated with a ccb value of UPD-SYS, and the new provisioning values included in the message.

Table 2-274. *ccb* Values for Autonomous **REPT DBCHG** Messages (cont 1 of 5)

ccb value	Description
DLT-CRS-rr	A REPT DBCHG message will be generated with a ccb value of DLT-CRS-rr on each downstream node for the deletion of the cross-connection which results from the execution of the DLT-CONN command on the originating node. The new provisioning values will be included in the message.

Table 2-274. *ccb* Values for Autonomous **REPT DBCHG** Messages (cont 2 of 5)

ccb value	Description
DLT-PROTN-GRP	When a 1+1EQPT protection group exists for a slot pair and one or both of the circuit packs are removed and UPD -SYS has successfully removed the equipment, the NE will generate a REPT DBCHG message with a ccb value of DLT-PROTN-GRP, indicating that a 1+1EQPT protection group has been deleted. The provisioning values of cst, side1, side2, prototype, actunit and swreq will be included in the message.
DLT-PROTN-GRP	When an 1+1 line protection group exists for a slot pair and a circuit pack is removed and UPD-SYS has successfully removed the equipment, the NE will generate a REPT DBCHG message with a ccb value of DLT-PROTN-GRP, indicating that a line protection group has been deleted. The deleted provisioning values will be included in the message. Starting in Release 5.1, this message also applies to the deletion of 1+1_BIDIR protection groups.
DLT-PROTN-GRP	When an 1+1_OPTM line protection group exists for a slot pair and both circuit packs are removed and UPD -SYS has successfully removed the equipment, the NE will generate a REPT DBCHG message with a ccb value of DLT-PROTN-GRP, indicating that a line protection group has been deleted. The deleted provisioning values will be included in the message.
DLT-PROTN-GRP	When an 2F line protection group exists for a slot pair and both circuit packs are removed and UPD -SYS has successfully removed the equipment, the NE will generate a REPT DBCHG message with a ccb value of DLT-PROTN-GRP, indicating that a line protection group has been deleted. The deleted provisioning values will be included in the message.

Table 2-274. *ccb* Values for Autonomous **REPT DBCHG** Messages (cont 3 of 5)

ccb value	Description
ED-DAT	Starting in Release 1.0, when the NE's date and time is changed by recovering it from a neighbor over the DCC or when it's changed by the Network Time Protocol (NTP), a REPT DBCHG message will be generated with a ccb value of ED-DAT, and the new values of the date and time will be included in the message.
ENT-CRS-rr	A REPT DBCHG message will be generated with a ccb value of ENT-CRS-rr on each downstream node for the creation of the cross-connection which results from the execution of the ENT-CONN command on the originating node. The new provisioning values will be included in the message. The REPT DBCHG will also include the values of the non-provisionable cross-connection parameters in accordance with the reporting rules specified in RTRV-CRS-rr.
ENT-PROTN-GRP	When one slot of a main slot pair is equipped with an OLIU circuit pack and an OLIU is inserted into the other main slot for the first time, the NE will generate a REPT DBCHG message with a ccb value of ENT-PROTN-GRP, indicating that a 1+1 EQPT protection group has been created. The new provisioning values of cst, side1, side2, prototype, actunit and swreq will be included in the message.
ENT-PROTN-GRP	When one slot of an FN or Growth slot pair is equipped with an electrical circuit pack and a circuit pack of the same type is inserted into the companion slot for the first time, the NE will generate a REPT DBCHG message with a ccb value of ENT-PROTN-GRP, indicating that a 1+1 EQPT protection group has been created. The new provisioning values of cst, side1, side2, prototype, actunit and swreq will be included in the message.
ENT-PROTN-GRP	When one slot of a slot pair is equipped, the companion slot is in the unequipped state, the application parameter is provisioned to 1+1 and a circuit pack of the same type is inserted into the companion slot, the NE generates a REPT DBCHG message with a ccb value of ENT-PROTN-GRP, indicating that a line protection group has been created. The new provisioning values of cst, side1, side2, prototype, actunit and swreq will be included in the message. Starting in Release 5.2, the default values of rme and wtr will be included in the message.

Table 2-274. *ccb* Values for Autonomous **REPT DBCHG** Messages (cont 4 of 5)

ccb value	Description
ENT-PROTN-GRP	When one slot of a slot pair is equipped, the application parameter is provisioned to 1+1_BIDIR and a circuit pack of the same type is inserted into the companion slot, the NE generates a REPT DBCHG message with a ccb value of ENT-PROTN-GRP, indicating that a line protection group has been created. The new provisioning values of cst, side1, side2, prototype, actunit and swreq will be included in the message. Starting in Release 5.2, the default values of rme and wtr will be included in the message.
ENT-rr	Starting in Release 5.0, if the primary state associated with a port or channel changes because of a change in the incoming signal, a REPT DBCHG message will be generated with a ccb value of ENT-rr. The message will include the value of the pst parameter reported in the state_block.
ENT-rr	Starting in Release 7.1.1, if an NE is upgraded from non-VLF MAIN CPs to VLF MAIN CPs, or is backed out of such an upgrade, and if the NE is equipped with a 48TMUX LNW20 circuit pack which has some odd numbered ports provisioned to operate in portless mode (RTRV-rr:pmd=PORTLESS), adjacent even numbered ports which were unavailable prior to the upgrade will become available as a result of the upgrade (RTRV-rr:pmd=AVAIL), or which were available after the upgrade will become unavailable as a result of the upgrade backout (RTRV-rr:pmd=UNAVAIL). A REPT DBCHG message will be generated with a ccb value of ENT-rr and will include the new value of the pmd parameter.
PLUGIN	If a plug-in insertion caused the database update, a REPT DBCHG message will be generated with a ccb value of PLUGIN. The message will also include the circuit pack type and the value of the circuitpack-state.
PLUGIN-OM	If an optical module plug-in insertion caused the database update, a REPT DBCHG message will be generated with a ccb value of PLUGIN-OM. The message will also include the optical module name.
PLUGIN-PTM	Starting in Release 6.0, the ccb value PLUGIN-OM is replaced by PLUGIN-PTM, and includes both optical modules and electrical modules. If a pluggable transmission module plug-in insertion caused the database update, a REPT DBCHG message will be generated with a ccb value of PLUGIN-PTM. The message will also include the pluggable transmission module name.

Table 2-274. *ccb* Values for Autonomous **REPT DBCHG** Messages (cont 5 of 5)

ccb value	Description
RESET	For controller reset.
UNPLUG	If a plug-in removal caused the database update, a REPT DBCHG message will be generated with a ccb value of UNPLUG. The message will also include the circuit pack type and the value of the circuitpack-state.
UNPLUG-OM	If an optical module removal caused the database update, a REPT DBCHG message will be generated with a ccb value of UNPLUG-OM. The message will also include the optical module name.
UNPLUG-PTM	Starting in Release 6.0, the ccb value UNPLUG-OM is replaced by UNPLUG-PTM, and includes both optical modules and electrical modules. If an pluggable transmission module removal caused the database update, a REPT DBCHG message will be generated with a ccb value of UNPLUG-PTM. The message will also include the pluggable transmission module name.

Table 2-275. Resulting *spec_block* Parameters for Protection Groups (cont 1 of 6)

Parameter Name	Descriptions of Spec Block Parameters for Protection Groups
	The following are the <i>spec_block</i> parameters that will be displayed when a protection group is created or deleted.
<i>actunit</i>	Active Unit State. This parameter designates the active unit in terms of its <i>aid</i>. This parameter does not apply to 2F line protection groups. line <i>aid</i> 1+1. For optical line facility, expressed as Line AID. channel <i>aid</i> UPSR. For paths on High speed or Low speed Optics, expressed as channel AID. ring channel <i>aid</i> Starting in Release 6.0, channel <i>aid</i> is replaced by ring channel <i>aid</i>. equipment 1+1EQPT. For Optical and Electrical Equipment Protection. Example: slot AID.

Table 2-275. Resulting *spec_block* Parameters for Protection Groups
(cont 2 of 6)

Parameter Name	Descriptions of Spec Block Parameters for Protection Groups										
	Note: Beginning in Release 3.0, 1+1EQPT groups are not created for low-speed slots equipped with OLIUs; therefore there are no REPT DBCHG messages associated with such groups. Beginning in Release 7.1, 1+1EQPT also applies to Link Aggregation Groups for the LNW170 circuit pack.										
<i>circuitid</i>	Circuit Identifier. <i>circuitid</i> is a quoted text string of up to 36 characters consisting of 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language), with the following exceptions: the ; (semicolon), " (double quote), and \ (backslash) characters are not permitted within the quoted string. Setting <i>circuitid=""</i> (i.e. specifying a null string) in the command is the equivalent of omitting the circuitid parameter. This parameter is applicable to all protection groups.										
<i>cst</i>	This parameter indicates the medium that the protection group is created on. This parameter does not apply to 2F line protection groups. <table> <tr> <td>Channels</td><td>Possible values for path protection are: STS1, STS3c, STS12c, STS48c and VT1.</td></tr> <tr> <td>Optical</td><td>Possible values for line protection are: OC3, OC12, OC48 and OC192.</td></tr> <tr> <td>Equipage</td><td>Possible values for equipment protection are: DS1, DS3, EC1, OCn.</td></tr> </table>	Channels	Possible values for path protection are: STS1, STS3c, STS12c, STS48c and VT1.	Optical	Possible values for line protection are: OC3, OC12, OC48 and OC192.	Equipage	Possible values for equipment protection are: DS1, DS3, EC1, OCn.				
Channels	Possible values for path protection are: STS1, STS3c, STS12c, STS48c and VT1.										
Optical	Possible values for line protection are: OC3, OC12, OC48 and OC192.										
Equipage	Possible values for equipment protection are: DS1, DS3, EC1, OCn.										
<i>east</i>	East side. This parameter designates the <i>aid</i> of the east side of the BLSR. This parameter is only applicable to 2F line protection groups.										
<i>prototype</i>	Protection Type. This parameter designates the protection type. Possible values are: <table> <tr> <td>1+1</td><td>For optical line facilities.</td></tr> <tr> <td>1+1_OPTM</td><td>For optical line facilities.</td></tr> <tr> <td>1+1_BIDIR</td><td>For optical line facilities.</td></tr> <tr> <td>UPSR</td><td>For paths on High speed or Low speed Optics.</td></tr> <tr> <td>1+1EQPT</td><td>For Optical and Electrical Equipment Protection.</td></tr> </table>	1+1	For optical line facilities.	1+1_OPTM	For optical line facilities.	1+1_BIDIR	For optical line facilities.	UPSR	For paths on High speed or Low speed Optics.	1+1EQPT	For Optical and Electrical Equipment Protection.
1+1	For optical line facilities.										
1+1_OPTM	For optical line facilities.										
1+1_BIDIR	For optical line facilities.										
UPSR	For paths on High speed or Low speed Optics.										
1+1EQPT	For Optical and Electrical Equipment Protection.										

Table 2-275. Resulting *spec_block* Parameters for Protection Groups
(cont 3 of 6)

Parameter Name	Descriptions of Spec Block Parameters for Protection Groups
	Note: Beginning in Release 3.0, 1+1EQPT groups are not created for low-speed slots equipped with OLIUs; therefore there are no REPT DBCHG messages associated with such groups.
<i>rcae</i>	Ring Circuit Audit Enable. <i>rcae</i> enables/disables ring circuit audits for all cross-connections to the specified 2F line protection group. By default ring circuit audits are enabled when a 2F line protection group is created. This parameter is applicable to 2F line protection groups.
<i>rcamode</i>	Ring Circuit Alarm Mode. <i>rcamode</i> enables/disables the reporting of ring circuit audit alarms for all cross-connections to the specified 2F line protection group. Note, ring circuit audit alarms are not reported if <i>rcae</i> is disabled. By default ring circuit alarm reporting is enabled when a 2F line protection group is created. This parameter is applicable to 2F line protection groups.
<i>rcmode</i>	Ring Circuit Mode. <i>rcmode</i> enables/disables automatic squelch map generation for all cross-connections to the specified 2F line protection group. Setting <i>rcmode</i> = AUTO enables automatic squelch map generation. Setting <i>rcmode</i> = MANUAL disables automatic squelch map generation. When disabled, squelch map information (<i>loca</i> and <i>locz</i>) must be entered manually as part of the ENT-CRS-rr command. By default automatic squelch map generation is enabled when a 2F line protection group is created. This parameter is applicable to 2F line protection groups.
<i>rid</i>	Ring ID. This parameter indicates the ring id. It is only applicable to 2F line protection groups.
<i>rme</i>	Revertive Mode Enable. Enables or disables revertive operation for the specified protection group. It is only applicable to 1+1 and 1+1_BIDIR protection groups.
<i>side1</i>	Side 1. This parameter identifies the <i>side 1</i> input of the protection group. Examples of <i>side1</i> are: m1-1-1, m1-1-2,.... This parameter does not apply to 2F line protection groups.
<i>side2</i>	Side 2. This parameter identifies the <i>side 2</i> input of the protection group. Examples of <i>side2</i> are: m2-1-1, m2-1-2, and so on. This parameter does not apply to 2F line protection groups.
<i>swreq</i>	Switch Request. This parameter designates the switch request. This parameter applies only to the following protection types: DNR Applies to <i>prototypes</i> of 1+1_BIDIR.

Table 2-275. Resulting *spec_block* Parameters for Protection Groups
(cont 4 of 6)

Parameter Name	Descriptions of Spec Block Parameters for Protection Groups
EQPT FAILED	Applies to <i>prototypes</i> of 1+1EQPT.
EX	Applies to <i>prototypes</i> of 1+1_BIDIR.
FOP	Applies to <i>prototypes</i> of 1+1_OPTM.
FS	Applies to <i>prototypes</i> of 1+1 and 1+1EQPT. Starting in Release 3.1, applies to <i>prototypes</i> of UPSR. Starting in Release 4.0, applies to <i>prototypes</i> of 1+1_OPTM. Starting in Release 5.1, applies to <i>prototypes</i> of 1+1, 1+1_BIDIR and 1+1EQPT.
INHBT	Applies to <i>prototypes</i> of 1+1EQPT.
LO	Applies to <i>prototypes</i> of 1+1. Starting in Release 3.1, applies to <i>prototypes</i> of UPSR. Starting in Release 4.0, applies to <i>prototypes</i> of 1+1_OPTM. Starting in Release 5.1, applies to <i>prototypes</i> of 1+1 and 1+1_BIDIR.
MS	Applies to <i>prototypes</i> of 1+1, UPSR and 1+1EQPT. Starting in Release 5.1, applies to <i>prototypes</i> of 1+1, 1+1_BIDIR, UPSR and 1+1EQPT.
NR	Applies to <i>prototypes</i> of 1+1, UPSR and 1+1EQPT. Starting in Release 4.0, applies to <i>prototypes</i> of 1+1_OPTM. Starting in Release 5.1, applies to <i>prototypes</i> of 1+1, 1+1_BIDIR, UPSR and 1+1EQPT.
RENAME	Applies to <i>prototypes</i> of 1+1_OPTM.

Table 2-275. Resulting *spec_block* Parameters for Protection Groups
(cont 5 of 6)

Parameter Name	Descriptions of Spec Block Parameters for Protection Groups
	SD Applies to <i>prototypes</i> of 1+1 and UPSR. Starting in Release 4.0, applies to <i>prototypes</i> of 1+1_OPTM. Starting in Release 5.1, applies to <i>prototypes</i> of 1+1, 1+1_BIDIR and UPSR. SF Applies to <i>prototypes</i> of 1+1 and UPSR. Starting in Release 4.0, applies to <i>prototypes</i> of 1+1_OPTM. Starting in Release 5.1, applies to <i>prototypes</i> of 1+1, 1+1_BIDIR and UPSR. WTR Applies to <i>prototypes</i> of 1+1_OPTM. Starting in Release 5.1, applies to <i>prototypes</i> of 1+1_OPTM and 1+1_BIDIR.
<i>vtacc</i>	VT Accessed: <i>vtacc</i> is an attribute of a STS1 BLSR pass-through cross-connection. It specifies whether or not the VTs transported within that STS1 are cross-connected at the VT1 rate at other nodes in the circuit. Values: YES = VT-accessed, NO = is not reported. This parameter is reported in the autonomous messages associated with the following activities: automatic squelch map generation, provisioning changes via ED-CRS and enabling automatic squelch map generation via ED-PROTN-GRP
<i>vtloca</i>	VT loca: <i>vtloca</i> is the source node tid of a VT1 BLSR connection. This parameter is reported in the autonomous messages associated with the following activities: automatic squelch map generation, provisioning changes via ED-CRS and enabling automatic squelch map generation via ED-PROTN-GRP
<i>vtlocz</i>	VT locz: <i>vtlocz</i> is the destination node tid of a VT1 BLSR cross-connection. This parameter is reported in the autonomous messages associated with the following activities: automatic squelch map generation, provisioning changes via ED-CRS and enabling automatic squelch map generation via ED-PROTN-GRP. <i>vtlocz</i> is not supported starting in Release 6.0.

Table 2-275. Resulting *spec_block* Parameters for Protection Groups
(cont 6 of 6)

Parameter Name	Descriptions of Spec Block Parameters for Protection Groups
<i>west</i>	West side. This parameter designates the <i>aid</i> of the west side of the BLSR. This parameter is applicable to 2F line protection groups.
<i>wtr</i>	Wait To Restore. This parameter indicates the wait to restore interval. It is applicable to 2F line protection groups. Starting in Release 5.2, <i>wtr</i> is applicable to 1+1, 1+1_BIDIR and 2F line protection groups.
<i>wtrename</i>	Wait To Rename. This parameter indicates the wait to rename interval for 1+1_OPTM protection groups.

EXAMPLE OUTPUT

The following message is sent when the **ENT - T3** command from a TL1 user has been completed for a DS3 port in the B group:

```
LT-TID123 00-10-01 08:00:00
A 888 REPT DBCHG
"TIME=07-59-20,DATE=00-10-01,SOURCE=123456:ENT-T3:b-1::AIS=Y,LINECDE=CCHAN,
NTFCNCDE=CR,PBIT=ON"
;
```

Starting in Release 6.0, the following message is sent when the **ENT - T3** command from a TL1 user has been completed for a DS3 port in the B group:

```
LT-TID123 00-10-01 08:00:00
A 888 REPT DBCHG
"TIME=07-59-20,DATE=00-10-01,SOURCE=123456:ENT-T3:b-1::AIS=Y,LINECDE=CCHAN,
PBIT=ON"
;
```


The following message is sent when an OLIU is inserted into main-2. In the example **REPT DBCHG** message, the command code parameter is set equal to **PLUGIN**.

```
LT-DMX 00-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=00-10-01:PLUGIN:main-2::TYPE=0C-48:IS"
;
```

The following message is sent when an OLIU is removed (unplugged) from the main-2 slot. In the example **REPT DBCHG** message, the command code parameter is set equal to **UNPLUG**:

```
LT-DMX 00-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=00-10-01:UNPLUG:main-2::TYPE=0C-48:00S"
;
```

The following message is sent when the **ENT-USER-SECU** command is used to provision the password aging parameter:

```
LT-TID123 00-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=00-10-01,SOURCE=123456:ENT-USER-SECU:george-1:,,general:
PAGE=30"
;
```

The following message is sent when the **DLT-USER-SECU** command is only used to delete the current UID "george-1":

```
LT-TID123 00-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=00-10-01,SOURCE=123456:DLT-USER-SECU:george-1"
;
```

The following message is sent when the **ED-DAT** command is used to change the "NE Date":

```
LT-TID123 01-11-02 11:11:19
A 888 REPT DBCHG
  "TIME=11-11-17,DATE=01-11-02:ED-DAT::01-11-02,11-11-11"
;
```

The following message is sent in response to the **ENT-BANNER** command:

```
LT-TID123 01-11-03 11:05:38
A 888 REPT DBCHG
  "TIME=11-05-38,DATE=01-11-03:ENT-BANNER::line1=\"text entered as
line1\",line2=\"text entered as line2\"
;
```

The following examples of messages for changes in protection groups show the cross-connect and line pair AIDs in the formats used prior to Release 6.0. Starting in Release \$RLS, these messages will return the AIDs in the new AID format.

The following message is sent when a cross-connect is established by a TL1 user between Main STS-1 number 1 and STS-1 number 1 in Function Unit A.

```
LT-TID123 00-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=00-10-01,SOURCE=123456:ENT-PROTN-GRP:a-1-1:CST=STS1,
side1=m1-1-1,side2=m2-1-1,protype=upsr,actunit=m1-1-1,swreq=nr"
;
```

The following message is sent when a cross-connect is established by a TL1 user between Main STS-1 number 1 and STS-1 number 1 in Function Unit A using DS3/EC1 circuit packs (a-1).

```
LT-TID123 00-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=00-10-01,SOURCE=123456:ENT-PROTN-GRP:a-1:CST=STS1,
side1=m1-1-1,side2=m2-1-1,protype=upsr,actunit=m1-1-1,swreq=nr"
;
```

The following message is sent when a VT1 cross-connect is established by a TL1 user between Main VT1 number 1 within STS number 1 and VT1 number 1 in Function Unit A, using DS1 circuit packs (a-1-1-1).

```
LT-TID123 00-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=00-10-01,SOURCE=123456:ENT-PROTN-GRP:a-1-1-1:CST=VT1,
side1=m1-1-1-1-1,side2=m2-1-1-1-1,protype=upsr,actunit=m1-1-1-1-1,swreq=nr"
;
```

The following message is sent when a cross-connect is established by a TL1 user between Main STS-1 number 1 and STS-1 number 1 in Function Unit B, using DS3 circuit packs (b-1).

```
LT-TID123 00-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=00-10-01,SOURCE=123456:ENT-PROTN-GRP:b-1:CST=STS1,
side1=m1-1-1,side2=m2-1-1,protype=upsr,actunit=m1-1-1,swreq=nr"
;
```

The following message is sent when a VT1 Hairpin cross-connect is established by a TL1 user between the 4OC-3 in Fn-b (APPLICATION = UPSR on OC-3 line 1) using VT1 number 1, and VT1 number 1 in Fn-a using DS1 circuit packs (a-1-1-1).

```
LT-TID123 00-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=00-10-01,SOURCE=123456:ENT-PROTN-GRP:a-1-1-1:CST=VT1,
side1=b1-1-1-1,side2=b2-1-1-1,protype=upsr,actunit=b1-1-1,swreq=nr"
;
```

The following message is sent when an STS-1 Hairpin cross-connect is established by a TL1 user between the 4OC-3 in Fn-b (APPLICATION = UPSR on OC-3 line 1) using STS-1 number 1, and STS-1 number 1 in Fn-a using DS3 circuit packs (a-1).

```
LT-TID123 00-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=00-10-01,SOURCE=123456:ENT-PROTN-GRP:a-1:CST=STS1,
side1=b1-1-1,side2=b2-1-1,protype=upsr,actunit=b1-1-1,swreq=nr"
;
```

The following message is sent when a 2F line protection group is created using **ENT-rr**.

```
LT-TID123 00-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=00-10-01,SOURCE=123456:ENT-PROTN-GRP:main-1:protype=2F,
east=main-2-1,west=main-1-1,wtr=5,rid=\"ring0\"
;
```

The following message is sent when OLIUs are inserted into main-1 and main-2 for the first time.

```
LT-TID123 00-10-01 08:00:00
A 888 REPT DBCHG
"TIME=07-59-20,DATE=00-10-01:ENT-PROTN-GRP:main:CST=0C48,side1=main-1,
side2=main-2,prototype=1+1EQPT,actunit=main-1,swreq=nr"
;
```

The following message is sent when an OLIU is removed from main-2 while main-1 is still equipped after **UPD-SYS** has successfully removed the equipage:

```
LT-TID123 00-10-01 08:00:00
A 888 REPT DBCHG
"TIME=07-59-20,DATE=00-10-01:DLT-PROTN-GRP:main:CST=0C48,side1=main-1,
side2=main-2,prototype=1+1EQPT,actunit=main-1,swreq=nr"
;
```

The following message is sent when a 2F line protection group is created via **ENT-rr**.

```
LT-TID123 00-10-01 08:00:00
A 888 REPT DBCHG
"TIME=07-59-20,DATE=00-10-01,SOURCE=123456:ENT-PROTN-GRP:a-1:prototype=2F,
east=a-2-1,west=a-1-1,wtr=5,rid=\"ring0\""
;
```

The following message is sent when the **ENT-rr** command is used to change the value of the application parameter to **1+1** and when both slots are equipped.

```
LT-TID123 06-10-01 08:00:00
A 888 REPT DBCHG
"TIME=07-59-20,DATE=06-10-01,SOURCE=123456:ENT-PROTN-GRP:main-1:CST=0C12,
side1=main-1-1,side2=main-2-1,prototype=1+1,actunit=main-1-1,swreq=nr"
;
```

Starting in Release 5.2, the following message is sent when the **ENT-rr** command is used to change the value of the application parameter to **1+1** when both slots are equipped.

```
LT-TID123 06-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=06-10-01,SOURCE=123456:ENT-PROTN-GRP:main-1:CST=0C48,
side1=main-1-1,side2=main-2-1,protype=1+1,rme=disable,wtr=5,actunit=main-1-1,
swreq=nr"
;
```

Starting in Release 6.0, the following message is sent when the **ENT-rr** command is used to change the value of the application parameter to **1+1** when both slots are equipped.

```
LT-TID123 06-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=06-10-01,SOURCE=123456:ENT-PROTN-GRP:main-1-1:CST=0C12,
side1=main-1-1,side2=main-2-1,protype=1+1,rme=disable,wtr=5,actunit=main-1-1,
swreq=nr"
;
```

Starting in Release 5.2, the following message is sent when the **ENT-rr** command is used to change the value of the application parameter to **1+1_BIDIR** when both slots are equipped.

```
LT-TID123 06-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=06-10-01,SOURCE=123456:ENT-PROTN-GRP:main-1:CST=0C12,
side1=main-1-1,side2=main-1-1,protype=1+1_BIDIR,rme=disable,wtr=5,
actunit=main-1-1,swreq=nr"
;
```

Starting in Release 6.0, the following message is sent when the **ENT-rr** command is used to change the value of the application parameter to **1+1_BIDIR** when both slots are equipped.

```
LT-TID123 06-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=06-10-01,SOURCE=123456:ENT-PROTN-GRP:main-1-1:CST=0C12,
side1=main-1-1,side2=main-2-1,protype=1+1_BIDIR,rme=disable,wtr=5,
actunit=main-1-1,swreq=nr"
;
```

Starting in Release 4.0, the following message is sent when the **ENT-rr** command is used to change the value of the application parameter to **1+1_OPTM**.

```
LT-TID123 06-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=06-10-01,SOURCE=123456:ENT-PROTN-GRP:main-1-1:CST=0C48,
side1=main-1-1,side2=main-1-1,protype=1+1_OPTM,actunit=main-1-1"
;
```

Starting in Release 6.0, the following message is sent when the **ENT-rr** command is used to change the value of the application parameter to **1+1_OPTM**.

```
LT-TID123 06-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=06-10-01,SOURCE=123456:ENT-PROTN-GRP:main-1-1:CST=0C48,
side1=main-1-1,side2=main-1-1,protype=1+1_OPTM,actunit=main-1-1"
;
```

Starting in Release 5.2, the following message is sent when one slot of a slot pair is equipped, the companion slot is in the unequipped state, the application parameter is provisioned to **1+1_BIDIR** and a circuit pack of the same type is inserted into the companion slot:

```
LT-TID123 06-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=06-10-01,SOURCE=123456:ENT-PROTN-GRP:main-1-1:CST=0C12:
side1=main-1-1,side2=main-2-1,protype=1+1_BIDIR,rme=disable,wtr=5,
actunit=main-1-1,swreq=nr"
;
```

Starting in Release 6.0, the following message is sent when one slot of a slot pair is equipped, the companion slot is in the unequipped state, the application parameter is provisioned to **1+1_BIDIR** and a circuit pack of the same type is inserted into the companion slot:

```
LT-TID123 06-10-01 08:00:00
A 888 REPT DBCHG
  "TIME=07-59-20,DATE=06-10-01,SOURCE=123456:ENT-PROTN-GRP:main-1-1:CST=0C12:
side1=main-1-1,side2=main-2-1,protype=1+1_BIDIR,rme=disable,wtr=5,
actunit=main-1-1,swreq=nr"
;
```

RELATED TL1 MESSAGES

RTRV-A0

NAME

REPT EVT: Report Event

The **REPT EVT** message is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

DESCRIPTION

REPT EVT messages are generated autonomously by the network elements (NEs) to report events that do not require alarmed notifications, for example, to indicate a maintenance condition of the NE or to report a status change of the NE.

The changes of state of miscellaneous discrete environmental points (that are provisioned to be non-alarmed) are reported in **REPT EVT** messages.

All OC-N line protection switches are reported to the OS in **REPT EVT** messages as facility events, that is, using *modifier* "rr". The associated circuit pack protection switch, for example, of the OLIUs, will not be autonomously reported separately.

When a bidirectional protection switch occurs, the systems at both ends of the OC-N line will report the switch to the OS. This is necessary for OC-N lines crossing maintenance area or company boundaries.

Automatic *equipment* protection switches are communicated to the OS by **REPT SW** messages.

Beginning in Release 6.0, RPR protection switches are reported to the OS in **REPT EVT** messages as facility events, using a *modifier* of "VCG".

If an alarm is provisioned as Not Alarmed (NA), then the occurrence of that alarm is reported in a **REPT EVT** message. **REPT EVT** messages also occur when any such standing alarms clear and are used to report transient conditions.

A standing condition is an alarm event that has a beginning and an end. When the event begins, the standing condition is declared via an autonomous message. When the event ends, an autonomous message is sent to indicate that the event cleared.

A transient condition only results in one autonomous message - a declaration that a specific transient condition occurred.

Autonomous Performance Monitoring (PM) Threshold Crossing Alert (TCA) messages are provided to the OS using the **REPT EVT** TL1 message.

The TCA is a transient condition - it is reported when the threshold is crossed. Because it is transient, there is no report when it clears. If the error rate persists

long enough so that an HBER results in addition to the transient TCA, then an HBER alarm will be set.

The alarm level of a TCA is not provisionable. It is always NA (not alarmed) which implies TCA messages are always reported via **REPT EVT**.

Protection switching messages are provided to the OS using the **REPT EVT** message.

By definition, a protection switching event occurs when the service switches from working to protection or vice versa.

REPT EVT does not report switching events that are reported by **REPT SW** which reports equipment protection switches of a duplex equipment unit pair.

For VT path switches, only manual switches are reported.

Prior to Release R4.0, a VT Cross-connect Standing Condition is provided to the OS using the **REPT EVT** message when the customer attempts to add a VT pass-through cross-connect that conflicts with a VT add/drop cross-connect. This only applies to the LNW26 circuit pack.

OUTPUT FORMAT

The general format of a **REPT EVT** autonomous message is as follows:

```
sid date time
A atag REPT EVT modifier
  "aid:condtype,condeff,ocrdat,ocrtm,[locn],,[monval],[thlev]
  [,tmper][:"conddescr\"],[tblislt]"
  (1 or more lines of the above)
;
```

Since trailing commas (,) to the left of a colon (:) can be deleted, for non-TCA events, the output format is as follows:

```
"aid:condtype,condeff,ocrdat,ocrtm[:\"conddescr\"]".
```

OUTPUT PARAMETERS

Table 2-276. REPT EVT Output Parameters (cont 1 of 5)

Parameter Name	Description
<i>date</i>	Date. This has the format YY-MM-DD (year-month-day). This reflects the current date of the system when the message is generated, which could differ from the occurrence date due to the alarm holdoff delay.
<i>time</i>	Time of Day. This has the format HH:MM:SS (hours:minutes:seconds). This reflects the current time of day of the system when the message is generated, which could differ from the occurrence time due to the alarm holdoff delay.
<i>atag</i>	The fractional portion of the <i>atag</i> parameter should be used to correlate the two REPT EVT messages indicating the occurrence and clearing of a standing condition (SC). The best example of this is the correlation of a REPT EVT message reporting a protection switch with the REPT ALM message reporting the alarm condition that triggered the protection switch.
<i>modifier</i>	This parameter is a message modifier to the output. It has one of the following values: ■ COM Common. A common event. ■ EQPT An equipment-related event ■ T3 A facility-related event at the DS-3 level ■ T1 A timing reference event at the DS-1 level ■ E1 A facility-related event at the E1 level ■ EC1 A facility-related event at the electrical carrier signal level 1 ■ OCH A facility-related event at the optical channel level ■ OTS A facility-related event at the optical transmission section ■ ODU2 A facility-related event at the optical channel data unit 2 ■ OTU2 A facility-related event at the optical channel transport unit 2 ■ OC3 A facility-related event at the optical carrier signal level 3

Table 2-276. REPT EVT Output Parameters (cont 2 of 5)

Parameter Name	Description
	■ OC12 A facility-related event at the optical carrier signal level 12 ■ OC48 A facility-related event at the optical carrier signal level 48 ■ OC192 A facility-related event at the optical carrier signal level 192 ■ STS1 A facility-related event at synchronous transport signal level 1 ■ STS3C A facility-related event for a concatenated STS3 signal ■ STS12C A facility-related event for a concatenated STS12 ■ STS48C A facility-related event for a concatenated STS48 ■ VT1 A facility-related event at VT1.5 ■ VC12 A facility-related event at VC12 ■ FELAN A facility-related event at an Ethernet 10/100T ■ GELAN A facility-related event at an Ethernet GbE ■ ENET An Ethernet event ■ VCG A facility-related event at a Virtual Concatenation Group ■ DATA A facility-related event at a Data port. ■ LAG A facility-related event at an Link Aggregation Group ■ ethernet A facility-related event at a Ethernet port
<i>aid</i>	If <i>modifier</i> is EQPT or "rr", then the <i>aid</i> of the equipment or facility for which an event is being reported are specified in the REPT EVT message. For a nonprotection switching event, <i>aid</i> is the address of the equipment component or facility, as identified by the <i>modifier</i>, for which an alarm is being reported. For a protection switching event, <i>aid</i> is either the address of the currently active unit or of the previously active unit. Which one is used is a function of the type of switch and also the protection group type.

Table 2-276. REPT EVT Output Parameters (cont 3 of 5)

Parameter Name	Description
	For either lockout or the clearing of a lockout, the <i>aid</i> of the locked out entity is used. This rule is independent of the protection group type. For 2F protection groups, the <i>aid</i> selection is defined as follows: if the protection unit is active, the <i>aid</i> of the previously active unit is reported. If protection unit is not active, the <i>aid</i> of the currently active unit is reported. There are 4 cases to consider: W(orking) -> P(rotection) P -> W W -> W P -> P Using <i>wkg</i> and <i>protn</i> to represent the working port and protected port <i>aids</i>, the <i>aids</i> for the 4 cases above are: <i>wrk</i> <i>wrk</i> <i>wrk</i> <i>protn</i> For 1+1 equipment protection switching groups, the <i>aid</i> of the active slot is reported. For path protection groups, "the <i>aid</i> of the ring channel the NE is switched away from" or "the <i>aid</i> of the standby ring channel" is reported. For 1+1 linear protection groups, the <i>aid</i> is a line AID. For RPR protection switching, the <i>aid</i> of the side steering the traffic is reported If <i>modifier</i> is COM, <i>aid</i> may be NULL.
<i>condtype</i>	Condition Type. This parameter identifies the type of event indication being reported. Refer to Appendix C for input parameter syntax and description of this parameter.
<i>condeff</i>	Condition Effect. This indicates the effect of the event on the condition and shall be one of the following values: ■ CL Standing Condition Cleared ■ SC Standing Condition Raised ■ TC Transient Condition

Table 2-276. REPT EVT Output Parameters (cont 4 of 5)

Parameter Name	Description
	Each event results either in a Standing Condition (SC) or in a Transient Condition (TC). The only events that are defined to result in a Transient Condition (TC) shall be Threshold Crossing Alerts (TCAs), non-revertive protection switches, processor resets, unsuccessful login attempts, and TL1 autonomous message output buffer overflow. All other events shall be defined to result in a Standing Condition (SC). Standing Condition (SC) is defined as a condition that is active for an extended period of time and can be retrieved later by the OS using the RTRV-COND or RTRV-ALM command. Transient Condition (TC) is defined to be a condition that does not change the basic condition of a NE for an extended period of time. If a REPT EVT message reports an event that results in a standing status condition, that is, parameter <i>condeff</i> = SC, then another REPT EVT message shall be used to report when the standing condition no longer exists. If status conditions degrade further, for example, from a status condition to an alarm condition, a status clear message is not appropriate, instead the new alarm condition would be reported. To report the clearance of a standing status condition, <i>condtype</i> will be the same as the one used in the original report, <i>condeff</i> = CL, and <i>conddescr</i> shall be the same as the "Event Description" field of the RTRV-LOG (enclosed within a pair of escaped quotes (\")) for the cleared status condition. All other parameters, except <i>tblist</i> (which shall be null), <i>ocrdat</i> and <i>ocrtm</i>, shall be the same as in the status message that is being reported as cleared. The use of <i>conddescr</i> in REPT EVT messages to indicate the clearance of status conditions that cause standing conditions (SC) is especially important because REPT EVT messages do not have ALMCDE and NTFNCNDE parameters. In TR-833, Issue 4, Supplement 1, Telcordia added the above requirement to mimic <i>alarm</i> clears. That is, use the same <i>condtype</i> as in the REPT EVT message reporting the status condition originally and use <i>condeff</i> value CL (to indicate the status condition is cleared). Previously, in TR-833, Issue 3, standing conditions were cleared with <i>condtype</i> = NORMAL and <i>condeff</i> = SC. If a REPT EVT message communicates an event that results in a transient condition, that is, the parameter <i>condeff</i> = TC, no associated REPT EVT clear message is necessary.

Table 2-276. REPT EVT Output Parameters (cont 5 of 5)

Parameter Name	Description
<i>ocrdat</i>	Occurrence Date. The date when the triggering event occurred.
<i>ocrtm</i>	Occurrence Time. The time of day when the triggering event occurred.
<i>locn</i>	Location. <i>locn</i> is null, except to report far-end PM TCAs such as for DS1 PM far-end TCAs, in which case, <i>locn</i> = FEND. Only used for Threshold Crossing Alerts (TCAs).
<i>monval</i>	Measured value. This is the measured value of that montype parameter. Only used for TCAs.
<i>thlev</i>	Threshold level. This is the threshold level for the above montype parameter. Only used for Threshold Crossing Alerts (TCAs).
<i>timper</i>	Time period. This is the accumulated time period for the above montype parameter, i.e., either 15-MIN or 1-DAY. It is only used for Threshold Crossing Alerts (TCAs).
<i>conddescr</i>	Condition description. The <i>conddescr</i> field is used in all REPT EVT messages. The value of the <i>conddescr</i> parameter is the same (except enclosed within a pair of escaped quotes (\\")) as is included for the reported condition in the automsgs file.
<i>tblislt</i>	If a reported condition is isolated to the reported <i>aid</i> , the <i>tblislt</i> parameter shall be used with value ISLTD to indicate that the <i>aid</i> identifies the circuit pack that should be replaced by craft to correct the reported condition. Otherwise, the <i>tblislt</i> parameter shall be null, for example, for incoming facility failures, DCC failures, and most PM TCAs.

EXAMPLE OUTPUT

The following **REPT EVT** autonomous message illustrates how a T3 loss of signal (LOS) could be reported if the notification code was previously provisioned to no alarm (NA). Since the **REPT EVT** autonomous message declares the occurrence of the LOS, the condition effect is Standing Condition (SC).

```
LT-TID 01-11-29 11:12:45
A 003 REPT EVT T3
  "d-7:LOS,SC,11-29,11-12-59,,,,:\"inc. (from DSX) DS3 LOS\"
;
```

The following **REPT EVT** autonomous message reports that the LOS cleared. For this case, the condition effect is CL (clear):

```
LT-TID 01-11-29 11:13:23
A 030 REPT EVT T3
  "d-7:LOS,CL,11-29,11-13-23,,,,:\inc. (from DSX) DS3 LOS\""
;
```

The following **REPT EVT** autonomous message reports that the user LUC01 logged into the NE:

```
LT-TID 01-11-14 11:27:17
A 091 REPT EVT COM
  "cit-1:MAN,SC,11-14,11-27-17,,,,:\login:LUC01\""
;
```

The following **REPT EVT** autonomous message reports that the user LUC01 logged out of the NE:

```
LT-TID 01-11-14 11:27:17
A 091 REPT EVT COM
  "cit-1:MAN,CL,11-14,11-27-17,,,,:\logout:LUC01\""
;
```

The following **REPT EVT** autonomous message illustrates a Standing Condition that will be generated when the customer attempts to add a VT pass-through cross-connect that conflicts with a VT add/drop cross-connect. As of Release R4.0, this message will no longer be reported.

```
LT-TID 01-11-29 11:12:45
A 003 REPT EVT VT1
  "m-1-3-4:,SC,11-29,11-12-59,,,,:\Cross-connect restriction - VT pass-
thru not allowed\""
;
```

This message only applies to the LNW26 circuit pack.

The following **REPT EVT** autonomous message illustrates an STS path switch event.

```
LT-TID 01-11-29 08:44:08
A 041 REPT EVT STS1
  "m1-1-1:,WKS WPR-2,TC,03-02,08-44-08,,,,:\auto switch\"
;
```

Beginning in Release 5.0, the following example shows a report for an STS3c standing event where the reported constituents consist of three STS1s.

```
LT-TID123 01-10-26 16:42:11
A 810 REPT EVT STS1
  "m1-1-1:AIS,SC,10-26,16-42-12,,,,:\inc. STS1 AIS\"
;
LT-TID123 01-10-26 16:42:12
A 810 REPT EVT STS1
  "m1-1-2:AIS,SC,10-26,16-42-13,,,,:\inc. STS1 AIS\"
;
LT-TID123 01-10-26 16:42:14
A 810 REPT EVT STS1
  "m1-1-3:AIS,SC,10-26,16-42-15,,,,:\inc. STS1 AIS\"
;
```

The following message is sent when the NE reports an OTS LOS event:

```
LT-TID123 01-10-26 16:42:12
* 155 REPT EVT OTS
  "d1-OTS:LOS,SC,10-26,16-42-12,,,,:\inc. OTS LOS\"
;
```

RELATED TL1 MESSAGES

REPT ALM

REPT ALM ENV

REPT EVT
TL1 Message Details

REPT EVT
Alcatel-Lucent 1665 DMX, R9.0

REPT SW

NAME

REPT PM: Report Performance Monitoring

The **REPT PM** message is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

DESCRIPTION

REPT PM messages are generated to report performance monitoring (PM) data from the network element (NE).

The PM reports are output as specified in the related TL1 command **SCHED-PMREPT**. The **SCHED-PMREPT** command establishes the schedule and PM data criteria for the **REPT PM** messages.

All PM data that is available on demand via **RTRV-PM** commands can be scheduled via **SCHED-PMREPT** commands and reported via **REPT PM** messages, also.

The information content of each line of a **REPT PM** message is effectively equivalent to a line in the response to a **RTRV-PM** command.

OUTPUT FORMAT

If there is no PM data to report, no PM report is output. That is, if no PM reports are scheduled, or if a PM report is scheduled but none of the PM data meets the criteria specified in the corresponding **SCHED-PMREPT** command, a **REPT PM** message is not output.

If there is PM data to report, the following report is output:

```
sid date time
A atag REPT PM modifier
  "aid:montype,monval,[vldty],[locn],[dirn],tmper,[mondatt][,montm]"
  . . . . .
  . . . . .
  "aid:montype,monval,[vldty],[locn],[dirn],tmper,[mondatt][,montm]"
;
```

When a long **REPT PM** message is interrupted, the message is interrupted at the end of a line. The last line output before the interruption is terminated with a ">" indicating a partial message.

When an interrupted message is resumed, the NE repeats the message header lines, as follows:

```
sid date time
A atag REPT PM modifier
```

REPT PM messages may be interrupted to output an autonomous **REPT ALM** or **REPT EVT** message.

Applicable output lines are ordered as follows:

1. By *aid* in order corresponding to the shelf architecture.
2. By time intervals, starting with the current time interval.
3. By applicable PM parameters per *aid*.

This is the same order of output as the **RTRV-PM** response.

The shelf architecture is main OC-*N* line slots and function units in the applicable order. Within the function units, the output would be by STS1/STS3c/STS12c/STS48c (Release 2.0) path terminations, DS3/EC1 facilities, in order as applicable. Also, within the function units, the output would be by VT path terminations and/or DS1 facilities, if applicable.

OUTPUT PARAMETERS

Table 2-277. REPT PM Output Parameters (cont 1 of 4)

Parameter Name	Description
<i>sid</i>	Source Identifier (or target identifier, <i>tid</i>). This is the system name.
<i>date</i>	Date output message is generated. This has the format YY-MM-DD (year-month-day).
<i>time</i>	Time output message is generated. This has the format HH:MM:SS (hours:minutes:seconds).
<i>A</i>	Autonomous. This indicates the message is sent autonomously.
<i>atag</i>	Automatic Tag. The <i>atag</i> is used for message sequencing. The number is incremented by one for each autonomous message sent by the NE, on a per-OS-type basis.

Table 2-277. REPT PM Output Parameters (cont 2 of 4)

Parameter Name	Description
	The NE uses only "whole its" numbers from 000 through 999.
<i>modifier</i>	This is the message modifier to the REPT PM message, and has one of the following values: E1 This is for the E1 level external interfaces. EC1 This is for the electrical STS1 level external interfaces. OC3 This is for OC-3 level external interfaces. OC12 This is for OC-12 level external interfaces. OC48 This is for optical OC-48 level external interfaces. OC192 This is for optical OC-192 level external interfaces. Beginning in Release 5.0, if the aid addresses a specific STSn cross-connect, a report is generated for each constituent of that cross-connect (as accepted at the time the report is generated). If the aid includes "all", a report is generated for each constituent of any cross-connected signal where the constituent rate matches the modifier (e.g. if modifier = STS3c, a report is generated for each constituent which has an accepted rate of STS3c at the time the report is generated, regardless of the cross-connected rate). See <i>crstat</i> in RTRV-rr. STS1 This is for STS-1 channels. STS3c This is for STS-3c channels. STS12c This is for STS-12c channels. STS48c This is for STS-48c channels. T1 This is for the DS1 level external interfaces. T3 This is for the DS3 level external interfaces. VT1 This is for dropped VT1.5 channels. VC12 This is for dropped VC12 channels. OCH This is for optical channels. OTS This is for the optical transmission section. ODU2 This is for optical channel data unit 2. OTU2 This is for optical channel transport unit 2.

Table 2-277. REPT PM Output Parameters (cont 3 of 4)

Parameter Name	Description
<i>aid</i>	Access identifier. This is the address of the object entity for which PM data is being reported. Refer to Appendix A for a list of valid addresses (AIDs). For T3 signals, ingress DS3 parameters are reported using the DS3 port AID. Egress DS3 parameters are reported using the STS cross-connection AID, e.g. the STS-1 channel AID in UPSR applications and the STS-1 ring channel AID in BLSR applications. The STS AID may not be used to request the T3 report. Beginning in Release 6.0, egress DS3 parameters are reported using a DS3 port AID; the parameter has a suffix of “-EGR”. Beginning in Release 7.0, egress DS1 parameters are reported for DS1 signals within a terminated channelized DS3 on an LNW20 circuit pack operating in portless mode (ENT - T3: eif=T3, pmd=PORTLESS). The AID that is reported is the same DS1 AID used for ported, channelized DS1 signals on the LNW20 (ENT - T3: eif=T3, pmd=PORTED, tribmd=CHAN). The egress DS1 parameters have a suffix of “-EGR”. Beginning in Release 6.0, all STSn, VT, or VC parameters are reported using a ring channel AID. For STSn channels in 1+1 applications, the ring channel of either slot 1 or slot 2 is used (both sides are monitored independently). VT or VC channels in 1+1 or path-protected UPSR applications are reported using the ring channel AID of the active path.
<i>montype</i>	Monitored parameter Type. This is the PM parameter type for which PM data is being reported.
<i>monval</i>	Monitored value. This is the measured value of the parameter specified in <i>montype</i> .
<i>vldty</i>	Validity indicator. This identifies the validity of the PM data and may have the PRTL (partial) value. Data is partial when it is accumulated over some portion of the reported time period (<i>tmper</i>). This includes counts that overflow their registers, counts that are corrupt, and counts that are not available because of trouble conditions that cause PM to be suspended. If the validity indicator is NULL, the data is valid.
<i>locn</i>	Location. For near-end PM data, <i>locn</i> is NULL. This parameter has the value FEND for far-end data only.

Table 2-277. REPT PM Output Parameters (cont 4 of 4)

Parameter Name	Description
<i>dirn</i>	Direction. This identifies the direction in which the threshold was set and is relative to the facility identified by the <i>aid</i> . The value of direction is NA (<i>not applicable</i>) or NULL.
<i>tmper</i>	Time Period. This parameter has the value 15-MIN or 1-DAY.
<i>mondatt</i>	Monitored Date. This is the beginning date of the interval for which PM data is being reported. This parameter has the format MM-DD (month-day). If <i>mondatt</i> is the current date, then <i>mondatt</i> is not reported.
<i>montm</i>	Monitored Time. This is the beginning time of the interval for which PM data is being reported. This parameter has the format HH-MM (hours-minutes). If the value of <i>tmper</i> is 1-DAY, <i>montm</i> is not reported.

EXAMPLE OUTPUT

```
LT-TID123 00-10-01 12:05:00
A 812 REPT PM T3
"b-1:CVP,1,,,15-MIN,,11-45"
"b-1:CVP,1,,,15-MIN,,11-30"
"b-1:CVP,1,,,15-MIN,,11-15"
"b-1:CVP,1,,,15-MIN,,11-00"
;
```

RELATED TL1 MESSAGES

RTRV - PM

RTRV - PMSCHED

SCHED - PMREPT

NAME

REPT SW: Report Switch

The **REPT SW** message is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

DESCRIPTION

REPT SW messages are generated autonomously to report equipment (that is, circuit pack) protection switches.

REPT SW messages are generated autonomously to report *automatic* equipment protection switches *only*.

OUTPUT FORMAT

```
sid date time
A  atag REPT SW
   "actid,stbyid"
;
```

OUTPUT PARAMETERS

Table 2-278. REPT SW Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>sid</i>	Source Identifier (or target identifier, <i>tid</i>). This is the system name.
<i>date</i>	Date output message is generated. This has the format YY-MM-DD (year-month-day).
<i>time</i>	Time output message is generated. This has the format HH:MM:SS (hours:minutes:seconds).
<i>A</i>	This indicates the message is sent autonomously.
<i>atag</i>	Automatic Tag. The <i>atag</i> is used for message sequencing. The number is incremented by one for each autonomous message sent by the Network Element, on a per-OS-type basis.

Table 2-278. REPT SW Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>actid</i>	The aid of the active circuit pack. Refer to Appendix A for a list of valid slot addresses.
<i>stbyid</i>	Standby Access Identifier. This is the slot address of the standby circuit pack as a result of the protection switch.

EXAMPLE OUTPUT

```
LT-TID123 00-10-26 16:42:11
A 123 REPT SW
  "main-1,main-2"
;
```

RELATED TL1 MESSAGES

REPT COND

REPT EVT

RTRV-A0

RTRV-COND

NAME

RLS-EXT-CONT: Release External control

The **RLS-EXT-CONT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, and Maintenance Only access.

INPUT FORMAT

RLS-EXT-CONT: *tid:aid:ctag::dur;*

DESCRIPTION

The **RLS-EXT-CONT** command can be used to release an external miscellaneous, discrete environmental control output point that was enabled through the **OPR-EXT-CONT** command, such as an activated relay, fan, light, sprinkler, and so on.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

INPUT PARAMETERS

Table 2-279. RLS-EXT-CONT Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> specifies the external miscellaneous discrete control point to be released. For more information related to the <i>aids</i> , refer to Appendix A.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-279. **RLS-EXT-CONT** Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>dur</i>	Duration. This parameter is used by Telcordia GR-833 to specify the release duration of the external discrete control point. This parameter can only have the value CONTS (continuous). Any other value is denied.

OUTPUT FORMAT

If the NE fully complies with the **RLS-EXT-CONT** request, the following normal completion response is returned:

```
IP ctag
<
  sid date time
M ctag COMPLD
;
```

If the requested **RLS-EXT-CONT** command does not alter the existing condition (that is, the control referenced by the AID has already been released), then the NE doesn't deny the command. Instead, the system responds with the normal completion response shown above.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to the **RLS-EXT-CONT** command.

EXAMPLE INPUT/OUTPUT

The following example shows how to release discrete control point 1.

```
RLS-EXT-CONT:LT-TID123:CONT-1:123456::conts;  
IP 123456  
<  
    LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to the **RLS-EXT-CONT** command.

The NE returns the following error response if the *aid* value is missing or is invalid.

```
    sid date time  
M ctag DENY  
    IIAC  
    /* Input, Invalid Access Identifier */  
;
```

If a **RLS-EXT-CONT** command is received with an invalid duration (*dur*) parameter, the following error response is returned:

```
    sid date time  
M ctag DENY  
    IDNV  
    /* Input, Data Not Valid, invalid DUR */  
;
```

RELATED TL1 MESSAGES

OPR-EXT-CONT

RTRV-ATTR-CONT

RTRV-LOG

SET-ATTR-CONT

NAME

RLS-LPBK: Release Loopback

The **RLS-LPBK** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General and Maintenance access.

INPUT FORMAT

RLS-LPBK-*modifier*:*tid*:*aid*:*ctag*[:*,,,*,*lpbktype*];

DESCRIPTION

Execution of this command may affect service.

This command requests that the network element release a manual terminal or facility loopback at the specified interface. This command will be used for pre-service testing of facilities, and during fault diagnostics.

Beginning in Release 7.1, this command applies to client ports of muxponder packs with all *signaltype* values other than STNA (see **RTRV-OTPE**).

Starting in Release 3.1, execution of this command, whether successful or denied, is recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-280. RLS-LPBK Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>modifier</i>	Modifier. Valid values are: ■ EC1 An EC1 interface. ■ ENET An Ethernet interface.

Table 2-280. RLS - LPBK Input Parameters (cont 2 of 2)

Parameter Name	Description
	■ DATA A DATA interface. ■ T1 A DS1 interface. ■ E1 An E1 interface. ■ OC3 An OC-3 interface. ■ OC12 An OC-12 interface. ■ OC48 An OC-48 interface. ■ OC192 An OC-192 interface.
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
aid	Access Identifier. aid determines the port on which the loopback is being released. The aid is a required parameter. See the AID table in Appendix A for valid AIDs. Valid values include: Port AID. Line AID. LAG (Link Aggregation Group AID) (beginning in Release 7.0). Unless otherwise specified, ALL is not allowed in any field of the AID. ALL is allowed in "VTG" field or the "VT1.5" field of the DS1 port AID.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
lpbktype	Loopback Type. This is an optional parameter; however, when this parameter is used the two " : "s (colons) and three " , "s (commas) between the ctag and lpbktype are required. This parameter indicates the type of loopback being released. Valid values include: ■ FACILITY Facility loopback. The signal is looped back toward the facility ■ TERMINAL Terminal loopback. The signal is looped back at the transmitter. This is the default value.

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. Requirements listed there also apply to the **RLS-LPBK-rr** command. If the requested loopback release

command does not alter the existing condition, the NE will not DENY the command. Instead the NE will respond with a COMPLD (completed) message.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

In the following example a request is made to release a terminal loopback at DS1 port a-4-3.

```
RLS-LPBK-T1:LT-TID123:a-4-3:123456;
```

```
IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```

The following example requests that a DS3 facility loopback be released:

```
RLS-LPBK-T3:LT-TID123:b-1:123456::,,facility;
```

```
IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```

The following example requests that an OC-12 facility loopback be released:

```
RLS-LPBK-OC12:LT-TID123:main-1-1:123456::,,facility;
```

```
IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives a **RLS-LPBK** command with a *modifier* other than that supported by the NE, the following error response is returned:

```
sid date time
M ctag DENY
  ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

If the NE receives a **RLS-LPBK** command without an *aid* or with an *aid* that is not valid, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

Beginning in Release 7.0, the above response is also returned if an individual AID is expected and a LAG AID is supplied, or vice versa.

If the NE receives a **RLS-LPBK** command with a valid *aid* value, but the corresponding required equipment is not present, the following error response is returned:

```
sid date time
M ctag DENY
  ENEQ
/* Equipage, Not Equipped */
;
```

If the NE receives a **RLS-LPBK** command with a valid **aid** value, but the command could not be completed by the NE, the following error response is returned:

```
sid date time
M ctag DENY
  SROF
  /* Status, Requested Operation Failed */
;
```

If the NE receives a **RLS-LPBK** command with an invalid **lpbktype** parameter value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid LPBKTYPE */
;
```

If the NE receives a **RLS-LPBK** command with a value of **lpbktype** that is not valid on that **aid**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid LPBKTYPE */
;
```

If the Network Element receives a **RLS-LPBK** command with a **modifier** that is inconsistent with the loopback type, the following error response is returned::

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, modifier is inconsistent with lpbktype */
;
```

If the NE receives a **RLS - LPBK** command with a valid *aid* value, but the loopback does not exist, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, specified loopback
does not exist */
;
```

RELATED TL1 MESSAGES

OPR - LPBK

RTRV - LPBK

NAME

RLS-PROTNSW: Release Protection Switch

The **RLS-PROTNSW** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

Prior to Release 2.1, the input format is:

RLS-PROTNSW-*modifier:tid:aid:ctag[:dirn];*

Beginning in Release 2.1, the input format is:

RLS-PROTNSW-*modifier:tid:[aid]:ctag[:[sc]:[dirn],[protype],[rid]];*

DESCRIPTION

Beginning in Release 4.0, 1+1 (not bold) applies to both unidirectional **1+1** and bidirectional optimized **1+1_OPTM** applications.

Beginning in Release 5.1, 1+1 (not bold) also applies to SONET bidirectional **1+1_BIDIR** applications.

RLS-PROTNSW-OCn is initiated by an OS or OS user to request the NE to release (clear) forced or lockout protection switching requests (see **OPR-PROTNSW**) on the specified 1+1-protected linear OC-N line pair (*application* as provisioned via the **ENT-OCN** command).

When the NE receives a **RLS-PROTNSW-OCN** command from the OS, the NE will release (clear) any existing forced or lockout protection switching requests on the specified unidirectional **1+1**-protected linear OC-N line pair (only a single request can be active at any time).

In **1+1_OPTM** applications, lockout and forced requests can coexist. If both are present, the first clear request clears the lockout, and a second clear request is needed to clear the forced switch. In the absence of a lockout, a clear request also terminates any Wait-to-Rename (WTR) timer (so that the group renames immediately). If a lockout request has frozen a WTR timer, the first clear request

clears the lockout, and a second clear request is needed to terminate the WTR timer.

Beginning in Release 3.0.2, **RLS-PROTNSW** is also used to release any existing manual (**MAN**) protection switching request on the specified unidirectional **1+1**-protected line pair.

Beginning in Release 5.1, when the NE receives a **RLS-PROTNSW-OCN** command from the OS, the NE will release (clear) any existing manual, forced or lockout protection switching requests on the specified **1+1_BIDIR** OC-N line pair (only a single request can be active at any time).

Beginning in Release 5.2, **RLS-PROTNSW** is also used to terminate the Wait-to-Restore timer on the specified Revertive **1+1** or **1+1_BIDIR** protected linear OC-N line pair.

A **RLS-PROTNSW** command will not cause nonrevertive groups to revert; it removes any existing switch request and allows normal protection switching to resume.

In **1+1** and path-switched applications, the NE provides unidirectional protection switching. A **RLS-PROTNSW** command affects only the addressed pair of incoming signals. It does not affect which of the pair of transmitted signals is selected by the far end.

The current protection switch state and priority level for a group can be retrieved using the **RTRV-PROTN-GRP** command.

Beginning in Release 4.0, the system supports bidirectional optimized 1+1 linear switching (**application=1+1_OPTM** in **ENT-OCn**). A switch request can affect which section is used for receiving and for transmitting.

Beginning in Release 5.1, the system supports SONET bidirectional 1+1 linear switching (**application=1+1_BIDIR** in **ENT-OCn**). A switch request can affect which line is used for receiving and for transmitting.

Beginning in Release 3.1, when the NE receives a **RLS-PROTNSW-VT1** or **STS_n** command from the OS, the NE will release (clear) any existing forced, manual, or lockout protection switching requests on the specified **UPSR** path(s).

Starting in Release 2.1, **RLS-PROTNSW** may be initiated by an OS or OS user to request the NE to clear a user-initiated protection switch request on a 2F BLSR. The command permits the user to address a BLSR protection group using a protection group AID or a ring ID. Initially this command will support addressing a BLSR protection group using the BLSR protection group AID.

When DMX receives a **RLS-PROTNSW-OCn** command from the OS, DMX shall release (clear) any existing manual, forced, or lockout protection switching

requests or will terminate the Wait-to-Restore timer on the specified 2FBLSR protection group. If there is no existing user request, the request will be denied.

Starting in Release 6.0, **RLS-PROTNSW-RPR** may be initiated by an OS or OS user to request the NE to release (clear) forced or manual protection switching requests (see **OPR-PROTNSW**) or to terminate the Wait-to-Restore timer on the specified RPR span VCG.

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-281. RLS-PROTNSW Input Parameters (cont 1 of 4)

Parameter Name	Description
<i>modifier</i>	Command Code Modifier. The NE will only accept requests for the following supported types: ■ VT1 UPSR ■ STS1 UPSR ■ STS3c UPSR ■ STS12c UPSR ■ STS48c UPSR ■ OC3 1+1 ■ OC12 1+1 ■ OC48 1+1 ■ OC48 2F BLSR ■ OC192 1+1 ■ OC192 2F BLSR ■ RPR for Resilient Packet Rings
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-281. RLS - PROTNSW Input Parameters (cont 2 of 4)

Parameter Name	Description
<i>aid</i>	Access Identifier. AID Format/Rules: UPSR Path Protection Groups: The specified <i>aid</i> should be that of the standby side. VT Ring Channel Acceptable AIDs include a single VT or a single VT group (4 VTs), or all VTs in an STS-1. STS Ring Channel Acceptable AIDs include a single STSn or all STS-Ns in a UPSR line pair. Beginning in Release 6.0, a line-pair aid will no longer be accepted for protection groups. Instead, the aid of the line in slot 1 will be the identifier. 1+1 Linear Protection Groups: 1+1 protection group 2FBLSR Protection Groups: 2F (BLSR) protection group RPR: RPR Span VCG Port
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>protype</i>	Protection type. Valid values are: ■ UPSR Beginning in Release 3.1, this is the default when <i>modifier</i> is VT1 or an STSn value. ■ 1+1 This is the default prior to Release 3.1. Beginning in Release 3.1, this is the default when the <i>modifier</i> is an OCn value. ■ 1+1_OPTM ■ 1+1_BIDIR ■ 2F ■ RPR This is the default and only value when the <i>modifier</i> is RPR.

Table 2-281. RLS - PROTNSW Input Parameters (cont 3 of 4)

Parameter Name	Description
sc	Switch Command. The NE will accept and perform only the following requests: ■ CLEAR (default) This request clears any manually provisioned switch request. This request terminates the Wait-to-Restore timer on the specified protection group. In 1+1_OPTM applications, lockout and forced requests can coexist. If both are present, the first clear request clears the lockout, and a second clear request is needed to clear the forced switch. A request to clear a forced switch is denied if the far end does not respond to the clear request in 2.5 seconds. In the absence of a lockout, a clear request also terminates a running WTR timer (so that the group renames immediately). If a lockout command has frozen a WTR timer, the first clear request clears the lockout, and a second clear request is needed to terminate the WTR timer.
dirn	Direction. The following values are applicable for prototype=UPSR: ■ RCV (default) The following values are applicable for prototype=1+1: ■ RCV (default) The following values are applicable for prototype=1+1_OPTM: ■ BIDIR (default) The following values are applicable for prototype=1+1_BIDIR: ■ BIDIR (default) The following values are applicable for prototype=2F: ■ EAST (default) ■ WEST dirn is not supported when prototype=RPR.

Table 2-281. RLS - PROTNSW Input Parameters (cont 4 of 4)

Parameter Name	Description
<i>rid</i>	Ring Identification Name. This parameter is applicable to BLSR protection groups only (<i>prototype=2F</i>). Storage and retrieval of the <i>rid</i> is case sensitive, but using the <i>rid</i> to determine the corresponding protection group is case insensitive. Value: The <i>rid</i> parameter is a quoted text string of up to 15 characters consisting of 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language). If this parameter is specified, then the command will operate on the protection group associated with that ring ID. For a BLSR protection group, either the <i>rid</i> or the <i>aid</i>, but not both, must be specified.

OUTPUT FORMAT

The NE sends the following normal completion response:

```
IP 123456
<

  TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```

This response is also returned whenever the *aid* ends in “-all”, even if the request could not be honored for any of the entities addressed.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example releases an OC-3 1+1 protection switch in an FN group:

```
RLS-PROTNSW-OC3:LT-TID:fn-d-2-all:1016::RCV;  
  
IP 1016  
<  
  
    LT-TID 70-01-01 02:26:44  
M 1016 COMPLD  
;
```

The following example applies to Release 2.1 and later. It releases a 2F switch:

```
RLS-PROTNSW-OC48:LT-DMX:main-1:1016::clear:east,2F;  
  
IP 1016  
<  
  
    LT-DMX 70-01-01 02:26:44  
M 1016 COMPLD  
;
```

Beginning in Release 6.0, the linear protection group identified by a line-pair aid in the previous example is identified by a slot 1 line aid as shown below:

```
RLS-PROTNSW-OC48:LT-DMX:main-1-1:1016::clear:east,2F;  
  
IP 1016  
<  
  
    LT-DMX 70-01-01 02:26:44  
M 1016 COMPLD  
;
```

The following example releases STS1 UPSR switches:

```
RLS-PROTNSW-STS1:LT-TID:m2-1-all:1016::RCV;  
  
IP 1016  
<  
  
    LT-TID 70-01-01 02:26:44  
M 1016 COMPLD  
;
```

The following example shows a clear of an RPR Span d1-v2 of an RPR protection span.

```
RLS-PROTNSW-RPR:TID123:d1-v2:1015::clear:,RPR;  
  
IP 1015  
<  
  
    TID123 70-01-01 01:16:34  
M 1015 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **RLS-PROTNSW** command.

The NE will check and provide error responses for the following error conditions in the order listed.

If the NE receives a **RLS-PROTNSW** command with a invalid command code modifier the command is denied and the following error response is returned to the OS:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

If the NE receives a **RLS-PROTNSW** command without an **aid** or with an **aid** that is invalid, the following error response is returned to the OS:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier */
;
```

If the NE receives a **RLS-PROTNSW** command with an invalid **dirn** value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, dirn = RCV, EAST, WEST or null (allowable
  values and default depend on prototype) */
;
```

Beginning in Release 4.0, the above message is replaced with:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, dirn = RCV, EAST, WEST, BIDIR or null
  (allowable values and default depend on prototype) */
;
```

If the NE receives a **RLS-PROTNSW** command with any extra (beyond the input format specification above) null or non-null command parameter blocks (:),

parameters (,), or termination characters (;), the following error response is returned to the OS:

```
sid date time
M ctag DENY
IISP
/* Input, Invalid Syntax or Punctuation */
;
```

If the NE receives a **RLS-PROTNSW** command with an otherwise valid **aid** value but the corresponding slots are not equipped with compatible OC-N OLIU circuit packs (including unprotected equipage), the following error response is returned to the OS:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, OLIUs not equipped */
;
```

If the NE receives a **RLS-PROTNSW** command with an otherwise valid **aid** value but the corresponding slot is not equipped with an RPR circuit pack, the following error response is returned to the OS:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, RPR not equipped */
;
```

If the NE receives an otherwise valid **RLS-PROTNSW** command, but no external protection switching request exists (from a previous **OPR-PROTNSW** command) for

the specified protection group, the command is denied and the following error response is returned to the OS:

```
sid date time
M ctag DENY
SNSR
/* Status, no external switch request exists */
;
```

Beginning in Release 6.0, this error response replaces the previous error response. If the NE receives an otherwise valid **RLS-PROTNSW** command, but no external protection switching request exists (from a previous **OPR-PROTNSW** command), the command is denied and the following error response is returned to the OS:

```
sid date time
M ctag DENY
SNSR
/* Status, No Switch Request outstanding, no external switch
request exists */
;
```

If the NE receives an otherwise valid **RLS-PROTNSW** command with **prototype = 2F**, but no external switch request (lockout, forced or manual) or WTR exists for the specified BLSR protection group, the command is denied and the following error response is returned to the OS:

```
sid date time
M ctag DENY
SNSR
/* Status, no external switch request or WTR exists */
;
```

Beginning in Release 4.0, the above error response also applies when **prototype = 1+1_OPTM**.

Beginning in Release 6.0, this error response replaces the previous response error response when **prototype = 2F** or **1+1_OPTM**. If the NE receives an otherwise valid **RLS-PROTNSW** command with **prototype = 2F** or **1+1_OPTM**, but no external switch request (lockout, forced or manual) or WTR exists for the

specified BLSR protection group, the command is denied and the following error response is returned to the OS:

```
sid date time
M ctag DENY
SNSR
/* Status, No Switch Request outstanding, no external switch request
or WTR exists */
;
```

Beginning in Release 5.2, if the NE receives an otherwise valid **RLS-PROTNSW** command with **prototype = 1+1** or **1+1_BIDIR**, but no external switch request (lockout, forced or manual) or WTR exists for the specified protection group, the command is denied and the following error response is returned to the OS:

```
sid date time
M ctag DENY
SNSR
/* Status, No Switch Request outstanding, no external switch
request or WTR exists */
;
```

If the NE receives a **RLS-PROTNSW** command with an aid that does not specify an existing protection group of the type indicated by the **prototype** parameter, the command is denied and the following error response is returned to the OS:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, aid not consistent with
prototype */
;
```


If the NE receives a **RLS-PROTNSW** command in which the value of *dirn* is not valid for the protection group type specified by the *prototype* parameter, the command is denied the following error response is returned to the OS:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, dirn not consistent with prototype */
;
```

If the NE receives a **RLS-PROTNSW** command with *prototype=1+1*, or **1+1_BIDIR** and with parameter values not consistent with these prototypes, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, parameters not valid for non-BLSR */
;
```

Beginning in Release 6.0, this error response replaces the previous error response. If the NE receives a **RLS-PROTNSW** command with *prototype=1+1*, or **1+1_BIDIR** and with parameter values not consistent with these prototypes, the command is denied and the following error response is returned to the OS:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, parameters not valid for prototype */
;
```

If the NE receives an **RLS-PROTNSW** command with **modifier=RPR** and with parameter values not valid for RPR, the command is denied and the following error response is returned to the OS:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, parameters not valid for RPR */
;
```

If the NE receives a **RLS-PROTNSW** command in a UPSR application with an otherwise valid **aid** value but the corresponding slots are not equipped with compatible circuit packs or not cross connected, the following error response is returned:

```
sid date time
M ctag DENY
  SSRD
/* Status, Switch Request Denied, ring path not equipped
and/or not cross connected */
;
```

If the path address specified in the command is not cross-connected at the **modifier** rate, the command is denied with the following message:

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, the specified path is not
properly cross-connected */
;
```

If the STS-1, or STS-Nc cross-connected **aid** specified in the command is not provisioned for path switching, the command will be denied with the following message:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, The specified path cannot be
switched */
;
```

Beginning in Release 4.0, if the NE receives an otherwise valid **RLS-PROTNSW** command with **prototype=1+1_OPTM**, requesting that a forced switch be released, and there is a time-out from the far end, the following error message is returned.

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, timeout from far end */
;
```

Beginning in Release 7.0, if the NE receives an otherwise valid **RLS-PROTNSW** command, and a pack required to complete the request is resetting, the following error message is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, required pack is resetting */
;
```

RELATED TL1 MESSAGES

ED-PROTN-GRP

OPR-PROTNSW

RTRV-PROTN-GRP

RTRV-rr

NAME

RTRV-ACL : Retrieve Access Control List

The **RTRV-ACL** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged and Administration access.

INPUT FORMAT

RTRV-ACL:*tid::ctag*;

DESCRIPTION

The **RTRV-ACL** command is used by an appropriate security administrator to retrieve the configured Access Control List (ACL).

The ACL adds a layer of control in addition to TL1 user ID and password. When the ACL is enabled (see **RTRV-NE-SECU**), an IP based OS can login to a remote target NE via a GNE (T-TD) only if the GNE represented by its TID or NSAP is included on the target NE's ACL; an OSI based OS can login to a remote target NE only if the OSI based OS represented by its NSAP is included on the target NE's ACL.

The access control for an IP based OS to login to a GNE or remote NE via IP directly without using GNE (T-TD) is controlled by IPMAP (see **RTRV-IPMAP**).

Execution of this command, whether successful or denied, will be recorded in the Security log.

The **RTRV-ACL** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-282. RTRV-ACL Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE receives an **RTRV-ACL**, it returns all entries in the ACL:

```
sid date time
M ctag COMPLD
"spec_block"
"spec_block"
...
"spec_block"
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below:

Table 2-283. RTRV-ACL Output *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>acl_tid</i>	Target Identifier of the ACL entry.
<i>acl_nsap</i>	NSAP of the ACL entry. This parameter is the 20 byte (40-digit hexadecimal) NSAP.

EXAMPLE INPUT/OUTPUT

The following example shows the **RTRV-ACL** output of the ACL:

```
RTRV-ACL:ALU-TID123::123456

IP 123456
<
  ALU-TID123 11-10-26 16:42:11
  M 123456 COMPLD
  "acl_tid=alu-111,acl_nsap="
  "acl_tid=alu-112,acl_nsap="
  "acl_tid=,acl_nsap=39840F80000000000000000000000008006A1127391d"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may apply to this command also.

The NE returns the following error response if an **aid** value is entered:

```
      sid date time
M      ctag DENY
      IIAC
      /* Input, Invalid Access identifier */
;
```

RELATED TL1 MESSAGES

DLT-ACL

ENT-ACL

ED-NE-SECU

RTRV-NE-SECU

NAME

RTRV-ALM: Retrieve Alarm

The **RTRV-ALM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-ALM -
modifier:tid:[aid]:ctag::[ntfcncde],[condtype],[srveff],
[locn],[dirn],[tmper];

DESCRIPTION

The **RTRV-ALM** command is used to retrieve the active alarm conditions at a network element (NE). This command retrieves active alarm conditions and displays them in a line-by-line format that is very similar to the autonomous (REPT) messages used to report active alarms when they occur.

This command may be used to retrieve NE information, which in turn may be used to update an OS database, when it is suspected that autonomous alarm messages issued by the NE using **REPT ALM** were not received or were not processed properly. For state condition types for **RTRV-ALM** refer to Appendix C.

This command does **not** include any active miscellaneous discrete environmental alarms. The environmental alarms can be retrieved using **RTRV-ALM-ENV**.

This command does **not** include any status conditions. Status conditions can be retrieved using **RTRV-COND**.

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-284. RTRV - ALM Input Parameters (cont 1 of 4)

Parameter Name	Description
<i>modifier</i>	The command code <i>modifier</i> must have one of the following values: EQPT, COM, ALL or "rr". This is a required parameter. Except as noted, NULL or anything other than the supported values will not be accepted. ■ EQPT Equipment ■ COM Common Equipment ■ ALL Includes all values. rr - the specified facility type. Valid values of rr are listed below: ■ E1 E1 port ■ EC1 EC-1 ■ OCH Optical Channel ■ OTS OTS Port ■ ODU2 ODU2 Line ■ OTU2 OTU2 Line ■ OC3 OC-3 line ■ OC12 OC-12 line ■ OC48 OC-48 line ■ OC192 OC-192 line ■ STS1 STS-1 ring channel ■ STS3c STS-3c ring channel ■ STS12c STS-12c ring channel ■ STS48c STS-48c ring channel ■ T1 DS1 port ■ T3 DS3 port ■ VT1 VT1.5 channel ■ VC12 VC12 channel ■ FELAN Ethernet 10/100T ■ GELAN Ethernet GbE ■ VCG Virtual Concatenation Group ■ DATA Data port

Table 2-284. RTRV -ALM Input Parameters (cont 2 of 4)

Parameter Name	Description
	■ LAG Link Aggregation Group
<i>tid</i>	Target Identifier. Refer to the RTRV -HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> parameter accepts and limits the information included in the RTRV -ALM response message based on the <i>aid</i>, if any, included in the command message. If the <i>aid</i> parameter value is invalid or conflicts with the command code <i>modifier</i>, the <i>aid</i> value will be ignored and will respond to the OS without limiting the output response based on the input <i>aid</i> value, if any. If the <i>aid</i> parameter value is invalid or conflicts with the command code <i>modifier</i>, an IIAC error response is returned. Refer to the RTRV -HDR command for an example of the IIAC error response. <i>aid</i> Format/Rules are as follows: ■ Slot AID ■ Port AID ■ Channel or Ring Channel AID ■ Line or line pair AID Beginning in Release 6.0, the <i>aid</i> parameter will no longer accept Channel or Line Pair AIDs. Ring Channel AIDs and Line AIDs will be accepted. ■ Socket AID ■ Shelf ■ NVM AID ■ LAG AID ■ OCH AID ■ ODU2 AID ■ OTU2 AID ■ OTS AID See the AID table in Appendix A. If the command code <i>modifier</i> is COM or ALL, the <i>aid</i> value is expected to be NULL. An <i>aid</i> value of NULL returns all alarms for all entities of the type specified by the value of the command code <i>modifier</i>. The <i>aid</i> value can be ALL if the command code <i>modifier</i> value is ALL.

Table 2-284. RTRV-ALM Input Parameters (cont 3 of 4)

Parameter Name	Description
	Starting in Release 4.0, the value of aid can be ALL or NULL for any value, other than COM or ALL, of the command code modifier. Beginning in Release 4.0, if the command code modifier is COM or ALL, aid is expected to be null. Beginning in Release 9.0, in a multi-shelf DCS system, if ALL is entered, the NE returns all alarms in the main shelf for entities of the type specified by the value of the command code modifier. To retrieve all alarms in a subshelf for entities of the type specified by the value of the command code modifier, use {shelf}-ALL where {shelf} indicates the subshelf number. Beginning in Release 9.0, in a multi-shelf DCS system, if NULL is entered, the NE returns all alarms in the system for entities of the type specified by the value of the command code modifier. Beginning in Release 5.0, if the aid addresses a specific STSn cross-connect and the modifier = STSn, a report is generated for each constituent of that cross-connect. If the modifier = STSn and the aid = ALL, a report is generated for only those alarms issued against that specific rate (e.g. if modifier = STS12c and the aid = ALL, a report is generated for each alarm which has an accepted rate of STS12c).
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
ntfcncde	Notification Code. If ntfcncde is valid, the response, as determined by the preceding input parameters, is further limited to only the specified ntfcncde. If ntfcncde is not valid, the response is not limited by ntfcncde. The aid and the ntfcncde parameters are used as filters to restrict the total set of alarm conditions retrieved. This parameter may have any of the following values: ■ CR Critical alarm ■ MJ Major alarm ■ MN Minor alarm
condtype	Condition Type. The system does not support the condition type (condtype) parameter for RTRV-ALM commands. If a RTRV-ALM message is received with a non-null value for the condtype parameter, the system still responds without limiting the output response based on this input parameter value.

Table 2-284. RTRV -ALM Input Parameters (cont 4 of 4)

Parameter Name	Description
<i>srveff</i>	Effect on Service. The system does not support the effect on service (<i>srveff</i>) parameter for RTRV -ALM commands. If a RTRV -ALM message is received with a non-null value for the <i>srveff</i> parameter, the system still responds without limiting the output response based on this input parameter value.
<i>locn</i>	Location. The system is not required to support the <i>locn</i> parameter for RTRV -ALM commands. If a RTRV -ALM message is received with a non-null value for the <i>locn</i> parameter, the system will still respond without limiting the output response based on that input parameter value.
<i>dirn</i>	Direction. The system is not required to support the <i>dirn</i> parameter for RTRV -ALM commands. If a RTRV -ALM message is received with a non-null value for the <i>dirn</i> parameter, the system will still respond without limiting the output response based on the input parameter value.
<i>tmper</i>	Time Period. The system is not required to support the <i>tmper</i> parameter for RTRV -ALM commands. If a RTRV -ALM message is received with a non-null value for the <i>tmper</i> parameter, the system will still respond without limiting the output response based on the input parameter value.

OUTPUT FORMAT

If there are no conditions to report, the following report is output:

```
IP ctag
<

    sid date time
M  ctag COMPLD
;
```

If there are conditions to report, the following report is output:

```
IP ctag
<

sid date time
M ctag COMPLD
"[aid],[aidtype]:ntfcncde,condtype,srveff,[ocrdat],
 [ocrtm],[locn],[dirn]:[\\"conddescr\\"][:[tblislt]]"
. . . . .
. . . . .
. . . . .
["[aid],[aidtype]:ntfcncde,condtype,srveff,[ocrdat],
 [ocrtm],[locn],[dirn]:[\\"conddescr\\"][:[tblislt]]"]
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response may also apply to this command.

Additional parameters that specifically apply to this command response are defined in the following table. The parameter values are included and/or repeated as applicable to the condition reported in each of the lines in the body of the response message.

Table 2-285. RTRV-ALM Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. The <i>aid</i> is only NULL if <i>aidtype</i> = COM. Starting in Release 4.0, the value of <i>aid</i> can be ALL or NULL for any value of the <i>aidtype</i>. Beginning in Release 6.0, for UPSR applications, when STS cross-connected, and the modifier = VT1 or VC12, the report is generated for the currently active side, regardless of which side is entered in the <i>aid</i> field. Beginning in Release 6.0, for 1+1 applications, when VT or VC cross-connected and the modifier = VT1 or VC12, the report is generated for the currently active side, regardless of which side is entered in the <i>aid</i> field.

Table 2-285. RTRV-ALM Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>aidtype</i>	Access Identifier Type. This parameter has one of the following values (the same values as the valid values of the message modifier included in the input command, except when the message modifier is ALL): ■ EQPT Equipment ■ rr Facility ■ COM Common
<i>ntfcncde</i>	Notification Code. This parameter will have one of the following values: ■ CR Critical alarm ■ MJ Major alarm ■ MN Minor alarm
<i>condtype</i>	Condition Type. This parameter has the applicable value from Appendix C.
<i>srveff</i>	Effect on service. This parameter has one of the following values: ■ SA Service-Affecting alarm condition, immediate action required ■ NSA Nonservice-Affecting alarm condition, action may be required
<i>ocrdat</i>	Occurrence Date. The date when the triggering event occurred. It has the format MM-DD (month-day).
<i>ocrtm</i>	Occurrence Time. The time of day when the triggering event occurred. It has the format HH-MM-SS (hours-minutes-seconds).
<i>conddescr</i>	Condition Description. This is the detailed text description of the condition and has the same value as the description (<i>conddescr</i>) in the autonomous REPT message used to report the condition upon its occurrence. The text description is enclosed within a pair of escaped quotes (\"). Refer to the "Alarm and Trouble Clearing Guide" for a complete list of Condition Descriptions (<i>conddescr</i>).
<i>tblist</i>	Trouble Isolated. This parameter has the same value as the <i>tblist</i> parameter in the autonomous REPT message used to report the subject condition when it occurs, that is, <i>islt</i> or null.

EXAMPLE INPUT/OUTPUT

```
RTRV-ALM-EQPT:LT-TID123::123::MN,,,,;
```

```
IP 123456  
<  
LT-TID123 00-06-26 06:42:11  
M 123456 COMPLD  
  "fn-b-1,EQPT:MN,T3TERM,NSA,06-07,06-10-14:\"CP removed\":,ISLTD"  
;
```

Beginning in Release 5.0, the following example shows the alarms for the STS1 constituents of a tributary cross-connected at the STS3c rate.

```
RTRV-ALM-STS3c:LT-TID123:m1-1-1:123456;
```

```
LT-TID123 01-10-26 16:42:11  
M 123456 COMPLD  
  "m1-1-1,STS1:MN,AIS,NSA,01-01,00-01-50:\"inc. STS1 AIS\""  
  "m1-1-2,STS1:MN,AIS,NSA,01-01,00-01-50:\"inc. STS1 AIS\""  
  "m1-1-3,STS1:MN,AIS,NSA,01-01,00-01-50:\"inc. STS1 AIS\""  
;
```

Beginning in Release 6.0, the following example shows the alarms for the VT1.5 in a UPSR configuration when STS cross-connected. The retrieve request is for side 2, but side 1 is the active side, so the report is on side 1.

```
RTRV-ALM-VT1:LT-TID123:m2-1-1-2-4:123456;
```

```
LT-TID123 01-10-26 16:42:11  
M 123456 COMPLD  
  "m1-1-1-2-4,VT1:MN,AIS,NSA,01-01,00-01-50,,,,\"inc. VT AIS\""  
;
```


Beginning in Release 6.0, the following example shows the alarms for the VT1.5 in a 1+1 configuration when VT cross-connected. The retrieve request is for side 2, but side 1 is the active side, so the report is on side 1.

```
RTRV-ALM-VT1:LT-TID123:m2-1-1-2-4:123456;
```

```
LT-TID123 01-10-26 16:42:11
M 123456 COMPLD
"m1-1-1-2-4,VT1:MN,AIS,NSA,01-01,00-01-50,,,,\"inc. VT AIS\""
;
```

The following example shows the OTS alarms at b1:

```
RTRV-ALM-OTS:LT-TID123:b1-OTS:123456;
```

```
LT-TID123 01-10-26 16:42:11
M 123456 COMPLD
"b1-OTS,OTS:CR,LOS,SA,10-26,16-42-12,,,,\"inc. OTS LOS\""
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may apply to this command.

If a **RTRV-ALM** command is received with a command code modifier other than **EQPT**, a supported "rr" value, **COM** or **ALL**, the following error response shall be returned to the OS:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

RTRV-ALM
TL1 Message Details

RTRV-ALM
Alcatel-Lucent 1665 DMX, R9.0

RELATED TL1 MESSAGES

REPT ALM

RTRV-ALM-ENV

RTRV-COND

NAME

RTRV-ALM-ENV: Retrieve Alarm Environment

The **RTRV-ALM-ENV** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-ALM-ENV:*tid:[aid]:ctag::[ntfcncde][,almtype];*

DESCRIPTION

RTRV-ALM-ENV commands can be initiated to retrieve active environmental alarm conditions pertaining to the addressed network element (NE) in a line-by-line format, similar to the autonomous messages used to report environmental alarm conditions when they occur.

Any alarm condition reported by an autonomous REPT-ALM-ENV message, which is active when a **RTRV-ALM-ENV** command is received, is included in this report.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-286. RTRV-ALM-ENV Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of the environmental point(s), for example, ENV-1 or ENV-ALL , for which the current alarm conditions are requested. The aid value may also be ALL or NULL (each of which is effectively equivalent to ENV-ALL). For more information on AIDs, refer to Appendix A .

Table 2-286. RTRV-ALM-ENV Input Parameters (cont 2 of 2)

Parameter Name	Description
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
ntfncde	Notification Code. This is the alarm level for which the current environmental alarms are requested, and it may have one of the following values: ■ CR Critical alarm ■ MJ Major alarm ■ MN Minor alarm The default is to retrieve <i>all ntfncde</i> values. Environmental status conditions are not included in a RTRV-ALM-ENV response. Status conditions are included in the RTRV-COND response.
almtype	Alarm Type. This is the TL1 alarm type, also referred to as the TL1 condition type, to be associated with the addressed environmental point. The alarm type values specified in Telcordia TR-833, Issue 5, Appendix F, are recommended, but the NE accepts any alarm type value consisting of 1 - 10 alphanumeric characters and/or dashes. The almtype default is MISC. The almtype for environmental input point 15 is always EXT.

OUTPUT FORMAT

If there are no environmental alarms to report, the following response is returned:

```
sid date time
M ctag COMPLETED
;
```

If there are environmental alarms to report, the following response is returned:

```

sid date time
M  ctag COMPLD
  "aid:ntfcncde,almttype,ocrdat,ocrtm,\"almmsg\""
  . . . . .
  . . . . .
  . . . . .
  "aid:ntfcncde,almttype,ocrdat,ocrtm,\"almmsg\""
;

```

Applicable output lines are ordered as follows:

1. By alarm severity level, greatest to least.
2. By date and time, with the most recent listed first.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also. In addition, the following parameters apply.

Table 2-287. RTRV-ALM-ENV Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of the environmental point(s) being reported. Refer to the AID description/examples in the Input Format section of this command.
<i>ntfcncde</i>	Notification Code. This is the alarm level for which the current environmental alarms are requested, and it may have one of the following values: ■ CR Critical alarm ■ MJ Major alarm ■ MN Minor alarm
<i>almttype</i>	Alarm type
<i>ocrdat</i>	Occurrence Date. This indicates the date of the condition being reported.

Table 2-287. RTRV-ALM-ENV Output Parameters (cont 2 of 2)

Parameter Name	Description
	It has the format MM-DD (month-day).
<i>ocrtm</i>	Occurrence Time. This indicates the time of the condition being reported and has the format HH-MM-SS (hours-minutes-seconds).
<i>almmsg</i>	Alarm Message. This is the text description of the reported condition. (The default is ENVIRONMENTn, where "n" is the miscellaneous discrete point number.). The <i>almmsg</i> for environmental input point 15 is always "fan shelf failed".

EXAMPLE INPUT/OUTPUT

```
RTRV-ALM-ENV:LT-TID123:all:123456::MN;

IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
"env-1:MN,MISC,10-26,16-30-00,\"opendoor\""
"env-3:MN,MISC,10-26,16-20-00,\"environment3\""
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the NE receives a **RTRV-ALM** command with an invalid command modifier, the following error response is returned:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

If the NE receives a **RTRV-ALM-ENV** command with an invalid *aid* value, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid ACcess Identifier */
;
```

If the NE receives a **RTRV-ALM-ENV** command with an invalid *ntfcncde* value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid NTFCNCDE */
;
```

If the NE receives a **RTRV-ALM-ENV** command with an invalid *almttype* value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid ALMTYPE */
;
```

RELATED TL1 MESSAGES

REPT ALM ENV

RTRV-ALM

SET-ATTR-ENV

NAME

RTRV-ALM-NTWK: Retrieve Alarm Network

The **RTRV-ALM-NTWK** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-ALM-NTWK:*tid::ctag*;

DESCRIPTION

If the Remote Network Element (NE) Status feature is enabled (via the related **ENT-SYS** command), the **RTRV-ALM-NTWK** command reports the highest alarm/status level for each NE in the same alarm group (as the NE to which the command is addressed) with an active alarm, abnormal status, or activity status condition.

It is possible that a remote NE with an active alarm or status condition might not be included in the response to this command. For example, if the remote NE cannot communicate with any Alarm Gateway Network Element (AGNE) in the same alarm group, or the NE to which this command is addressed can't communicate with any AGNE in the same alarm group. If an NE with the Remote NE Status feature enabled cannot communicate with an AGNE, the NE declares an "AGNE Communications failure" alarm.

Because this command cannot always distinguish between missing remote NEs and remote NEs with no active alarm or status conditions, it is recommended that this command be used in conjunction with **RTRV-MAP-NETWORK**, **RTRV-FECOM** and **RTRV-ALM**.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-288. RTRV-ALM-NTWK Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If there are no local or remote alarm or abnormal status conditions to report, the following response is returned:

```
sid date time
M ctag COMPLD
;
```

If there are alarm or status conditions to report, the following response is returned:

```
sid date time
M ctag COMPLD
":ntfcncde,ocrdat,ocrtm,tid"
.      .      .      .
.      .      .      .
.      .      .      .
":ntfcncde,ocrdat,ocrtm,tid"
;
```

Applicable output lines are ordered as follows:

1. By highest alarm/status severity level CR (Critical), followed by MJ (Major), followed by MN (Minor), followed by NA (Not Alarm) status.

2. For conditions with the same alarm/status severity, they are in order by the value of occurrence date (*ocrdat*), and occurrence time (*ocrtm*), with the most recent listed first.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The parameters listed there apply to this command also. In addition, the following parameters apply.

Table 2-289. RTRV-ALM-NTWK Output Parameters

Parameter Name	Description
<i>ntfcncde</i>	Notification Code. This is the highest active alarm/status level for the NE identified by the <i>tid</i> parameter on the same line of the output, and it may have one of the following values: ■ CR Critical alarm ■ MJ Major alarm ■ MN Minor alarm ■ NA Status condition (not alarm)
<i>ocrdat</i>	Occurrence Date. This indicates the date of the condition being reported. It has the format MM-DD (month-day).
<i>ocrtm</i>	Occurrence Time. This indicates the time of the condition being reported and has the format HH-MM-SS (hours-minutes-seconds).
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

EXAMPLE INPUT/OUTPUT

```
RTRV-ALM-NTWK:LT-TID123:all::123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-06-26 06:42:11
```

```
M 123456 COMPLD
```

```
" :CR,06-26,06-40-14,REMOTETID1"
```

```
" :CR,06-26,06-26-14,REMOTETID3"
```

```
" :MJ,06-26,03-26-14,REMOTETID9"
```

```
" :MJ,06-26,02-26-14,REMOTETID2"
```

```
" :MN,06-26,06-36-13,REMOTETID4"
```

```
" :MN,06-25,06-37-10,LT-DMX"
```

```
" :MN,06-25,06-29-14,REMOTETID8"
```

```
" :NA,06-25,06-29-14,REMOTETID7"
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

RELATED TL1 MESSAGES

ENT-SYS

RTRV-ALM

RTRV-ALM-ENV

RTRV-COND

RTRV-FECOM

RTRV-MAP-NETWORK

RTRV-SYS

NAME

RTRV-AO: Retrieve Autonomous Output

The **RTRV-AO** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-AO:*tid*[:*aid*]:*ctag*[:::*spec_block*];

DESCRIPTION

RTRV-AO command messages can be initiated to request the network element (NE) to send copies of autonomous TL1 messages.

The content of the response to the **RTRV-AO** command depends on the OS-type assigned to the access channel. The output is limited to the autonomous TL1 messages that are assigned to the same OS-type.

The NE saves autonomous TL1 messages in a separate file for each OS-type, thus the response to a **RTRV-AO** command is retrieved from the file for the *same OS-type only* that the **RTRV-AO** command came in on.

The copies of autonomous TL1 messages available for retrieval include those actually reported to the user as well as those that may not have reached the user due to communications failures.

The NE saves a copy of each autonomous TL1 message to which an *atag* value is assigned per OS-type.

Whenever the *atag* sequence is reset for an OS-type, for example, due to system initialization or processor reset, the **RTRV-AO** log file for that OS-type is cleared.

The NE saves copies of at least the 50 most recent autonomous TL1 messages for any OS-type capable of receiving autonomous messages.

In the particular case of **REPT PM** messages, only copies of the *headers* of the messages are saved, not all the PM data.

Beginning in Release 9.0, **RTRV-AO** can be executed on a subshelf in a multi-shelf DCS system utilizing a single TID, by a user logged into the subshelf.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-290. RTRV-AO Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. Because the RTRV-AO log file is not filtered by <i>aid</i> , the <i>aid</i> value must be ALL or NULL (default value = ALL). Beginning in Release 9.0, in a multi-shelf DCS system, ALL and NULL both, when entered on a main shelf, apply to the entire system. ALL and NULL both, when entered on a subshelf, apply to that subshelf only.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Block. The following are the <i>spec_block</i> parameters.

Table 2-291. RTRV-AO Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>atagseq</i>	Automatic Tag Sequence. This is the 3-digit <i>atag</i> value of the autonomous TL1 messages requested. For example, atagseq=010 specifies single <i>atag</i> value "010". Two <i>atag</i> values may be specified by using an "&" (ampersand), for example, atagseq=010&020 specifies <i>atag</i> values "010" and "020". The NE allows a range of <i>atag</i> values to be specified even if a single <i>atag</i> value or two <i>atag</i> values separated by a single ampersand (&) would have sufficed. For example, atagseq=001&&002 or atagseq=001&002 are valid. The NE response to atagseq=001&&001 is the same as for atagseq=001 (or atagseq=001&001, that is, to retrieve just <i>one</i> copy of the autonomous TL1 message with <i>atag</i> "001".

Table 2-291. RTRV-AO Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
	A wraparound range of atag values may also be specified by using "&&" (double ampersands), for example, atagseq=998&&2 specifies atag values "998, 999, 000, 001, and 002". The NE's support of wraparound ranges indicates that the order of input of atag values in ranges is significant. Combinations of single ampersands (&) and double ampersands (&&) are not allowed in the same atagseq parameter specification. If multiple or a range of atag values is specified by atagseq, but <i>some</i> of the atag values are not available in the NE's RTRV-AO log file, the NE responds with the atag values that <i>are</i> available within the specified atagseq. If no atagseq is specified (null), the response is not limited based on atag value. When Telcordia's TEMS OS recognizes a <i>gap</i> in the sequence of atag values in TL1 autonomous messages received from a NE, TEMS sends a RTRV-AO command requesting the missing atag values. As of 7/93, TEMS' use of RTRV-AO as described above is a <i>planned</i> R1.8 feature, but not yet committed.
msgtype	Message Type. This is the type of autonomous messages requested. This parameter may be null or have one of the following values: ■ ALM — Report Alarm (including Report Alarm Environment) ■ COND — Report Condition ■ DBCHG — Report Database Change ■ EVENT — Report Event ■ PM — Report Performance Monitoring ■ CONNCHG — Control Plane Connection Change ■ CONNEVT — Control Plane Connection Events For example, "msgtype=DBCHG" requests all REPT DBCHG autonomous messages. If no msgtype is specified (null), the response is not limited by the type of autonomous messages.

OUTPUT FORMAT

If there are no autonomous messages to report, the following response is returned:

```
sid date time
M ctag COMPLD
;
```

If the input **atagseq atag** or **msgtype** values do not match any **atag** values or message types, respectively, in the NE's **RTRV-AO** log file, or if the **msgtype** value does not match the TL1 autonomous message types provisioned for the OS-types of the current login session, the NE provides a normal completion response.

If there are autonomous messages to report, those autonomous messages will be reported (without the termination indicator ";"). the following is a simplified high-level report format:

```
sid date time
M ctag COMPLD
/*
complete autonomous messages except without the termination
indicator (";")
....
*/
;
```

If there is more than one autonomous message to report, the autonomous messages are output in ascending (chronological) order by their **atag** values. The *order* of output is independent of the *order* of input of the **atagseq atag** values.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

```
RTRV-AO:LT-TID123::123456:::ATAGSEQ=010&011;  
IP 123456  
<  
  LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
  /* LT-TID123 00-08-18 10:30:02  
  * 010 REPT ALM EQPT  
  "main-1:MN, SYNCCLK, NSA, 10-25, 10-30-00:\\"TG3 failure\\":, ISLTD"  
  
  LT-TID123 00-08-18 10:30:03  
A 011 REPT SW  
  "main-1,main-2" */
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to the **RTRV-AO** command.

If the NE receives a **RTRV-AO** command with a *non-null* command code modifier [including any extra hyphens (-)], the following error response is returned:

```
sid date time  
M ctag DENY  
  ICNV  
  /* Input, Command Not Valid, invalid modifier */  
;
```

If the NE receives a **RTRV-AO** command with an invalid *aid* value (that is, anything other than a *l* or *null*), the following error response is returned:

```
sid date time  
M ctag DENY  
  IIAC  
  /* Input, Invalid Access Identifier */  
;
```

If the NE receives a **RTRV-AO** command with the same parameter specified more than once, the following error response is returned:

```
sid date time
M ctag DENY
IISP
/* Input, Invalid Syntax or Punctuation, parameter(s)
multiply defined */
;
```

If the NE receives an **RTRV-AO** command with an invalid **atagseq** value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid ATAGSEQ */
;
```

Invalid **atagseq** values include:

1. atag values greater than three integers,
2. any entries other than integers and ampersands (&),
3. ampersand(s) not preceded and followed by atag values.

If the NE receives an **RTRV-AO** command with an invalid **msgtype** value (that is, an autonomous TL1 message type that the NE does not support), the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid MSGTYPE */
;
```

An input ***msgtype*** that doesn't match the provisioned (or default) assignment of autonomous TL1 messages to OS-types is *not* considered to be an error condition.

RELATED TL1 MESSAGES

REPT ALM

REPT ALM ENV

REPT COND

REPT CONNCHG

REPT CONNEVT

REPT EVT

REPT DBCHG

REPT SW

ENT-CID-SECU

RTRV-CID-SECU

NAME

RTRV-ASAP-ASGNMT: Retrieve ASAP Assignment

The **RTRV-ASAP-ASGNMT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance, and Reports Only access.

INPUT FORMAT

RTRV-ASAP-ASGNMT: *tid*: [*aid*]: *ctag*: :*pftype*, *pfname*;

RTRV-ASAP-ASGNMT: *tid*: *aid*: *ctag*: :*pftype*;

DESCRIPTION

The **RTRV-ASAP-ASGNMT** command can be used to retrieve a list of *aids* that identify all assignments of a customer created ASAP of a specific *pftype* and *pfname* to an entity. It may also be used to retrieve the profile type, and profile name assigned to an entity. Specifically:

- If the *aid* is **ALL** or **NULL**, both *pftype* and *pfname* are required. The NE will display all *aids* the specific *pftype* and *pfname* are assigned to. *pfname* may not be **DEFAULT**.
- Both *aid* (other than **ALL**, an *aid* containing **-all**, or **NULL**) and *pftype* are required. The NE will display the *pfname* assigned to that entity.

Execution of this command is not recorded in the Security log.

The **RTRV-ASAP-ASGNMT** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 20. RTRV - ASAP - ASGNMT Input Parameters (cont 1 of 4)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
aid	Access Identifier. This is the address of the entity for which the RTRV - ASAP - ASGNMT command is intended. For the valid aid, refer to the AID table in Appendix A. ■ ALL. If ALL, or NULL are entered, both pftype and pfname are required. The NE will display all aids that the specified pftype and pfname are assigned to. ■ Partial ALLs (aids containing “-all”) are not allowed in the aid for this command. ■ ALL. Beginning in Release 9.0, in a multi-shelf DCS system, if ALL is entered, both pftype and pfname are required. The NE will display all aids on the <u>main shelf</u> that the specified pftype and pfname are assigned to. To display all aids on a <u>subshelf</u> that the specified pftype and pfname are assigned to, use {shelf}-ALL where {shelf} indicates the subshelf number. ■ NULL. Beginning in Release 9.0, in a multi-shelf DCS system, if NULL is entered, both pftype and pfname are required. The NE will display all aids in the <u>system</u> that the specified pftype and pfname are assigned to. ■ Line Protection group aid is used when retrieving a 1+1_BIDIR ASAP. ■ Line Protection group aid is used when retrieving a 1+1_OPTM ASAP. ■ Line Protection group aid is used when retrieving a BLSR ASAP. ■ DATA Port aid is used when retrieving a DATA ASAP. ■ DS1 Port aid is used when retrieving a DS1 ASAP. ■ DS3 Port aid is used when retrieving a DS3 ASAP. ■ E1 Port aid is used when retrieving an E1 ASAP. ■ EC1 Port aid is used when retrieving an EC1 ASAP. ■ Slot aid is used when retrieving an EQPT ASAP. ■ FE Port aid is used when retrieving an FELAN ASAP. ■ GE Port aid is used when retrieving an GELAN ASAP.

Table 20. RTRV - ASAP - ASGNMT Input Parameters (cont 2 of 4)

Parameter Name	Description
	■ LAG aid is used when retrieving an LAG ASAP. ■ NVM aid is used when retrieving an NVM ASAP. ■ Line aid is used when retrieving an OCN ASAP. ■ OCH aid is used when assigning an OCH ASAP. ■ ODU2 Tributary aid is used when assigning an ODUk ASAP. ■ OTU2 Port aid is used when assigning an OTUk ASAP. ■ OTS Port aid is used when assigning an OTS ASAP. ■ Socket aid is used when retrieving a SOCKET ASAP. ■ STS-n Ring Channel aid is used when retrieving an STSN ASAP. In 1+1 or switched UPSR applications, the Ring Channel aid of either side may be used; otherwise, the Logical Ring Channel aid is used. Retrieval of an ASAP using a specific constituent of an STS-nC is not supported. If STS cross-connected, the source aid of the cross-connect is used. If VT1.5 cross-connected, the STS1 aid containing the VT1.5 cross-connect is used. ■ Subshelf aid is used when assigning a SUBSHELF ASAP. ■ Shelf aid is used when retrieving a SYSTEM ASAP. ■ External Timing Reference aid is used when retrieving a SYNCRN ASAP. ■ VC12 Ring Channel aid is used when retrieving a VC ASAP. ■ VCG aid is used when retrieving a VCG ASAP. ■ VCG STS ring channel aid within an Ethernet pack is used when retrieving a VCGSTS ASAP. ■ VCG VT ring channel aid within an Ethernet pack is used when retrieving a VCGVT ASAP. ■ VT Ring Channel aid is used when retrieving a VT1 ASAP. In 1+1 or switched UPSR applications, the Ring Channel aid of either side may be used; otherwise, the Logical Ring Channel aid is used.
ctag	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

Table 20. RTRV - ASAP - ASGNMT Input Parameters (cont 3 of 4)

Parameter Name	Description
<i>pftype</i>	Profile Type. This parameter indicates the type of ASAP profile and may have one of the following values: ■ 1+1_BIDIR Bidirectional 1+1 ■ 1+1_OPTM Optimized 1+1 ■ BLSR Bidirectional Line Switched Ring ■ DATA DATA ■ DS1 DS1 ■ DS3 DS3 ■ E1 E1 ■ EC1 EC1 ■ EQPT Equipment ■ FELAN FE LAN ■ GELAN GE LAN ■ LAG Link Aggregation ■ NVM NVM ■ OCN OC-n Lines ■ OCH OCH Channels ■ ODUK ODUk Tributary ■ OTS OTS Port ■ OTUk OTUk Port ■ SOCKET Sockets ■ STSN STSn paths ■ SUBSHELF Subshelf ■ SYSTEM System ■ SYNCN External Timing Reference ■ VC VC-12 paths ■ VCG VCG ■ VCGSTS VCG-STs Trib

Table 20. RTRV-ASAP-ASGNMT Input Parameters (cont 4 of 4)

Parameter Name	Description
	■ VCGVT VCG-VT1.5 Trib ■ VT1 VT1.5
<i>pfname</i>	Profile Name. This parameter indicates the name of the ASAP profile. This is an alphanumeric character string (including the hyphen) with a maximum of 24 characters. The first character must be a letter. The characters are case insensitive. The Default <i>pfname</i> is NOT allowed.

OUTPUT FORMAT

If the network element fully complies with the **RTRV-ASAP-ASGNMT** command where ***aid*** is **ALL** or **NULL**, then the following completion response is returned:

```

sid date time
M ctag COMPLD
  "aid:pftype,pfname"
  "aid:pftype,pfname"
  ...
  "aid:pftype,pfname"
;
```

If the network element fully complies with the **RTRV-ASAP-ASGNMT** command where both ***aid*** and ***pftype*** are entered, then the following completion response is returned:

```

sid date time
M ctag COMPLD
  "aid:pftype,pfname"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to the **RTRV-ASAP-ASGNMT** command.

Table 2-292. RTRV-ASAP-ASGNMT Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of the entity for which the assignment profiles are being reported. Refer to Appendix A: AID table for more information.
<i>pftype</i>	Profile Type. This indicates the type of ASAP profile and may have one of the following values: ■ 1+1_BIDIR Bidirectional 1+1 ■ 1+1_OPTM Optimized 1+1 ■ BLSR Bidirectional Line Switched Ring ■ DATA DATA ■ DS1 DS1 ■ DS3 DS3 ■ E1 E1 ■ EC1 EC1 ■ EQPT Equipment ■ FELAN FE LAN ■ GELAN GE LAN ■ LAG Link Aggregation ■ NVM NVM ■ OCN OC-n Lines ■ OCH OCH ■ ODUk ODUk Tributary ■ OTS OTS Port ■ OTUk OTUk Port ■ SOCKET Sockets

Table 2-292. RTRV-ASAP-ASGNMT Output Parameters (cont 2 of 2)

Parameter Name	Description
	■ STSN STSn paths ■ SUBSHELF Subshelf ■ SYSTEM System ■ SYNCN External Timing Reference ■ VC VC-12 paths ■ VCG VCG ■ VCGSTS VCG- STS Trib ■ VCGVT VCG- VT1.5 Trib ■ VT1 VT1.5
<i>pfname</i>	ASAP profile name. This indicates the name of the ASAP profile.

EXAMPLE INPUT/OUTPUT

The following example shows the response to a query where the *pftype* is specified to be OCN and the *aid* is Main-1-1:

```
RTRV-ASAP-ASGNMT:LT-123:main-1-1:123456::OCN;
LT-123 98-01-01 08:00:00
M 123456 COMPLD
"main-1-1:OCN,BOSTON"
;
```

The following example shows the response to a query where the ***pftype*** is specified to be OCN and the ***pfname*** is BOSTON:

```
RTRV-ASAP-ASGNMT:LT-123::123456::OCN,BOSTON;  
  
LT-123 98-01-01 08:00:00  
M 123456 COMPLD  
"main-1-1:OCN,BOSTON"  
"fn-c-1-1:OCN,BOSTON"  
"fn-c-2-1:OCN,BOSTON"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there also pertain to the **RTRV-ASAP-ASGNMT** command.

The following condition will cause an IDNV error response:

- The ***pfname*** parameter specified is not valid.

:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid pfname */  
;
```

The following condition will cause an IDNV error response:

- An invalid ***pftype*** parameter is specified.

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid pftype */  
;
```

The NE responds with an SNVS error response if the *aid* specifies an entity that does not exist, or is not considered created.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, address points to a non-existent entity
*/
```

The NE responds with an IIAC error response if the NE receives a **RTRV-ASAP-ASGNMT** command with:

- an *aid* value that is invalid for the *pftype* provided
- an *aid* of **ALL** or **NULL**, and both *pftype* and *pfname* are not provided
- an *aid* containing a partial **all** ("-all")
- an *aid* value that is a constituent of an STS-nC cross-connect

The following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access identifier, AID is inconsistent with pftype */
;
```

RELATED TL1 MESSAGES

DLT-ASAP-PROF

ED-ASAP-PROF

ENT-ASAP-PROF

ENT-ASAP-ASGNMT

INIT-ASAP-PROF

RTRV-ASAP-ASGNMT
TL1 Message Details

RTRV-ASAP-ASGNMT
Alcatel-Lucent 1665 DMX, R9.0

RTRV-ASAP-PROF

NAME

RTRV-ASAP-PROF: Retrieve Alarm Severity Assignment Profiles

The **RTRV-ASAP-PROF** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance, and Reports Only access.

INPUT FORMAT

RTRV-ASAP-PROF: *tid::ctag::pftype[, pfname];*

DESCRIPTION

The **RTRV-ASAP-PROF** command retrieves information about one or more alarm severity assignment profile(s). It can be used to display what profiles have been created and, if desired, what the parameter values are.

The ***pftype*** (**OCN**, **STSN**, ...) must be specified. Whether or not the ***pfname*** is specified determines the type of information that is retrieved. If ***pfname*** is not specified, then the **RTRV-ASAP-PROF** command retrieves a list of all profile names of the specified ***pftype***. If ***pfname*** is specified, then it retrieves the parameter values of the specified ***pftype*** and ***pfname***.

Execution of this command is not recorded in the Security log.

The **RTRV-ASAP-PROF** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 21. RTRV-ASAP-PROF Input Parameters (cont 1 of 3)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter. Target Identifier.

Table 21. RTRV-ASAP-PROF Input Parameters (cont 2 of 3)

Parameter Name	Description
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
pftype	Profile Type. This parameter indicates the type of ASAP profile and may have one of the following values: ■ 1+1_BIDIR Bidirectional 1+1 ■ 1+1_OPTM Optimized 1+1 ■ BLSR Bidirectional Line Switched Ring ■ DATA DATA ■ DS1 DS1 ■ DS3 DS3 ■ E1 E1 ■ EC1 EC1 ■ EQPT Equipment ■ FELAN FE LAN ■ GELAN GE LAN ■ LAG Link Aggregation ■ NVM NVM ■ OCN OC-n Lines ■ OCH OCH Channels ■ ODUk ODUk Tributary ■ OTS OTS Port ■ OTUk OTUk Port ■ SOCKET Sockets ■ STSN STSn paths

Table 21. RTRV-ASAP-PROF Input Parameters (cont 3 of 3)

Parameter Name	Description
	■ SUBSHELF Subshelf ■ SYSTEM System ■ SYNCN External Timing Reference ■ VC VC-12 paths ■ VCG VCG ■ VCGSTS VCG- STS Trib ■ VCGVT VCG- VT1.5 Trib ■ VT1 VT1.5
<i>pfname</i>	Profile Name. This parameter indicates the name of the ASAP profile. This is an alphanumeric character string (including the hyphen) with a maximum of 24 characters. The first character must be a letter. The characters are case insensitive. If <i>pfname</i> is omitted, then all profile names of type <i>pftype</i> will be returned.

OUTPUT FORMAT

If the network element fully complies with the **RTRV-ASAP-PROF** command and ***pfname*** is omitted, then the following completion response is returned:

```

sid date time
M ctag COMPLD
  "pftype,DEFAULT"
  "pftype,pfname"
  ...
  "pftype,pfname"
;
```

Even if **ENT-ASAP-PROF** has never been used to create a profile for this ***pftype***, **RTRV-ASAP-PROF** will still return one profile: "Default."

If the network element fully complies with the **RTRV-ASAP-PROF** command and **pfname** is not omitted, then the output is as follows:

```

sid date time
M ctag COMPLD
  "pftype,pfname:spec_block"
;

```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to the **RTRV-ASAP-PROF** command.

Table 2-293. RTRV-ASAP-PROF Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>pftype</i>	Profile Type. This indicates the type of ASAP profile and may have one of the following values: ■ 1+1_BIDIR Bidirectional 1+1 ■ 1+1_OPTM Optimized 1+1 ■ BLSR Bidirectional Line Switched Ring ■ DATA DATA ■ DS1 DS1 ■ DS3 DS3 ■ E1 E1 ■ EC1 EC1 ■ EQPT Equipment ■ FELAN FE LAN ■ GELAN GE LAN ■ LAG Link Aggregation ■ NVM NVM

Table 2-293. RTRV-ASAP-PROF Output Parameters (cont 2 of 2)

Parameter Name	Description
	■ OCN OC-n Lines ■ OCH OCH Channels ■ ODUk ODUk Tributary ■ OTS OTS Port ■ OTUk OTUk Port ■ SOCKET Sockets ■ STSN STSn paths ■ SUBSHELF Subshelf ■ SYSTEM System ■ SYNCN External Timing Reference ■ VC VC-12 paths ■ VCG VCG ■ VCGSTS VCG- STS Trib ■ VCGVT VCG- VT1.5 Trib ■ VT1 VT1.5
<i>pfname</i>	ASAP profile name.
<i>spec_block</i>	Specific Block. The <i>spec_block</i> parameters are described in the following table.

Table 22. RTRV-ASAP-PROF Output *spec_block* Parameters (cont 1 of 14)

Parameter Name	Description of SPEC Block parameters											
<i>spec_block</i>	Each of the following specification block parameters may have one of the following values: <table><tr><td>⓪CR</td><td>Critical</td></tr><tr><td>⓪MJ</td><td>Major</td></tr><tr><td>⓪MN</td><td>Minor</td></tr></table> The following values are also valid for specification block parameters which are not part of the NVM <i>pftype</i>: <table><tr><td>⓪NA</td><td>Not Alarmed</td></tr><tr><td>⓪NR</td><td>Not Reported</td></tr></table> For any specific value of <i>pftype</i>, each applicable specification block parameter will be reported.		⓪CR	Critical	⓪MJ	Major	⓪MN	Minor	⓪NA	Not Alarmed	⓪NR	Not Reported
⓪CR	Critical											
⓪MJ	Major											
⓪MN	Minor											
⓪NA	Not Alarmed											
⓪NR	Not Reported											
<i>pftype</i>	Parameter	Description										
<i>1+1_BIDIR</i>	<i>bidir_apsb</i>	Protection switching byte failure										
	<i>bidir_apscm</i>	Protection switching channel match failure										
	<i>bidir_apsmm</i>	Automatic protection switch mode mismatch										
	<i>bidir_apsfepl</i>	Far-end protection line failure										
<i>1+1_OPTM</i>	<i>optm_apsb</i>	APS Protection Switching Byte Failure										
	<i>optm_apscm</i>	Protection switching channel match failure										
	<i>optm_apsmm</i>	Automatic protection switch mode mismatch										
	<i>optm_apspsm</i>	Automatic protection switch primary section mismatch										
	<i>optm_apsuc</i>	Automatic protection switch unused codes										
	<i>optm_apsut</i>	Automatic protection switch unresolved transient codes										
<i>BLSR</i>	<i>blsr_cperr</i>	Circuit Provisioning Error										
	<i>blsr_dkbytes</i>	Default K-bytes										
	<i>blsr_dprn</i>	Duplicate Ring Node										
	<i>blsr_imaps</i>	Improper APS Codes										
	<i>blsr_inaps</i>	Inconsistent APS Codes										

Table 22. RTRV-ASAP-PROF Output *spec_block* Parameters (cont 2 of 14)

Parameter Name	Description of SPEC Block parameters	
	<i>blsr_inrpm</i>	Inconsistent Ring Prot Mode
	<i>blsr_nidm</i>	Node ID Mismatch
	<i>blsr_nut_inxgrn</i>	NUT Inconsistent XC Granularity
	<i>blsr_pif</i>	Path Integrity Failure
	<i>blsr_rcvs</i>	Ring Ckt Validation Suspended
	<i>blsr_rcf</i>	Ring Comm Failure
	<i>blsr_rinc</i>	Ring Incomplete
	<i>blsr_rpss</i>	Ring Prot Switching Suspended
	<i>blsr_sdu</i>	Squelch Data Unavailable
	<i>blsr_smi</i>	Squelch Map Inconsistent
DATA	<i>sa_dataalos</i>	inc. LOS
	<i>sa_dataalsync</i>	inc. Loss of Synch
	<i>nsa_dataalos</i>	inc. LOS
	<i>nsa_dataalsync</i>	inc. Loss of Synch
	<i>sa_als</i>	AUTO link shutdown

Table 22. RTRV-ASAP-PROF Output *spec_block* Parameters (cont 3 of 14)

Parameter Name	Description of SPEC Block parameters	
<i>DS1</i>	<i>sa_ds1los</i>	inc. (from DSX) DS1 LOS
	<i>nsa_ds1los</i>	inc. (from DSX) DS1 LOS
	<i>sa_ds1lof</i>	inc. (from DSX) DS1 LOF
	<i>nsa_ds1lof</i>	inc. (from DSX) DS1 LOF
	<i>sa_ds1ais</i>	inc. (from DSX) DS1 AIS
	<i>nsa_ds1ais</i>	inc. (from DSX) DS1 AIS
	<i>sa_ds1ber</i>	inc. (from DSX) DS1 sig. failed
	<i>nsa_ds1ber</i>	inc. (from DSX) DS1 sig. failed
	<i>ds1rai</i>	inc. (from DSX) DS1 RAI
	<i>nsa_ds1protn</i>	PROTN DS1 Port Failure
	The above alarm is only part of this ASAP in Release 7.0.	
	<i>egress_ds1lof</i>	inc. (from fiber) DS1 LOF
	<i>egress_ds1ais</i>	inc. (from fiber) DS1 AIS
	<i>egress_ds1rai</i>	inc. (from fiber) DS1 RAI

Table 22. RTRV-ASAP-PROF Output *spec_block* Parameters (cont 4 of 14)

Parameter Name	Description of SPEC Block parameters	
<i>DS3</i>	<i>sa_ds3los</i>	inc. (from DSX) DS3 LOS
	<i>nsa_ds3los</i>	inc. (from DSX) DS3 LOS
	<i>sa_ds3lof</i>	inc. (from DSX) DS3 LOF
	<i>nsa_ds3lof</i>	inc. (from DSX) DS3 LOF
	<i>sa_ds3ais</i>	inc. (from DSX) DS3 AIS
	<i>nsa_ds3ais</i>	inc. (from DSX) DS3 AIS
	<i>sa_ds3ber</i>	inc. (from DSX) DS3 sig. failed
	<i>nsa_ds3ber</i>	inc. (from DSX) DS3 sig. failed
	<i>sa_ds3idle</i>	inc. (from DSX) DS3 IDLE
	<i>nsa_ds3idle</i>	inc. (from DSX) DS3 IDLE
	<i>sa_ds3cmm</i>	inc. DS3 Cbit Mismatch
	<i>nsa_ds3cmm</i>	inc. DS3 Cbit Mismatch
	<i>ds3rai</i>	inc. (from DSX) DS3 RAI
	<i>egress_ds3lof</i>	inc. (from fiber) DS3 LOF
	<i>egress_ds3ais</i>	inc. (from fiber) DS3 AIS
	<i>egress_ds3rai</i>	inc. (from fiber) DS3 RAI
	<i>nsa_ds3protn</i>	PROTN DS3 Port Failure

Table 22. RTRV-ASAP-PROF Output *spec_block* Parameters (cont 5 of 14)

Parameter Name	Description of SPEC Block parameters	
<i>E1</i>	<i>sa_e1los</i>	inc. (from DSX) E1 LOS
	<i>nsa_e1los</i>	inc. (from DSX) E1 LOS
	<i>sa_e1lof</i>	inc. (from DSX) E1 LOF
	<i>nsa_e1lof</i>	inc. (from DSX) E1 LOF
	<i>sa_e1ais</i>	inc. (from DSX) E1 AIS
	<i>nsa_e1ais</i>	inc. (from DSX) E1 AIS
	<i>sa_e1ber</i>	inc. (from DSX) E1 sig. failed
	<i>nsa_e1ber</i>	inc. (from DSX) E1 sig. failed
	<i>e1crcmm</i>	incoming CRC-4 MFA mismatch
	<i>nsa_e1protn</i>	PROTN E1 Port Failure
	The above alarm is only part of this ASAP in Release 7.0.	
<i>EC1</i>	<i>sa_ec1los</i>	inc. EC1 LOS
	<i>nsa_ec1los</i>	inc. EC1 LOS
	<i>sa_ec1lof</i>	inc. EC1 LOF
	<i>nsa_ec1lof</i>	inc. EC1 LOF
	<i>sa_ec1aisl</i>	inc. EC1 line AIS
	<i>nsa_ec1aisl</i>	inc. EC1 line AIS
	<i>nsa_ec1rfil</i>	inc. EC-1 RFI-L
	<i>sa_ec1sdl</i>	inc. EC1 sig. degrade (BER)
	<i>nsa_ec1sdl</i>	inc. EC1 sig. degrade (BER)
	<i>sa_ec1sfl</i>	inc. EC1 sig. failed (BER)
	<i>nsa_ec1sfl</i>	inc. EC1 sig. failed (BER)
	<i>sa_tims</i>	inc. EC1 section trace identifier mismatch
	<i>nsa_tims</i>	inc. EC1 section trace identifier mismatch
	<i>nsa_timsd</i>	inc. EC1 section trace identifier mismatch, diagnostic
	<i>nsa_ec1protn</i>	PROTN EC1 Port Failure

Table 22. RTRV-ASAP-PROF Output *spec_block* Parameters (cont 6 of 14)

Parameter Name	Description of SPEC Block parameters	
<i>EQPT</i>	<i>sa_cprm</i>	CP removed or CP failure
	<i>nsa_cprm</i>	CP removed or CP failure
	<i>sa_cpna-eq</i>	CP not allowed - eqpt
	Beginning in Release 7.0, the above alarm will not be part of this ASAP.	
	<i>nsa_cpna-eq</i>	CP not allowed - eqpt
	<i>sa_cpna-crs</i>	CP not allowed - crs
	Beginning in Release 7.0, the above alarm will not be part of this ASAP.	
	<i>nsa_cpna-crs</i>	CP not allowed - crs
	<i>sa_cpfail</i>	Entity ^a Failed
	<i>nsa_cpfail</i>	Entity ^a Failed
	<i>sa_illegcp</i>	Illegal CP type
	Beginning in Release 7.0, the above alarm will not be part of this ASAP.	
	<i>nsa_illegcp</i>	Illegal CP type
	<i>incompatcp</i>	Incompatible CP version
	<i>sa_unexpcp</i>	unexpected CP type
	<i>nsa_unexpcp</i>	unexpected CP type
	<i>versionmm</i>	version mismatch
	<i>nsa_protnflt</i>	Protection CP Input fault
	<i>sa_npadt</i>	NP audit failed
	<i>nsa_npadt</i>	NP audit failed
	<i>sa_segadtin</i>	Segment audit failed LAN in
	<i>sa_segadtout</i>	Segment audit failed LAN out
	<i>fdicontrib</i>	CP contributing to a pack failure

Table 22. RTRV-ASAP-PROF Output *spec_block* Parameters (cont 7 of 14)

Parameter Name	Description of SPEC Block parameters	
<i>FELAN</i>	<i>sa_felos</i>	inc. FE-LAN LOS
	<i>sa_feanm</i>	inc. FE-LAN ANM
	<i>sa_femncd</i>	Member not Collecting/Distributing
	<i>sa_fefefi</i>	inc. FE-LAN FEFI
	<i>sa_fesegadtin</i>	Segment audit failed LAN in
	<i>sa_fesegadtout</i>	Segment audit failed LAN out
	<i>sa_stpautolock</i>	STP autolock port disable
	<i>sa_als</i>	AUTO link shutdown
	<i>nsa_emsd</i>	Exceeded MTU size drop
	<i>sa_erp_wd</i>	ERP - PDU Watchdog Timeout
	<i>sa_erp_mo</i>	ERP - Multiple RPL Owners
<i>GELAN</i>	<i>sa_gelos</i>	inc. GE-LAN LOS
	<i>sa_geecv</i>	ECV - excessive code violation
	<i>sa_geanm</i>	inc. GE-LAN ANM
	<i>sa_gemncd</i>	Member not Collecting/Distributing
	<i>nsa_gelos</i>	inc. GE-LAN LOS
	<i>sa_gelsync</i>	inc. Loss of Synch
	<i>nsa_gelsync</i>	inc. Loss of Synch
	<i>nsa_geanm</i>	inc. GE-LAN ANM
	<i>sa_gesegadtin</i>	Segment audit failed LAN in
	<i>sa_gesegadtout</i>	Segment audit failed LAN out
	<i>sa_stpautolock</i>	STP autolock port disable
	<i>sa_als</i>	AUTO link shutdown
	<i>nsa_emsd</i>	Exceeded MTU size drop
	<i>sa_erp_wd</i>	ERP - PDU Watchdog Timeout

Table 22. RTRV-ASAP-PROF Output *spec_block* Parameters (cont 8 of 14)

Parameter Name	Description of SPEC Block parameters	
	<i>sa_erp_mo</i>	ERP - Multiple RPL Owners
LAG	<i>sa_lagpll</i>	inc. LAG Partial Link Loss
	<i>sa_lagtll</i>	inc. LAG Total Link Loss
	<i>sa_lagplcf</i>	inc. LAG PLCF
	<i>sa_stpautolock</i>	STP autolock port disable
NVM	<i>nvmfail</i>	NVM failed
	<i>nvmrmv</i>	NVM removed or NVM failed
OCN	<i>sa_los</i>	inc. OCN LOS
	<i>nsa_los</i>	inc. OCN LOS
	<i>sa_lof</i>	inc. OCN LOF
	<i>nsa_lof</i>	inc. OCN LOF
	<i>sa_aisl</i>	inc. OCN line AIS
	<i>nsa_aisl</i>	inc. OCN line AIS
	<i>nsa_rfil</i>	inc. OCN RFI-L
	<i>sa_sdl</i>	inc. OCN sig. degrade (BER)
	<i>nsa_sdl</i>	inc. OCN sig. degrade (BER)
	<i>sa_sfl</i>	inc. OCN sig. failed (BER)
	<i>nsa_sfl</i>	inc. OCN sig. failed (BER)
	<i>incdcc</i>	inconsistent DCC values
	<i>nbsyscpun</i>	neighbor SYSCTL CP unavailable
	<i>dccsectfail</i>	section DCC channel failed
	<i>sa_tims</i>	inc. OCN section trace identifier mismatch
	<i>nsa_tims</i>	inc. OCN section trace identifier mismatch
	<i>nsa_timsd</i>	inc. OCN section trace identifier mismatch, diagnostic
	<i>nsa_dccfl</i>	line DCC channel failed
	<i>sigpeer</i>	ENNI signaling communications failure with peer
	<i>line_ool_prot^b</i>	inc. line sync. ref. OOL

Table 22. RTRV-ASAP-PROF Output *spec_block* Parameters (cont 9 of 14)

Parameter Name	Description of SPEC Block parameters	
	<i>line_oof_unprot^b</i>	inc. line sync. ref. OOL
<i>OCH</i>	<i>sa_losp_mux</i>	inc. MUX OCH LOS-P
<i>ODUk</i>	<i>sa_deg</i>	inc. ODUk DEG
	<i>nsa_deg</i>	inc. ODUk DEG
	<i>sa_lck</i>	inc. ODUk LCK
	<i>nsa_lck</i>	inc. ODUk LCK
	<i>sa_oci</i>	inc. ODUk OCI
	<i>nsa_oci</i>	inc. ODUk OCI
	<i>sa_ssf</i>	inc. ODUk SSF
	<i>nsa_ssf</i>	inc. ODUk SSF
	<i>nsa_bdi</i>	inc. ODUk BDI
<i>OTS</i>	<i>sa_losp</i>	inc. OTS LOS-P
	<i>nsa_losp</i>	inc. OTS LOS-P
<i>OTUk</i>	<i>sa_losp</i>	inc. OTUk LOS-P
	<i>nsa_losp</i>	inc. OTUk LOS-P
	<i>sa_deg</i>	inc. OTUk DEG
	<i>nsa_deg</i>	inc. OTUk DEG
	<i>sa_lof</i>	inc. OTUk LOF
	<i>nsa_lof</i>	inc. OTUk LOF
	<i>sa_lom</i>	inc. OTUk LOM
	<i>nsa_lom</i>	inc. OTUk LOM
	<i>sa_ssf</i>	inc. OTUk SSF
	<i>nsa_ssf</i>	inc. OTUk SSF
	<i>nsa_bdi</i>	inc. OTUk BDI

Table 22. RTRV-ASAP-PROF Output *spec_block* Parameters (cont 10 of 14)

Parameter Name	Description of SPEC Block parameters	
<i>SOCKET</i>	<i>sa_sktfail</i>	unexpected or failed Pluggable Transmission Module
	<i>nsa_sktfail</i>	unexpected or failed Pluggable Transmission Module
	<i>sa_sktrmv</i>	Pluggable Transmission Module Removed
	<i>nsa_sktrmv</i>	Pluggable Transmission Module Removed
	<i>sa_sktmaxrate</i>	Pluggable Transmission Module insufficient maximum rate
	<i>nsa_sktmaxrate</i>	Pluggable Transmission Module insufficient maximum rate
<i>STSN</i>	<i>sa_lopp</i>	inc. STSN LOP
	<i>nsa_lopp</i>	inc. STSN LOP
	<i>sa_aisp</i>	inc. STSN AIS
	<i>nsa_aisp</i>	inc. STSN AIS
	<i>sa_uneqp</i>	inc. STSN unequipped
	<i>nsa_uneqp</i>	inc. STSN unequipped
	<i>sa_sdp</i>	inc. STSN sig. degrade (BER)
	<i>nsa_sdp</i>	inc. STSN sig. degrade (BER)
	<i>sa_sfp</i>	inc. STSN sig. failed (BER)
	<i>nsa_sfp</i>	inc. STSN sig. failed (BER)
	<i>nsa_rfip</i>	inc. STSN RFI-P
<i>SUBSHELF</i>	<i>nsa_comfail</i>	Subshelf Communication Failure
	<i>nsa_init_ip</i>	Subshelf initialization IP

Table 22. RTRV-ASAP-PROF Output *spec_block* Parameters (cont 11 of 14)

Parameter Name	Description of SPEC Block parameters	
<i>SYSTEM</i>	<i>agne</i>	AGNE communication failure (no AID)
	<i>nsapcovr</i>	NSAP count in L1 overflowed
	<i>nsapcthrshl</i>	NSAP count in L1 threshold crossed
	<i>pwrfail</i>	Power/Fuse Failure
	<i>sysgencrpt</i>	SYS generic corrupted
	Beginning in Release 7.0, the above alarm will not be part of this ASAP.	
	<i>invdb</i>	Invalid Database
	Beginning in Release 7.0, the above alarm will not be part of this ASAP.	
	<i>mtpdb</i>	Multiple Databases
	Beginning in Release 7.0, the above alarm will not be part of this ASAP.	
	<i>mtpgen</i>	Multiple Generics
	Beginning in Release 7.0, the above alarm will not be part of this ASAP.	
	<i>syncexhldvr</i>	excessive holdover

Table 22. RTRV-ASAP-PROF Output *spec_block* Parameters (cont 12 of 14)

Parameter Name	Description of SPEC Block parameters	
SYNCN	<i>sync_los_prot</i>	inc. SRC ^C sync. ref. LOS
	<i>sync_lof_prot</i>	inc. SRC ^C sync. ref. LOF
	<i>sync_oof_prot</i>	inc. SRC ^C sync. ref. OOL
	<i>sync_ais_prot</i>	inc. SRC ^C sync. ref. AIS
	<i>sync_ber_prot</i>	inc. SRC ^C sync. ref. BER
	<i>sync_eof_prot</i>	inc. SRC ^C sync. ref. EOF
	<i>sync_los_unprot</i>	inc. SRC ^C sync. ref. LOS
	<i>sync_lof_unprot</i>	inc. SRC ^C sync. ref. LOF
	<i>sync_oof_unprot</i>	inc. SRC ^C sync. ref. OOL
	<i>sync_ais_unprot</i>	inc. SRC ^C sync. ref. AIS
	<i>sync_ber_unprot</i>	inc. SRC ^C sync. ref. BER
	<i>sync_eof_unprot</i>	inc. SRC ^C sync. ref. EOF
	<i>sync_inhsw</i>	inhibit switch
	<i>sync_crcmm_prot</i>	inc. SRC ^C sync. ref. CRC-4 MFA mismatch
	<i>sync_crcmm_unprot</i>	inc. SRC ^C sync. ref. CRC-4 MFA mismatch
VC	<i>sa_tulop</i>	inc. VC TU-LOP
	<i>sa_tuais</i>	inc. VC TU-AIS
	<i>nsa_lprfi</i>	inc. VC LP-RFI
	<i>sa_vcuneq</i>	inc. VC unequipped

Table 22. RTRV-ASAP-PROF Output *spec_block* Parameters (cont 13 of 14)

Parameter Name	Description of SPEC Block parameters	
VCG	<i>sa_vcgsf</i>	inc. VCG failed
	<i>sa_lopc</i>	VCG Loss of Partial Capacity
	<i>sa_fopr</i>	VCG Failure of LCAS Protocol (Sink)
	<i>sa_fopt</i>	VCG Failure of LCAS Protocol (Source)
	<i>sa_rcf</i>	Remote client signal failed
	<i>sa_segadtin</i>	Segment audit failed VCG in
	<i>sa_segadtout</i>	Segment audit failed VCG out
	<i>nsa_vcgsf</i>	inc. VCG failed
	<i>nsa_lopc</i>	VCG Loss of Partial Capacity
	<i>nsa_fopr</i>	VCG Failure of LCAS Protocol (Sink)
	<i>nsa_fopt</i>	VCG Failure of LCAS Protocol (Source)
	<i>nsa_segadtin</i>	Segment audit failed VCG in
	<i>nsa_segadtout</i>	Segment audit failed VCG out
	<i>sa_stpautolock</i>	STP autolock port disable
	<i>nsa_stpautolock</i>	STP autolock port disable
	<i>nsa_emsd</i>	Exceeded MTU size drop
	<i>sa_erp_wd</i>	ERP - PDU Watchdog Timeout
	<i>sa_erp_mo</i>	ERP - Multiple RPL Owners
VCGSTS	<i>stsmsul</i>	Member Signal Unacceptable - LCAS
	<i>Beginning in Release 7.1, the above probable cause is renamed to sa_stsmsul as shown below:</i>	
	<i>sa_stsmsul</i>	Member Signal Unacceptable - LCAS
	<i>nsa_stsmsul</i>	Member Signal Unacceptable - LCAS
VCGVT	<i>vtmsul</i>	Member Signal Unacceptable - LCAS

Table 22. RTRV-ASAP-PROF Output *spec_block* Parameters (cont 14 of 14)

Parameter Name	Description of SPEC Block parameters	
VT1	<i>sa_lopv</i>	inc. VT LOP
	<i>nsa_lopv</i>	inc. VT LOP
	<i>sa_aishv</i>	inc. VT AIS
	<i>nsa_aishv</i>	inc. VT AIS
	<i>sa_uneqv</i>	inc. VT unequipped
	<i>nsa_uneqv</i>	inc. VT unequipped
	<i>sa_sdv</i>	inc. VT sig. degrade (BER)
	<i>nsa_sdv</i>	inc. VT sig. degrade (BER)
	<i>nsa_rfiv</i>	inc. VT RFI-V

- a. See "Table 4: Entity Failed" for a list of entities.
- b. In Release 9.0, line_ool_prot applies to the standby line timing reference and line_ool_unprot applies to the active line timing reference.
- c. See "Table 5: Timing SRC" for a list of External Timing References.

Entity Failed
DATA CP
DS1 CP
DS1E1 CP
DS3EC1 CP
FE-LAN CP
GE-LAN CP
MUXPONDER CP
OLIU CP
OMD
SWITCH CP
SYSCTL CP
TMUX CP

Table 23. Entity Failed

External Timing SRC
DS1
E1

Table 24. External Timing SRC

EXAMPLE INPUT/OUTPUT

In the following example, the ***pftype*** is specified to be OCN and the ***pfname*** is not specified, so a list of all profiles of type OCN is retrieved:

```
RTRV-ASAP-PROF:LT-123::123456::OCN;  
  
LT-123 98-01-01 08:00:00  
M 123456 COMPLD  
"OCN, DEFAULT"  
"OCN, BOSTON"  
;
```

In the following example, the ***pftype*** is specified to be OCN and the ***pfname*** is BOSTON. The parameter values for that profile are retrieved:

```
RTRV-ASAP-PROF:LT-123::123456::OCN,BOSTON;  
  
LT-123 98-01-01 08:00:00  
M 123456 COMPLD  
"OCN,BOSTON:sa_los=MJ,nsa_los=MN,sa_lof=MJ,nsa_lof=MN,sa_aisl=NR,nsa_aisl=NR,nsa_rfil=NR,sa_sfdl=MJ,nsa_sfdl=MN,sa_sfl=MJ,nsa_sfl=MN,incdcc=MJ,nbsyscpum=MN,dccsectfail=MJ"  
;
```

Beginning in Release 7.0, this example replaces the previous example. In the following example, the ***pftype*** is specified to be OCN and the ***pfname*** is BOSTON. The parameter values for that profile are retrieved:

```
RTRV-ASAP-PROF:LT-123::123456::OCN,BOSTON;

LT-123 98-01-01 08:00:00
M 123456 COMPLD
"OCN,BOSTON:sa_los=MJ,nsa_los=MN,sa_lof=MJ,nsa_lof=MN,sa_aisl=NR,nsa_
aisl=NR,nsa_rfil=NR,sa_sfdl=MJ,nsa_sfdl=MN,sa_sfl=MJ,nsa_sfl=MN,incdcc=M
J,nbsyscpum=MN,dccsectfail=MJ,sa_tims=MJ,nsa_tims=MN,nsa_timsd=MN"
;
```

Beginning in Release 7.1, this example replaces the previous example. In the following example, the ***pftype*** is specified to be OCN and the ***pfname*** is BOSTON. The parameter values for that profile are retrieved:

```
RTRV-ASAP-PROF:LT-123::123456::OCN,BOSTON;

LT-123 98-01-01 08:00:00
M 123456 COMPLD
"OCN,BOSTON:sa_los=MJ,nsa_los=MN,sa_lof=MJ,nsa_lof=MN,sa_aisl=NR,nsa_
aisl=NR,nsa_rfil=NR,sa_sdl=MJ,nsa_sdl=MN,sa_sfl=MJ,nsa_sfl=MN,incdcc=MJ,
nbsyscpun=MN,dccsectfail=MJ,sa_tims=MJ,nsa_tims=MN,nsa_timsd=MN,
nsa_dccfl=MJ,sigpeer=MN"
;
```

In the following example, the ***pftype*** is specified to be OCH and the ***pfname*** is DEFAULT. The parameter values for that profile are retrieved:

```
RTRV-ASAP-PROF:LT-123::123456::OCH,DEFAULT;

LT-123 98-01-01 08:00:00
M 123456 COMPLD
"OCH,DEFAULT:sa_losp_mux=MJ"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there also pertain to the **RTRV-ASAP-PROF** command.

The following condition will cause an IDNV error response:

- The ***pfname*** parameter specified is not valid.

:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid pfname */
;
```

The following condition will cause an IDNV error response:

- An invalid ***pftype*** parameter is specified:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid pftype */
;
```

The following list identifies conditions that will cause an IDNV error response:

- A ***pfname*** does not exist for a correctly specified ***pftype***.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, pfname does not exist for specified pftype */
;
```

RELATED TL1 MESSAGES

DLT-ASAP-PROF

ED-ASAP-PROF

ENT-ASAP-PROF

ENT-ASAP-ASGNMT

INIT-ASAP-PROF

RTRV-ASAP-ASGNMT

NAME

RTRV-ATTR-ALM: Retrieve Attribute Alarm

The **RTRV-ATTR-ALM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-ATTR-ALM:*tid::ctag;*

DESCRIPTION

The **RTRV-ATTR-ALM** command can be initiated to retrieve the values that have been set as alarm parameters via **SET-ATTR-ALM**.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-294. RTRV-ATTR-ALM Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the **RTRV-ATTR-ALM** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "spec_block"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also. In addition, the parameters in the next table apply:

Table 2-295. RTRV-ATTR-ALM Output Parameters

Parameter Name	Description
<i>spec_block</i>	The following table lists the <i>spec_block</i> parameters.

Table 2-296. RTRV-ATTR-ALM Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>almdel</i>	<i>almdel</i> is the value of the Alarm Delay (incoming signal alarm delay) parameter in seconds. It represents the time that the NE will wait, after it finds an incoming signal condition, before reporting it.
<i>clrdel</i>	<i>clrdel</i> is the value of the Clear Delay (alarm clear delay) parameter in seconds. It represents the time the NE will wait after a condition clears before reporting the changed condition.

Table 2-296. RTRV-ATTR-ALM Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
<i>pmn</i>	<i>pmn</i> is the value of the PMN parameter which represents the alarm level conveyed when a minor power alarm occurs. Beginning in Release 6.0, the <i>pmn</i> parameter is removed. See the <i>pwrfail</i> parameter of the SYSTEM <i>pftype</i> in RTRV-ASAP-ASGNMT and RTRV-ASAP-PROF TL1 commands for viewing the Power Minor Alarm alarm severity level.

EXAMPLE INPUT/OUTPUT

The following example shows a **RTRV-ATTR-ALM** command where the AlarmDelay parameter has been provisioned to 10 seconds, and the ClearDelay parameter has been provisioned to 5 seconds:

```
RTRV-ATTR-ALM:LT-TID123::123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
"ALMDEL=10, CLRDEL=5, PMN=MJ"
```

```
;
```

Beginning in Release 6.0, this example replaces the previous example. The following example shows a **RTRV-ATTR-ALM** command where the AlarmDelay parameter has been provisioned to 10 seconds, and the ClearDelay parameter has been provisioned to 5 seconds:

RTRV-ATTR-ALM:LT-TID123::123456;

IP 123456

<

LT-TID123 00-10-26 16:42:11

M 123456 COMPLD

"ALMDEL=10,CLRDEL=5"

;

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

RELATED TL1 MESSAGES

SET-ATTR-ALM

NAME

RTRV-ATTR-CONT: Retrieve Attribute Control

The **RTRV-ATTR-CONT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-ATTR-CONT : *tid* : *aid* : *ctag* [: [: [:]]] ;

DESCRIPTION

The **RTRV-ATTR-CONT** command can be used to retrieve the provisioned description associated with miscellaneous discrete environmental (external) control output points. These descriptions are used for informational purposes when a user seeks to operate or release control points. For example, the user may want to verify that a control point is associated with a fan (and not a sprinkler) before operating the control.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-297. RTRV-ATTR-CONT Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier (<i>aid</i>). The <i>aid</i> identifies the environmental control point for which attributes are requested. The value CONT-ALL is allowed and requests the description for all control points. For references to related AIDs, refer to Appendix A
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the **RTRV-ATTR-CONT** request, the following normal completion response is returned:

```
IP ctag
<

  sid date time
M  ctag COMPLD
  "aid:\"conttype\""
  ["aid:\"conttype\""]
  ["aid:\"conttype\""]
  ["aid:\"conttype\""]
;
```

If all control points are included in the output, the output is sorted by increasing *aid* value.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command also. In addition, the following parameters apply.

Table 2-298. RTRV-ATTR-CONT Output Parameters

Parameter Name	Description
<i>aid</i>	Access Identifier (<i>aid</i>). The <i>aid</i> identifies the environmental control point.
<i>conttype</i>	Control Types. This is the condition description associated with the addressed control point. The description is enclosed within a pair of escaped quotes (<i>\</i> " <i>\</i> ").

EXAMPLE INPUT/OUTPUT

The following example shows a **RTRV-ATTR-CONT** command to retrieve the descriptions for all the control points:

```
RTRV-ATTR-CONT:LT-TID123:CONT-ALL:123456::;  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
"cont-1:\"startPump\""  
"cont-2:\"startGenerator\""  
"cont-3:\"startLights\""  
"cont-4:\"control4\""  
;
```

The following example shows a **RTRV-ATTR-CONT** command to retrieve the description for the first control point:

```
RTRV-ATTR-CONT:LT-TID123:CONT-1:123456::;  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
"cont-1:\"startPump\""  
;
```

The following example shows a **RTRV-ATTR-CONT** command to retrieve the description for the second control point:

```
RTRV-ATTR-CONT:LT-TID123:CONT-2:123456::;  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
"cont-2:\"startsprinkler\""  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the NE receives a **RTRV-ATTR** command with an invalid command modifier, the following error response is returned:

```
sid date time
M ctag DENY
  ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

This is the same error check and response for the **RTRV-ATTR-rr** and **RTRV-ATTR-ENV** commands.

If a **RTRV-ATTR-CONT** command is received with an invalid AID, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid Access Identifier, AID missing or
inconsistent with modifier value */
;
```

RELATED TL1 MESSAGES

OPR-EXT-CONT

SET-ATTR-CONT

NAME

RTRV-ATTR-ENV: Retrieve Attribute Environment

The **RTRV-ATTR-ENV** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-ATTR-ENV:*tid:aid:ctag*[::,];

DESCRIPTION

RTRV-ATTR-ENV commands can be used to retrieve the miscellaneous discrete environmental alarm/status input point attributes, notification code (alarm level), alarm type (condition type), and alarm message (condition description) from the network element (NE).

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-299. RTRV-ATTR-ENV Input Parameters

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier (<i>aid</i>). This is the address of the environmental input points for which attributes are requested. The value <i>env-all</i> is allowed and requests the attributes for all environmental input points. For more information on related AIDs, refer to Appendix A .
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the **RTRV-ATTR-ENV** request, the following normal completion response is returned:

```
IP ctag
<

sid date time
M ctag COMPLD
"aid:ntfcncde,almtypes,\"almmsg\""
[. . . . ]
[. . . . ]
[. . . . ]
["aid:ntfcncde,almtypes,\"almmsg\""]
;
```

If all environmental input points are included in the output, the output is sorted by increasing **aid** value.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command also. In addition, the following parameters apply.

Table 2-300. RTRV-ATTR-ENV Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of the environmental input point.
<i>ntfcncde</i>	Notification Code. This is the alarm level for the environmental input point, and it may have one of the following values: ■ CR Critical alarm ■ MJ Major alarm ■ MN Minor alarm ■ NA Not alarmed (status)

Table 2-300. RTRV-ATTR-ENV Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>almtype</i>	Alarm Type. This is the TL1 alarm type, also referred to as the TL1 condition type, associated with the addressed environmental input point. The alarm type consists of 1 to 10 alphanumeric characters and/or dashes.
<i>almmsg</i>	Alarm Message. This is the condition description associated with the addressed environmental input point. The description is a string of up to 26 alphanumeric (upper-case and lower-case) characters. The description is enclosed within a pair of escaped quotes (\ " \ ").

EXAMPLE INPUT/OUTPUT

```
RTRV-ATTR-ENV:LT-TID123:env-3:123456;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
  "env-3:MJ,HITEMP,\"HighTemperature\""  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the NE receives a **RTRV-ATTR** command with an invalid command modifier, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

This is the same error check and response for the **RTRV-ATTR-rr** and **RTRV-ATTR-CONT** commands.

If a **RTRV-ATTR-ENV** command is received with an invalid AID, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access Identifier, AID missing or
inconsistent with modifier value */
;
```

RELATED TL1 MESSAGES

SET-ATTR-ENV

NAME

RTRV-ATTR-MSG: Retrieve Attribute Message

The **RTRV-ATTR-MSG** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 5.0

LOGIN PRIVILEGE

This command is available to users with Privileged, Administration, General, Maintenance, and Reports Only access.

INPUT FORMAT

RTRV-ATTR-MSG:*tid::ctag*;

DESCRIPTION

The **RTRV-ATTR-MSG** command retrieves the current state of the user session autonomous message reporting, which is controlled by the **ALW-MSG** and **INH-MSG** commands.

Execution of this command will not be recorded in the Security log.

The **RTRV-ATTR-MSG** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-301. RTRV-ATTR-MSG Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the **RTRV-ATTR-MSG** command request completes successfully, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "msgstate"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also. In addition, the parameters in the next table apply:

Table 2-302. RTRV-ATTR-MSG Output Parameters

Parameter Name	Description
<i>msgstate</i>	The current state of autonomous message reporting. Values: ■ ON ■ OFF

EXAMPLE INPUT/OUTPUT

The following example shows a **RTRV-ATTR-MSG** command:

```
RTRV-ATTR-MSG:LT-TID123::123456;
LT-TID123 98-01-01 08:00:00
M 123456 COMPLD
  "ON"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

RELATED TL1 MESSAGES

ALW-MSG

INH-MSG

RTRV-ATTR-ALM

RTRV-OSACMAP

RTRV-TL1MSGMAP

NAME

RTRV - BACKUPSCHED: Retrieve Backup Schedule

The **RTRV - BACKUPSCHED** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV - BACKUPSCHED: *tid*: [*aid*]: *ctag*;

DESCRIPTION

This command can be used to retrieve the schedule, if any, for automatic backup of a network element's (NE's) provisionable database. By default, no backup is scheduled. The related command **SCHED - BACKUP** is used to establish, change or delete the backup schedule.

Note: It is recommended that users coordinate and administer NE backup schedules, especially among NEs with the same FTP-GNE (gateway NE), and/or the same FTP server. Ideally, only one NE should be scheduled to backup its provisionable database at a time. Under normal operating conditions, each NE's backup file transfer should complete in less than a minute.

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-303. RTRV - BACKUPSCHED Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

Table 2-303. RTRV - BACKUPSCHED Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. Because the backup schedule applies to all provisionable parameter values, this parameter can only have the value ALL or NULL (default = ALL).
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the request but no backup is scheduled, the following normal completion response is returned:

```
IP ctag
<
  sid date time
M ctag COMPLD
;
```

Prior to Release 3.0, if the NE fully complies with the request and there is an automatic backup scheduled, the following normal completion response is returned:

```
IP ctag
<
  sid date time
M ctag COMPLD
  "\"dst\" \"
  \":TIME=time\"
  \":DATE=date\"
  \":INVL=invl\"
  \":TYPE=type\"
  \":FILENUM=filenum\"
  \":FILENAME=filename\"
;
```


In Release 3.0 and later, if the NE fully complies with the request and there is an automatic backup scheduled, the following normal completion response is returned:

```
IP ctag
<
  sid date time
M  ctag COMPLD
  "\"to\""
  "\"dst\""
  ":TIME=time"
  ":DATE=date"
  ":INVL=invl"
  ":TYPE=type"
  ":FILENUM=filenum"
  ":FILENAME=filename"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command also. Additional parameters that specifically apply to this command response are defined below.

Table 2-304. RTRV-BACKUPSCHE Output Parameters (cont 1 of 3)

Parameter Name	Description
<i>to</i>	The allowed values for this parameter include start and end double-quotes. Starting Release 3.0, there are two file transfer mechanisms available. ■ "FTP" End-to-end file transfer from/to an FTP Server. The FTP server can be a PC-CIT, SNMS or a generic FTP server. ■ "FTTD,<i>psel,ssel,tssel,nsap</i>" File transfer from an FTP server is through a File Transfer Translation Device acting as an FTAM-FTP Gateway. FTTD implies that part of the path uses OSI and part uses FTP (TCP/IP), i.e. the connection of the FTP server to the NE is through a TCP/IP Gateway translating the FTP Connection to an FTAM Association. The "<i>psel,ssel,tssel,nsap</i>" identifies the FTAM-FTP Gateway's OSI network address. The FTP server can be a PC-CIT, SNMS or a generic FTP server.

Table 2-304. RTRV-BACKUPSCHE Output Parameters (cont 2 of 3)

Parameter Name	Description
	■ <i>psel</i> presentation selector. 0 to 4 bytes (0-8 hex characters) ■ <i>ssel</i> session selector. 0 to 4 bytes (0-8 hex characters) ■ <i>tsel</i> transport selector. 0 to 16 bytes (0-32 hex characters) ■ <i>nsap</i> network service access point. 20 bytes (40 hex characters).
<i>dst</i>	Destination. All scheduled backups are to an FTP server. The FTP server can be a PC-CIT, SNMS or a generic FTP server. This field is output exactly as input in the SCHED - BACKUP command, except the password, if any, is not output; instead an asterisk (*) is output for each character of the password. The format for this field is: <code>ftp://[login[:passwd]@]dstIPaddr[:port]/[/][directory/]filename</code>
<i>time</i>	Time of day. This parameter specifies the time of day the <i>next</i> backup is scheduled. The format for this field is: HHMMSS. ■ HH This is the hour on a 24-hour clock and can have a value between 00 and 23 inclusive with leading zeros output for single-digit numbers. ■ MM This is the minutes and can have a value between 00 and 59 inclusive with leading zeros output for single-digit numbers. ■ SS This is the seconds and can have a value between 00 (default) and 59 inclusive with leading zeros output for single-digit numbers.
<i>date</i>	Date. This parameter specifies the date the next backup is scheduled. The format for this field is: YYMMDD. ■ YY This is the last two digits of the year and can have a value between 00 and 99 with leading zeros output for single-digit numbers. ■ MM This is the month of the year and can have a value between 01 and 12 inclusive with leading zeros output for single-digit numbers. ■ DD This is the day of the month and can have a value between 00 and 31 inclusive with leading zeros output for single-digit numbers.

Table 2-304. RTRV-BACKUPSCHE Output Parameters (cont 3 of 3)

Parameter Name	Description
<i>invl</i>	Interval. This parameter specifies the frequency of the scheduled backups in days and can have a value between 1 and 99 inclusive. For example, if DATE=011201 and INVL=30, the next backup is scheduled on December 1, 2001, another backup is scheduled on December 31, 2001, another backup is scheduled on January 30, 2002, etc.
<i>type</i>	Backup type. The types include: ■ FORCED The NE always transfers a new backup file even if there haven't been any provisioning or shelf equipage changes, i.e., any changes that are reported via a REPT DBCHG message, since the last scheduled backup.
<i>filenum</i>	File number. This parameter specifies the number of different backup file names to be used for successive scheduled backups. This parameter allows users to save one or more scheduled backup files for the same NE, but the NE eventually overwrites the oldest scheduled backup files to minimize the need for file storage administration on the FTP server. The allowed values for this parameter are 1 - 9. If <i>filenum</i>=1, the same file name specified in the <i>dst</i> parameter is reused for each scheduled backup. If <i>filenum</i>=2, the file name specified in the <i>dst</i> parameter is appended with the number 1 for the first backup, 2 for the second backup, 1 again for the third backup, 2 again for the fourth backup, 1 again for the fifth backup, etc. For example, if the <i>filename</i> in the <i>dst</i> parameter is TID_BACKUP, and <i>filenum</i>=9, the first scheduled backup would be to file name TID_BACKUP1, and the tenth scheduled backup would overwrite that file with the same name TID_BACKUP1.
<i>filename</i>	Next file name. This parameter specifies that the next scheduled backup will be to this <i>filename</i> and file number.

EXAMPLE INPUT/OUTPUT

The following example (for Release 3.0 and earlier) retrieves a FORCED backup schedule. In this example, the next backup is scheduled at 6 P.M. tomorrow to

DMX_BACKUP2, and every 30 days thereafter at 6 P.M. to files DMX_BACKUP1 and DMX_BACKUP2, alternately, on a secure FTP server:

```
RTRV-BACKUPSCHE:LT-001::123456;

IP 123456
<
  LT-001 01-11-14 12:26:30
M 123456 COMPLD
  "\"user1:*****@199.88.77.6/backups/lt-001/DMX_BACKUP\""
  ":TIME=180000"
  ":DATE=011115"
  ":INVL=30"
  ":TYPE=FORCED"
  ":FILENUM=2"
  ":FILENAME=DMX_BACKUP2"
;
```

The following example (for Release 3.0 and later) retrieves a backup schedule. In this example, the next backup is scheduled at 6 P.M. tomorrow to tid_backup2, and every 30 days thereafter at 6 P.M. to files tid_backup1 and tid_backup2, alternately, on a secure FTP server via using direct FTP:

```
RTRV-BACKUPSCHE:LT-001::123456;

IP 123456
<
  LT-001 01-11-14 12:26:30
M 123456 COMPLD
  "\"ftp\""
  "\"user1:*****@199.88.77.6/backups/lt-001/dmx_backup\""
  ":TIME=180000"
  ":DATE=011115"
  ":INVL=30"
  ":TYPE=FORCED"
  ":FILENUM=2"
  ":FILENAME=dmx_backup2"
;
```

The following example retrieves a backup schedule. In this example, the next backup is scheduled at 6 P.M. tomorrow to TID_BACKUP2, and every 30 days

thereafter at 6 P.M. to files TID_BACKUP1 and TID_BACKUP2, alternately, on a secure FTP server via using FTTD as the FTAM-FTP Gateway:

```
RTRV-BACKUPSCHED:LT-TID::123456;

IP 123456
<
  LT-TID 01-11-14 12:26:30
M 123456 COMPLD
  "\"fttd,02,5353,5454,39840F800000000000000000000000008006A1121231D\"\""
  "\"user1:*****@199.88.77.6/backups/lt-tid/tid_BACKUP\"\""
  ":TIME=180000"
  ":DATE=011115"
  ":INVL=30"
  ":TYPE=FORCED"
  ":FILENUM=2"
  ":FILENAME=TID_BACKUP2"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the *aid* value is invalid:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid Access Identifier */
;
```

RELATED TL1 MESSAGES

SCHED-BACKUP

NAME

RTRV - BANNER: Retrieve Banner

The **RTRV - BANNER** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

Starting in Release 4.0, this command is available to users with Privileged, Administration, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV - BANNER:*tid::ctag;*

DESCRIPTION

The **RTRV - BANNER** command can be initiated by users to retrieve the user-provisioned banner for the Network Element (NE).

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-305. RTRV - BANNER Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If there is a provisioned banner to report, the following output message is returned (repeated for multiple lines):

```
IP ctag
<

  sid date time
M  ctag COMPLD
  ":::spec_block"
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **RTRV-HDR OUTPUT PARAMETERS** section. Additional parameters that specifically apply to this command response are defined below:

Table 2-306. RTRV - BANNER Output Parameters

Parameter Name	Description																						
<i>spec_block</i>	Specific Parameter Block. The following are the <i>spec_block</i> parameters. <table> <tr><td>LINE1</td><td>"Contents_of_line_1"</td></tr> <tr><td>LINE2</td><td>"Contents_of_line_2"</td></tr> <tr><td>LINE3</td><td>"Contents_of_line_3"</td></tr> <tr><td>LINE4</td><td>"Contents_of_line_4"</td></tr> <tr><td>LINE5</td><td>"Contents_of_line_5"</td></tr> <tr><td>LINE6</td><td>"Contents_of_line_6"</td></tr> <tr><td>LINE7</td><td>"Contents_of_line_7"</td></tr> <tr><td>LINE8</td><td>"Contents_of_line_8"</td></tr> <tr><td>LINE9</td><td>"Contents_of_line_9"</td></tr> <tr><td>LINE10</td><td>"Contents_of_line_10"</td></tr> <tr><td>LINE11</td><td>"Contents_of_line_11"</td></tr> </table>	LINE1	"Contents_of_line_1"	LINE2	"Contents_of_line_2"	LINE3	"Contents_of_line_3"	LINE4	"Contents_of_line_4"	LINE5	"Contents_of_line_5"	LINE6	"Contents_of_line_6"	LINE7	"Contents_of_line_7"	LINE8	"Contents_of_line_8"	LINE9	"Contents_of_line_9"	LINE10	"Contents_of_line_10"	LINE11	"Contents_of_line_11"
LINE1	"Contents_of_line_1"																						
LINE2	"Contents_of_line_2"																						
LINE3	"Contents_of_line_3"																						
LINE4	"Contents_of_line_4"																						
LINE5	"Contents_of_line_5"																						
LINE6	"Contents_of_line_6"																						
LINE7	"Contents_of_line_7"																						
LINE8	"Contents_of_line_8"																						
LINE9	"Contents_of_line_9"																						
LINE10	"Contents_of_line_10"																						
LINE11	"Contents_of_line_11"																						

EXAMPLE OUTPUT

```
rtrv-banner:LT-TID123::123456;  
  
IP 123456  
<  
  
LT-TID123 00-03-22 16:12:12  
M 123456 COMPLD  
":::LINE1=\"NOTICE: THIS IS A PRIVATE COMPUTER SYSTEM.\""  
":::LINE2=\"UNAUTHORIZED ACCESS OR USE MAY LEAD TO PROSECUTION.\""  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may apply to the **RTRV-BANNER** command also.

RELATED TL1 MESSAGES

ENT-BANNER

NAME

RTRV-CID-SECU: Retrieve Channel Identifier Security

The **RTRV-CID-SECU** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

Starting in Release 4.0, this command is available to users with Privileged, Administration, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-CID-SECU:*tid:aid:ctag[:[:]]*;

DESCRIPTION

The **RTRV-CID-SECU** command retrieves several communication parameters for the front serial and rear modem ports.

This command reports if all TL1 access to the network element (NE), except by privileged users, is in the "lockout" security state, such as on the front serial and rear modem ports, IAO LAN ports, X.25 port, and DCC operations interfaces.

Starting in Release 6.0, X.25 is not supported.

This command also lists the users currently logged into the NE via each operations interface.

In a multi-shelf DCS system utilizing a single TID, the command lists only those users currently logged into the main shelf.

Execution of this command will not be recorded in the Security log.

The RTRV-CID-SECU command does not generate a REPT DBCHG message.

INPUT PARAMETERS

Table 2-307. RTRV-CID-SECU Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This parameter specifies the operations interfaces for which information is retrieved. The <i>aid</i> value must be ALL or NULL (default value = ALL).
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

In response to a valid **RTRV-CID-SECU** command, the following normal completion response is returned:

```

sid date time
M ctag COMPLD
"cit-1:state:spec_block[:uid]"
"cit-2:state:spec_block[:uid]"
"lan-1:state[:uid]"
"lan-2:state[:uid]"
"dcc:state"
["tl1-dcc:::uid"
.
.
.
"tl1-dcc:::uid"]
"x25:state"
["vc:SNPA=x[:uid]"
.
.
.
"vc:SNPA=y[:uid]" ]
;
```

If the local NE is a TL1/X.25 GNE, the X.25 VCs are listed in alphabetic order by type and then in ascending numeric order by SNPA address.

Starting in Release 3.0, in response to a valid **RTRV-CID-SECU** command, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
"cit-1:state:spec_block[:uid]"
"cit-2:state:spec_block[:uid]"
"lan-1:state[:uid]"
"lan-2:state[:uid]"
"dcc:state"
["tl1-dcc:::uid"
.
.
.
"tl1-dcc:::uid"]
"x25:state"
["vc:SNPA=x[::uid]"
.
.
.
"vc:SNPA=y[::uid]"]
;
```

Starting in Release 3.1, in response to a valid **RTRV-CID-SECU** command, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
"cit-1:state:spec_block[:uid]"
"cit-2:state:spec_block[:uid]"
"lan-1:state"
"lan-2:state"
"dcc:state"
["lan/dcc:::uid"
.
.
.
"lan/dcc:::uid"]
"x25:state"
["vc:SNPA=x[::uid]"
.
.
.
"vc:SNPA=y[::uid]"]
;
```

If the local NE is a TL1/X.25 GNE, the X.25 VCs are listed in alphabetic order by type and then in ascending numeric order by SNPA address.

Starting in Release 4.0, in response to a valid **RTRV-CID-SECU** command, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
"cit-1:state:spec_block[:uid,sessionid]"
"cit-2:state:spec_block[:uid,sessionid]"
"lan-1:state"
"lan-2:state"
"dcc:state"
["lan/dcc:::uid,sessionid"
.
.
"lan/dcc:::uid,sessionid"]
"x25:state"
["vc:SNPA=x[:uid,sessionid]"
.
.
"vc:SNPA=y[:uid,sessionid]"
;
```

If the local NE is a TL1/X.25 GNE, the X.25 VCs are listed in alphabetic order by type and then in ascending numeric order by SNPA address.

Starting in Release 6.0, in response to a valid **RTRV-CID-SECU** command, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
"cit-1:state:spec_block[:uid,sessionid]"
"cit-2:state:spec_block[:uid,sessionid]"
"lan-1:state"
"lan-2:state"
"dcc:state"
["lan/dcc:::uid,sessionid"
.
.
"lan/dcc:::uid,sessionid"]
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command also.

Table 2-308. RTRV-CID-SECU Output Parameters

Parameter Name	Description
<i>aid</i>	Access Identifier. The aid identifies a management port. Values: CIT-{1,2}, LAN-{1,2}, DCC, X25 Starting in Release 6.0, X25 is not supported.
<i>state</i>	Security state. The security state applies to all TL1 users except privileged users. The value may be IS (no lockout) or LO (lockout), for all operations interfaces.
<i>uid</i>	User Identifier. The user ID identifies the active TL1 login sessions, if any, to the local NE over each operations interface. The label "tl1-dcc" is used at the beginning of each row of output identifying an active TL1 login to the local NE over the DCC. Starting in Release 3.1, the label "lan/dcc" is used at the beginning of each row of output identifying an active TL1 login to the local NE over the DCC.
<i>sessionid</i>	Session Identifier. This parameter is a unique identifier assigned to each login session. <i>sessionid</i> is an integer number in the range 1 to 255.
<i>vc</i>	X.25 virtual circuit type. If the local NE is a TL1/X.25 GNE, the X.25 virtual circuit types are: ■ PVC Permanent virtual circuit ■ SVC Switched virtual circuit Starting in Release 6.0, <i>vc</i> is not supported.
<i>snpa</i>	X.25 SubNetwork Point of Attachment address. For an X.25 VC connection, this is either a PVC Logical Channel Number (LCN 1-9) or an SVC Data Terminal Equipment (DTE) calling address (a 1-15 digit number). Starting in Release 6.0, <i>snpa</i> is not supported.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-309. RTRV-CID-SECU Output *spec_block* Parameters

Parameter Name	Description
<i>baudrate</i>	Baud rate. This specifies the baudrate at which TL1 messages are received/transmitted on the specified port. The values for this parameter are 1200, 2400, 4800, 9600 and 19200. This parameter applies to the front serial and rear modem ports only.
<i>echo</i>	Echo. This specifies whether or not the TL1 commands received on the specified port are echoed back to the user by the local NE. (This parameter has no effect on TL1 command responses.) If echo is enabled, the local NE echoes TL1 commands received for remote NEs, too. The values for this parameter are ENABLED or DISABLED. This parameter applies to the front serial and rear modem ports only.
<i>tmout</i>	Time out. This specifies the inactivity timer value for TL1 messages on the specified port. If no TL1 messages are transmitted or received during the time out interval, all TL1 login sessions on the port are terminated, including TL1 login sessions to remote NEs. The values for this parameter are 0 to 120 minutes. If the time out value is 0, which indicates the time out is disabled, this parameter is output as <i>TMOUT=0</i> (disabled) to emphasize that point. This parameter applies to the front serial and rear modem ports only. Starting in Release 3.1, the "<i>tmout</i>" parameter is not supported. The serial port inactivity time-out is replaced with a users login session inactivity time-out, provisionable using the ENT - USER - SECU and ED - USER - SECU commands.

EXAMPLE INPUT/OUTPUT

```
RTRV-CID-SECU:LT-DMX:all:123456;

IP 123456
<

LT-DMX 00-10-26 16:42:11
M 123456 COMPLD
"cit-1:IS:BAUDRATE=9600,ECHO=enabled,TMOUT=25:user1"
"cit-2:IS:BAUDRATE=9600,ECHO=disabled,TMOUT=0(disabled):user2"
"lan-1:IS:"
"lan-2:IS::user1"
"dcc:IS"
"tl1-dcc::user1"
"tl1-dcc::user2"
"x25:IS"
"PVC:1:user3"
"PVC:2"
"PVC:3:user5"
"SVC:SNPA=146782229996:user4"
;
```

Starting in Release 3.0, the following is an example of the input and output:

```
RTRV-CID-SECU:LT-DMX:all:123456;

IP 123456
<

LT-DMX 00-10-26 16:42:11
M 123456 COMPLD
"cit-1:IS:BAUDRATE=9600,ECHO=enabled,TMOUT=25:user1"
"cit-2:IS:BAUDRATE=9600,ECHO=disabled,TMOUT=0(disabled):user2"
"lan-1:IS:"
"lan-2:IS::user1"
"dcc:IS"
"tl1-dcc::user1"
"tl1-dcc::user2"
"x25:IS"
"PVC:1::user3"
"PVC:2"
"PVC:3::user5"
"SVC:SNPA=146782229996::user4"
;
```

Starting in Release 3.1, the following is an example of the input and output:

RTRV-CID-SECU:LT-DMX:all:123456;

IP 123456

<

LT-DMX 00-10-26 16:42:11

M 123456 COMPLD

"cit-1:IS:BAUDRATE=9600,ECHO=enabled:user1"

"cit-2:IS:BAUDRATE=9600,ECHO=disabled:user2"

"lan-1:IS"

"lan-2:IS"

"dcc:IS"

"lan/dcc:::user1"

"lan/dcc:::user2"

"x25:IS"

"PVC:1:user3"

"PVC:2"

"PVC:3:user5"

"SVC:SNPA=146782229996:user4"

;

Starting in Release 4.0, the following is an example of the input and output:

RTRV-CID-SECU:LT-DMX:all:123456;

IP 123456

<

LT-DMX 00-10-26 16:42:11

M 123456 COMPLD

"cit-1:IS:BAUDRATE=9600,ECHO=enabled:user1,127"

"cit-2:IS:BAUDRATE=9600,ECHO=disabled:user2,15"

"lan-1:IS"

"lan-2:IS"

"dcc:IS"

"lan/dcc:::user1,241"

"lan/dcc:::user2,252"

"x25:IS"

"PVC:1:user3,8"

"PVC:2"

"PVC:3:user5,47"

"SVC:SNPA=146782229996:user4,97"

;

Starting in Release 6.0, the following is an example of the input and output:

```
RTRV-CID-SECU:LT-ABC:all:123456;  
  
IP 123456  
<  
  
    LT-ABC 05-12-17 16:42:11  
M 123456 COMPLD  
  "cit-1:IS:BAUDRATE=9600,ECHO=enabled:user1,127"  
  "cit-2:IS:BAUDRATE=9600,ECHO=disabled:user2,15"  
  "lan-1:IS"  
  "lan-2:IS"  
  "dcc:IS"  
  "lan/dcc:::user1,241"  
  "lan/dcc:::user2,252"  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

RELATED TL1 MESSAGES

ENT - CID - SECU

NAME

RTRV-CKT: Retrieve Circuit

The **RTRV-CKT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 3.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-CKT:*tid:aid:ctag;*

DESCRIPTION

RTRV-CKT retrieves circuits which use a specified BLSR ring channel. The command is only functional, however, in rings with automatic ring discovery enabled. Each circuit is reported as series of 1-way and/or 2way cross-connections starting from the source and proceeding to the destination. (For 2-way circuits, the specified ring channel is treated as an output.) If a path integrity failure is detected at a node, the reported circuit, terminates at that node. Path integrity failures are identified in the report by the PIF aid.

MLTPT and UNSWITCHED cross-connections on BLSR channels at the local are not included in the command response. MLTPT and UNSWITCHED cross-connections at remote nodes are reported as 2WAYPR cross-connections.

Beginning in Release 3.1.1, MLTPT and UNSWITCHED cross-connections on BLSR channels at the local node are included in the command response.

Beginning in Release 6.0, *cct*=MLTPT is no longer supported. Multipoint cross-connections on BLSR channels at the local node are reported as UNSWITCHED cross-connections.

Beginning in Release 4.0, **RTRV-CKT** supports the retrieval of VT circuits as follows.

When retrieving with an STS1 ring channel AID:

- If the specified STS1 is VT-accessed or the VTs within that STS1 are VT cross-connected, the response contains the circuit for each of the constituent VTs which is connected.

When retrieving with an VT1 ring channel AID:

- If the specified VT1 is VT cross-connected, the response contains the VT circuit
- If the STS1 containing the specified VT is VT-accessed, the response contains the VT circuit if one exists. Otherwise, the command completes with no circuit reported.
- If the STS1 containing the specified VT is STS cross-connected, the command completes with no circuit reported.

The following AIDs will be reported as CPE (Circuit Provisioning Error) since such connections are normally alarmed by the ring circuit audits.

- the AID of the add/drop port of a VT-accessed STSn add/drop cross-connection
- the aids of a non-VT-accessed STSn pass-through in a VT circuit

Beginning in Release 6.0, support for 2-way cross-connections is discontinued. A 2-way circuit is reported as two 1-way circuits, one for each direction of transmission. In addition all cross-connections are reported using logical ring channel aids.

Beginning in Release 6.0, the response lists both inputs of a 1WAYPR cross-connection on the local node and a single input of a 1WAYPR cross-connection on a remote node.

Beginning in Release 6.0, for circuits that drop to multiple outputs in the local NE, the response lists one complete circuit with multiple drop cross-connections. For circuits that drop to multiple outputs at a remote node, the response lists one complete circuit with a single drop cross-connection.

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-310. RTRV-CKT Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. See Appendix A - AID Tables. This is the access identifier for a 2F (BLSR) ring channel.

Table 2-310. RTRV-CKT Input Parameters

Parameter Name	Description
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

If the logical input tributary is not the first channel in a cross-connect rate, the command is executed and the results are displayed using the first logical tributary in that cross-connect rate. For example, if the cross-connect rate is STS3 and **aid** identifies the second logical tributary, then the results are displayed using the first logical tributary.

OUTPUT FORMAT

The response to a valid **RTRV-CKT** command, for which there are no cross connections and no path integrity failures at the local node on the specified ring channel, is as follows.

```
sid date time
M ctag COMPLD
;
```

The response to a valid **RTRV-CKT** command is as follows.

```
sid date time
M ctag COMPLD
  "rid"
  "ntid,nid,src_aid,dest_aid[,cct,rate:spec_block]"
  ...
  ...
  "ntid,nid,src_aid,dest_aid[,cct,rate:spec_block]"
;
```

Beginning in Release 4.0, the response to a valid **RTRV-CKT** command is as follows.

```
sid date time
M ctag COMPLD
  "rid"
  "ntid,nid,src_aid,dest_aid,[cct],[rate],rnvttyp[:spec_block]"
  ...
  ...
  "ntid,nid,src_aid,dest_aid,[cct],[rate],rnvttyp[:spec_block]"
;
```

Beginning in Release 6.0, the response to a valid **RTRV-CKT** command is as follows.

```
sid date time
M ctag COMPLD
  "rid"
  "ntid,nid,src_aid,dest_aid,[cct],[rate],rnvttyp,[src2_aid]
[:spec_block]"
  ...
  ...
  "ntid,nid,src_aid,dest_aid,[cct],[rate],rnvttyp,[src2_aid]
[:spec_block]"
;
```

In the response to a valid **RTRV-CKT** command in which the specified ring channel is used in more than one circuit, the circuits are reported based upon the cross-connect application using the following order.

- add to west
- east to west pass-through
- drop from west
- add to east
- west to east pass-through
- drop from east

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response may also apply to this command.

Table 2-311. RTRV-CKT Output Parameters (cont 1 of 4)

Parameter Name	Description
<i>rid</i>	Ring Identification Name. Value: The ring ID parameter is a quoted text string of up to 15 ASCII characters. The permitted character set consists of the 7-bit hex values of [20-7E] (i.e., printable ASCII characters found in the English language), with the following exceptions: the ; (semicolon), " (double quote) and \ (backslash) characters are not allowed.
<i>ntid</i>	Node Target Identifier. The <i>tid</i> of the node on which the reported cross-connection exists. Refer to the RTRV-HDR command for input parameters syntax and description of this parameter.
<i>nid</i>	Node Identifier. The identity of the node on which the reported cross-connection exists. Values: [0-15]
<i>rnvttyp</i>	Ring Node VT Type: <i>rnvttyp</i> indicates the level of support for VT BLSR access for the ring node. Values ■ TYPE1 The node does not support any VT BLSR access ■ TYPE2 The node supports VT-accessed STS1 pass-through cross-connections ■ TYPE3 The node supports VT cross-connections and VT-accessed STS1 pass-through cross-connections

Table 2-311. RTRV-CKT Output Parameters (cont 2 of 4)

Parameter Name	Description
<i>src_aid</i>	Source AID. This is the AID of the cross-connect input. Beginning in Release 6.0, <i>src_aid</i> identifies the input of a 1WAY cross-connection or the first input of a 1WAYPR cross-connection. Values: ■ If the input is in a BLSR protection group, <i>src_aid</i> is a ring channel aid. See the AID table in OSEG Appendix A. ■ REMAID This value is reported as the input aid of an add/drop cross-connection at a remote node. ■ REM-[E,W]-TS# This value is reported as the ring aid on a non-DMX remote node. E represents the east port, W represents the west port and TS# identifies the timeslot number on the OC-n interface. ■ PIF (Path Integrity Failure) This value is used to identify the input aid of a missing connection. ■ CPE (Circuit Provisioning Error) This value is used to identify the input aid of a STSn add/drop connection containing VT circuits. Beginning in Release 6.0, logical ring channel aids are used to specify the source of a cross-connection. Refer to Appendix A - AID Tables for the supported aids and to Appendix E - Cross-connections for a definition of the logical ring channels.

Table 2-311. RTRV-CKT Output Parameters (cont 3 of 4)

Parameter Name	Description
<i>dest_aid</i>	Destination AID. This is the AID of the cross-connect output. Values: ■ If the output is in a BLSR protection group, <i>dest_aid</i> is a ring channel aid. See the AID table in OSEG Appendix A. ■ REMAID This value is reported as the output aid of an add/drop cross-connection at a remote node. ■ REM-[E,W]-TS# This value is reported as the ring aid on a non-DMX remote node. E represents the east port, W represents the west port and TS# identifies the timeslot number on the OC-n interface. ■ PIF This value is reported as the output aid of a missing connection (path integrity failure). ■ CPE This value is used to identify the output aid of a STSn add/drop connection containing VT circuits. Beginning in Release 6.0, logical ring channel aids are used to specify the destination of a cross-connection. Refer to Appendix A - AID Tables for the supported aids and to Appendix E - Cross-connections for a definition of the logical ring channels.
<i>cct</i>	Cross-connect type. This parameter specifies the type of cross-connection: Values: ■ 2WAYPR ■ 1WAY ■ 1WAYPR Beginning in Release 6.0, 2WAYPR is no longer a supported value.
<i>rate</i>	The provisioned cross-connection rate. Values: ■ STS1 ■ STS3c ■ STS12c ■ STS48c ■ VT1

Table 2-311. RTRV-CKT Output Parameters (cont 4 of 4)

Parameter Name	Description
<i>src2_aid</i>	Second Source Access Identifier. See "Appendix A - AID Tables". <i>src2_aid</i> identifies the second input of a 1WAYPR cross-connection. It is reported only for 1WAYPR cross-connections on the local node. Values: ■ logical ring channel aid. Refer to Appendix A - AID Tables for the supported aids and to Appendix E - Cross-connections for a definition of the logical ring channels.
<i>spec_block</i>	See the following table for all <i>spec_block</i> parameters.

Table 2-312. RTRV-CKT Output spec_block Parameters (cont 1 of 4)

Parameter	Description of Spec_Block Parameters
<i>chappl</i>	Channel application: <i>chappl</i> indicates that the cross-connection is an unswitched cross-connection. For these cross-connections, internal equipment protection is disabled. <i>chappl</i> is only reported for unswitched cross-connections on the local node. Values: ■ UNSWITCHED For supported path-protected cross-connections from UPSR interfaces, <i>chappl</i>=UNSWITCHED also indicates that path switching is disabled. Beginning in Release 6.0, <i>chappl</i>=UNSWITCHED is no longer supported for path-protected cross-connections from UPSR interfaces. Beginning in Release 6.0, multipoint cross-connections are reported as unswitched cross-connections.

Table 2-312. RTRV-CKT Output spec_block Parameters (cont 2 of 4)

Parameter	Description of Spec_Block Parameters
<i>circuitid</i>	Circuit Identifier. <i>circuitid</i> is a quoted text string of up to 36 ASCII characters. The permitted character set consists of the 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language), with the following exceptions: the ; (semicolon), " (double quote), and \ (backslash) characters are not permitted within the quoted string. <i>circuitid</i> is only reported for cross-connection on the local node. <i>circuitid</i> is a provisionable attribute of an STSn rate cross-connection. Beginning in Release 5.0, <i>circuitid</i> is a provisionable attribute of a VT1 rate cross-connection.
<i>loca</i>	Identifies the <i>tid</i> of the node of at which the service carried on the specified cross-connection is added to the BLSR. A non-NULL <i>loca</i> is reported if the <i>src_aid</i> is a tributary in a BLSR port protection group. <i>loca</i> is not applicable to ADD connections and is not reported if a value is not available. Values: See <i>tid</i> in the RTRV-HDR command. <i>loca</i> is not supported on cross-connections for which <i>cct</i>=MLTPT or <i>chapp</i>=UNSWITCHED. Beginning in Release 6.0, <i>cct</i>=MLTPT is no longer supported. Multipoint cross-connections are reported with <i>chapp</i>=UNSWITCHED.
<i>locz</i>	Identifies the <i>tid</i> of the node of at which the service carried on the specified cross-connection is dropped from the BLSR. A non-NULL <i>locz</i> is reported if the <i>dest_aid</i> is a tributary in a BLSR port protection group. <i>locz</i> is not applicable to DROP connections and is not reported if a value is not available. Values: See <i>tid</i> in the RTRV-HDR command. <i>locz</i> is not supported on cross-connections for which <i>cct</i>=MLTPT or <i>chapp</i>=UNSWITCHED. Beginning in Release 6.0, <i>cct</i>=MLTPT is no longer supported. Multipoint cross-connections are reported with <i>chapp</i>=UNSWITCHED.

Table 2-312. RTRV-CKT Output spec_block Parameters (cont 3 of 4)

Parameter	Description of Spec_Block Parameters
<i>vtacc</i>	VT Accessed: <i>vtacc</i> is an attribute of a STS1 BLSR pass-through cross-connection. It specifies whether or not the STS1 transports VTs which are cross-connected at the VT1 rate at other nodes in the circuit. Values: ■ YES VT-accessed <i>vtacc</i> is not reported if the STS1 is not VT-accessed
<i>vtloca</i>	Identifies the TID associated with <i>src_aid</i> of a VT1 cross-connection carrying service originating from or destined to a node which is not in the inactive ring map. <i>vtloca</i> is the source node tid of a VT1 BLSR cross-connection. A non-Null <i>vtloca</i> is reported for VT1 cross-connections if and only if <i>src_aid</i> is a VT1.5 in a BLSR protection group, subject to the following exceptions: <i>vtloca</i> is not reported for VT1 pass-through cross-connections and VT1 UNSWITCHED cross-connections. Values: See <i>tid</i> in the RTRV-HDR command.
<i>vtlocz</i>	Identifies the TID associated with <i>dest_aid</i> of a VT1 cross-connection carrying service originating from or destined to a node which is not in the inactive ring map. <i>vtlocz</i> is the destination node tid of a VT1 BLSR cross-connection. A non-Null <i>vtlocz</i> is reported for VT1 cross-connections if and only if <i>dest_aid</i> is a VT1.5 in a BLSR protection group, subject to the following exceptions: <i>vtlocz</i> is not reported for 1-way VT1 cross-connections, VT1 pass-through cross-connections and VT1 UNSWITCHED cross-connections. Values: See <i>tid</i> in the RTRV-HDR command. Beginning in Release 6.0, <i>vtlocz</i> is no longer reported since it is not applicable to 1-way cross-connections and all reported cross-connections are 1-way cross-connections..

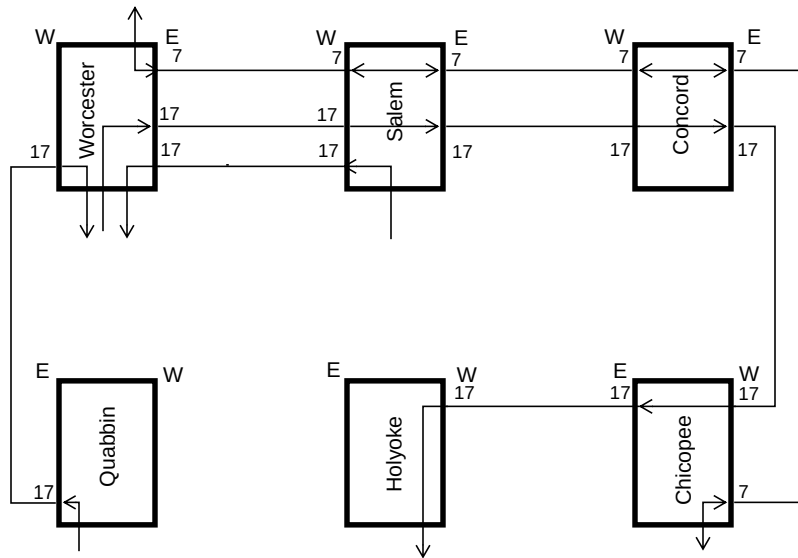
Table 2-312. RTRV-CKT Output spec_block Parameters (cont 4 of 4)

Parameter	Description of Spec_Block Parameters
<i>xcappl</i>	Cross-connection Application: <i>xcappl</i> is provided as a means to identify the application in which the cross-connection is used. The management system can use <i>xcappl</i> in conjunction with <i>xcnum</i> to uniquely identify a set of cross-connections associated with one instance of an application. <i>xcappl</i> is only reported for cross-connections on the local node. Values: 0-255 The mapping of applications to numeric values is a management system function.
<i>xcnum</i>	Cross-Connection Number: <i>xcnum</i> is provided as a means to identify the instance of the application (<i>xcappl</i>) in which the cross-connection is used. The management system can use <i>xcnum</i> in conjunction with <i>xcappl</i> to uniquely identify a set of cross-connections associated with one instance of an application. <i>xcnum</i> is only reported for cross-connections on the local node. Values: Any 9-digit number is acceptable. The suggested format of the 9 digits is as follows: 2 digits for the slot, 2 digits for the port, 3 digits for the STS tributary and 2 digits for the VT tributary.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, support for **2WAYPR** cross-connections is discontinued. 2-way connectivity is achieved by provisioning multiple 1-way cross-connections. In addition all cross-connections are reported using logical ring channel aids. Consequently, unless otherwise specified, the following examples should be considered invalid in Release 6.0.

The following example, which is based on the ring illustrated below, shows the output for a **RTRV-CKT** command that requests the circuits using ring channel m2-1-7 at the salem node. All nodes in the ring are DMX nodes.



RTRV-CKT:salem:m2-1-7:123456;

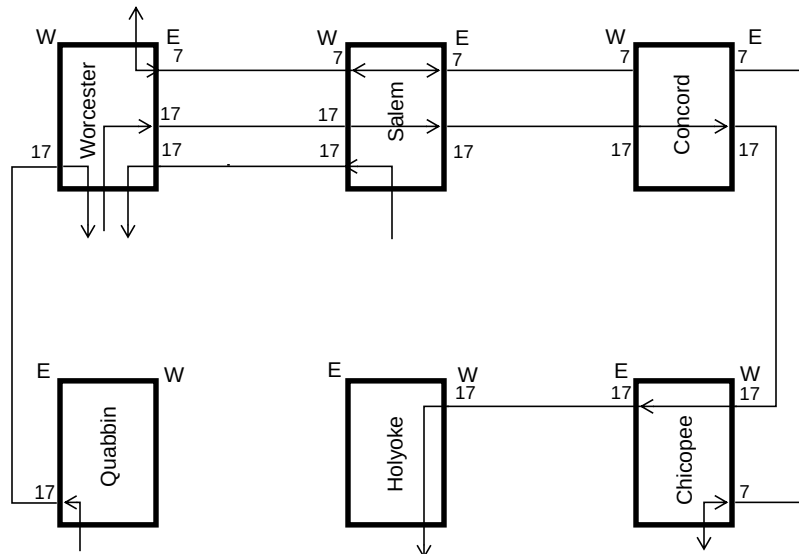
```
salem 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worchester,0,REMAID,m2-1-7,2WAYPR,STS3c:locz=chicopee"
"salem,5,m1-1-7,m2-1-7,2WAYPR,STS3c:loca=worchester,locz=chicopee,
circuitid=\"Worcester Chicopee #1\"
"concord,3,m1-1-7,m2-1-7,2WAYPR,STS3c:loca=worchester,locz=chicopee"
"chicopee,2,m1-1-7,REMAID,2WAYPR,STS3c:loca=worchester"
;
```


Beginning in Release 4.0, the response in the previous example contains the *rnvtyp* parameter as shown below.

```
RTRV-CKT:salem:m2-1-7:123456;

salem 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,REMAID,m2-1-7,2WAYPR,STS3c,TYPE3:locz=chicopee"
"salem,5,m1-1-7,m2-1-7,2WAYPR,STS3c,TYPE3:loca=worcester,
locz=chicopee,circuitid=\"Worcester Chicopee #1\""
"concord,3,m1-1-7,m2-1-7,2WAYPR,STS3c,TYPE3:loca=worcester,
locz=chicopee"
"chicopee,2,m1-1-7,REMAID,2WAYPR,STS3c,TYPE3:loca=worcester"
;
```

The following example, which is based on the ring illustrated below, shows the output for a **RTRV-CKT** command that requests circuits using ring channel m2-1-7 at the salem node. The circuits include a path integrity failure at the concord node due to the missing pass-through cross-connection. All nodes in the ring are DMX nodes.



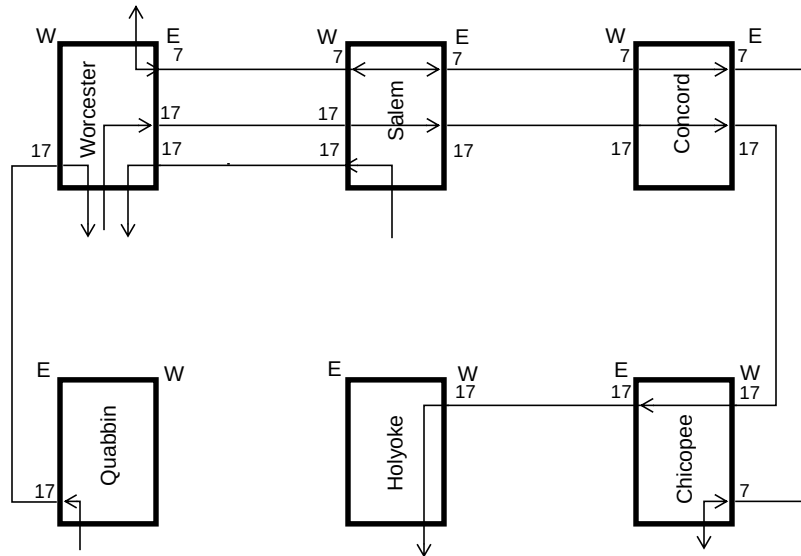
```
RTRV-CKT:salem:m2-1-7:123456;  
  
salem 03-01-01 08:00:00  
M 123456 COMPLD  
"ring23"  
"worchester,0,REMAID,m2-1-7,2WAYPR,STS3c:locz=chicopee"  
"salem,5,m1-1-7,m2-1-7,2WAYPR,STS3c:loca=worchester,locz=chicopee,  
circuitid=\"Worcester Chicopee #1\""  
"concord,3,m1-1-7,PIF"  
;
```

Beginning in Release 4.0, the response in the previous example contains the *rnvtyp* parameter as shown below.

```
RTRV-CKT:salem:m2-1-7:123456;  
  
salem 03-01-01 08:00:00  
M 123456 COMPLD  
"ring23"  
"worchester,0,REMAID,m2-1-7,2WAYPR,STS3c,TYPE3:locz=chicopee"  
"salem,5,m1-1-7,m2-1-7,2WAYPR,STS3c,TYPE3:loca=worchester,  
locz=chicopee,circuitid=\"Worcester Chicopee #1\""  
"concord,3,m1-1-7,PIF,,,TYPE3"  
;
```

The following example, which is based on the ring illustrated below, shows the output for a **RTRV-CKT** command that requests the circuits using ring channel m1-1-7 at the chicopee node. The circuit includes a path integrity failure in one

direction of transmission at the concord node due to the presence of a 1-way cross-connection in a 2-way circuit. All nodes in the ring are DMX nodes.



RTRV-CKT:chicopee:m1-1-7:123456;

```
chicopee 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"chicopee,2,a-1-13,m1-1-7,2WAYPR,STS3c:locz=worcester"
"concord,3,m2-1-7,PIF"
;
```

The following example, which is also based on the ring illustrated above, shows the output for a **RTRV-CKT** command that requests the circuits using ring channel m2-1-7 at the salem node. While the circuit includes a path integrity failure in one direction of transmission at the concord node due to the presence of a 1-way cross-connection in a 2-way circuit, it is not reported in the response because the

failure is in the opposite direction of the circuit trace. However the 1WAY cross-connect type in the report identifies the discontinuity.

RTRV-CKT:salem:m2-1-7:123456;

```
salem 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,REMAID,m2-1-7,2WAYPR,STS3c:locz=chicopee"
"salem,5,m1-1-7,m2-1-7,2WAYPR,STS3c:loca=worcester,locz=chicopee,
circuitid=\"Worcester Chicopee #1\""
"concord,3,m1-1-7,m2-1-7,1WAY,STS3c:loca=worcester,locz=chicopee"
"chicopee,2,m1-1-7,REMAID,2WAYPR,STS3c:loca=worcester"
;
```

Beginning in Release 4.0, the responses in the previous example contain the *rnvtyp* parameter as shown below.

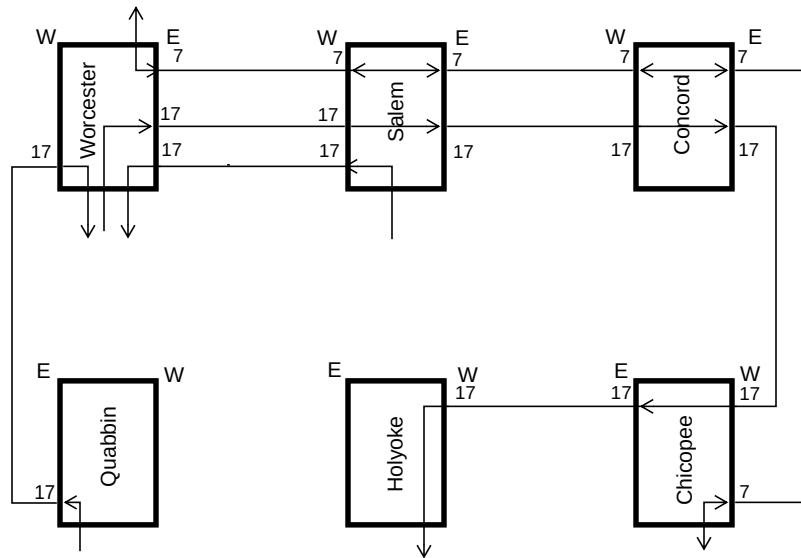
RTRV-CKT:chicopee:m1-1-7:123456;

```
chicopee 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"chicopee,2,a-1-13,m1-1-7,2WAYPR,STS3c,TYPE3:locz=worcester"
"concord,3,m2-1-7,PIF,,,TYPE3"
;
```

RTRV-CKT:salem:m2-1-7:123456;

```
salem 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,REMAID,m2-1-7,2WAYPR,STS3c,TYPE1:locz=chicopee"
"salem,5,m1-1-7,m2-1-7,2WAYPR,STS3c,TYPE1:loca=worcester,
locz=chicopee,circuitid=\"Worcester Chicopee #1\""
"concord,3,m1-1-7,m2-1-7,1WAY,STS3c,TYPE1:loca=worcester,
locz=chicopee"
"chicopee,2,m1-1-7,REMAID,2WAYPR,STS3c,TYPE1:loca=worcester"
;
```

The following example, which is based on the ring illustrated below, shows the output for a **RTRV-CKT** command that requests the circuits using ring channel m2-1-17 at the worcester node. All nodes in the ring are DMX nodes.

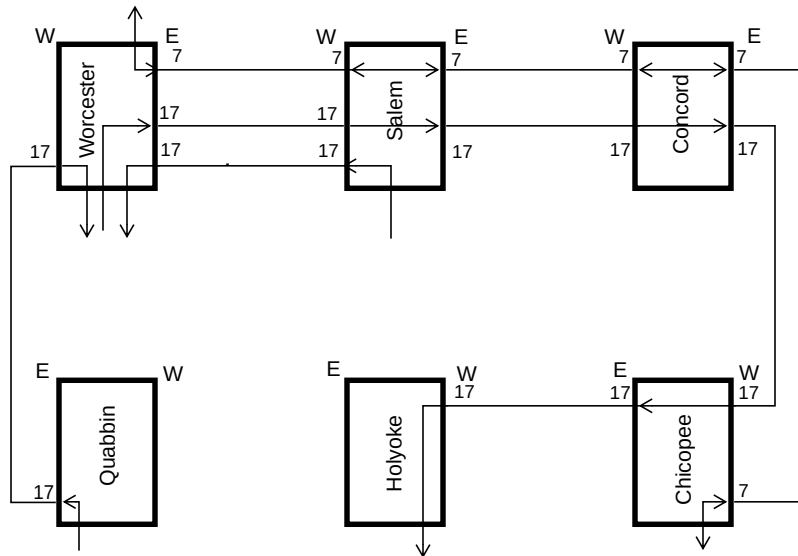


```
RTRV-ckt:worcester:m2-1-17:123456;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,c-3-1,m2-1-17,1WAYPR,STS1:locz=holyoke,
circuitid=\"Worcester to Holyoke\""
"salem,5,m1-1-17,m2-1-17,1WAY,STS1:loca=worcester,locz=holyoke"
"concord,3,m1-1-17,m2-1-17,1WAY,STS1:loca=worcester,locz=holyoke"
"chicopee,2,m1-1-17,m2-1-17,1WAY,STS1:loca=worcester,locz=holyoke"
"holyokey,4,m1-1-17,REMAID,1WAY,STS1:loca=worcester"
"salem,5,REMAID,m1-1-17,1WAY,STS1:locz=worcester"
"worcester,0,m2-1-17,g1-1-1,1WAY,STS1:loca=salem,
circuitid=\"Salem to Worcester\""
;
```

Beginning in Release 4.0, the response in the previous example contains the *rnvtyp* parameter as shown below.

```
RTRV-ckt:worcester:m2-1-17:123456;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,c-3-1,m2-1-17,1WAYPR,STS1,TYPE2:locz=holyoke,
circuitid=\"Worcester to Holyoke\""
"salem,5,m1-1-17,m2-1-17,1WAY,STS1,TYPE3:loca=worcester,
locz=holyoke"
"concord,3,m1-1-17,m2-1-17,1WAY,STS1,TYPE3:loca=worcester,
locz=holyoke"
"chicopee,2,m1-1-17,m2-1-17,1WAY,STS1,TYPE3:loca=worcester,
locz=holyoke"
"holyoke,4,m1-1-17,REMAID,1WAY,STS1,TYPE3:loca=worcester"
"salem,5,REMAID,m1-1-17,1WAY,STS1,TYPE3:locz=worcester"
"worcester,0,m2-1-17,g1-1-1,1WAY,STS1,TYPE3:loca=salem,
circuitid=\"Salem to Worcester\""
;
```

The following example, which is based on the ring illustrated below, shows the output for a **RTRV-CKT** command that requests the circuits using ring channel m2-1-7 at the salem node. All nodes in the ring with the exception of the Concord node are DMX nodes.



```
RTRV-CKT:salem:m2-1-7:123456;

salem 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,REMAID,m2-1-7,2WAYPR,STS3c:locz=chicopee"
"salem,5,m1-1-7,m2-1-7,2WAYPR,STS3c:loca=worcester,locz=chicopee,
circuitid=\"Worcester Chicopee #1\""
"concord,3,REM-W-7,REM-E-7,2WAYPR,STS3c:loca=worcester,
locz=chicopee"
"chicopee,2,m1-1-7,REMAID,2WAYPR,STS3c:loca=worcester"
;
```

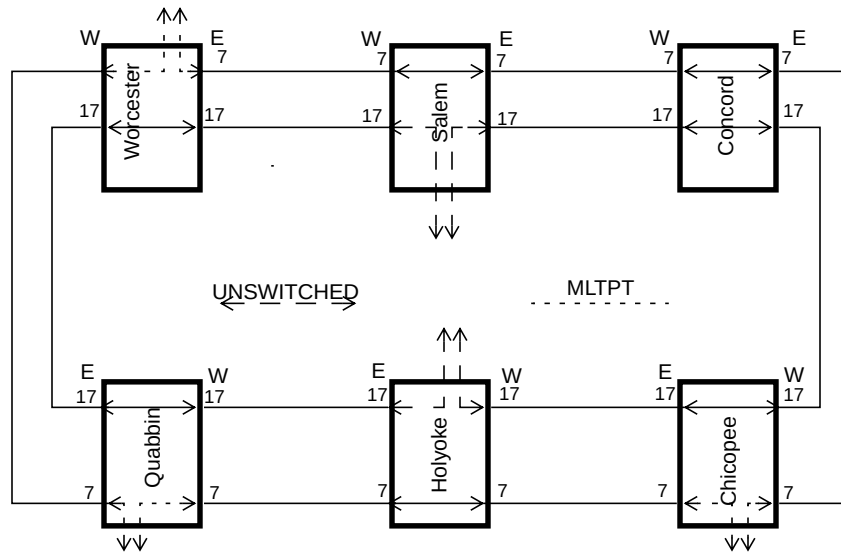
Beginning in Release 4.0, the response in the previous example contains the *rnvtyp* parameter as shown below.

```
RTRV-CKT:salem:m2-1-7:123456;

salem 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,REMAID,m2-1-7,2WAYPR,STS3c,TYPE3:locz=chicopee"
"salem,5,m1-1-7,m2-1-7,2WAYPR,STS3c,TYPE3:loca=worcester,
locz=chicopee,circuitid=\"Worcester Chicopee #1\""
"concord,3,REM-W-7,REM-E-7,2WAYPR,STS3c,TYPE1:loca=worcester,
locz=chicopee"
"chicopee,2,m1-1-7,REMAID,2WAYPR,STS3c,TYPE3:loca=worcester"
;
```

The following example, which is based on the ring illustrated below containing MLTPT cross-connections, shows the output for a **RTRV-CKT** command that

requests the circuits using m2-1-7 at the worcester node. All nodes in the ring with the exception of the concord node are DMX nodes.

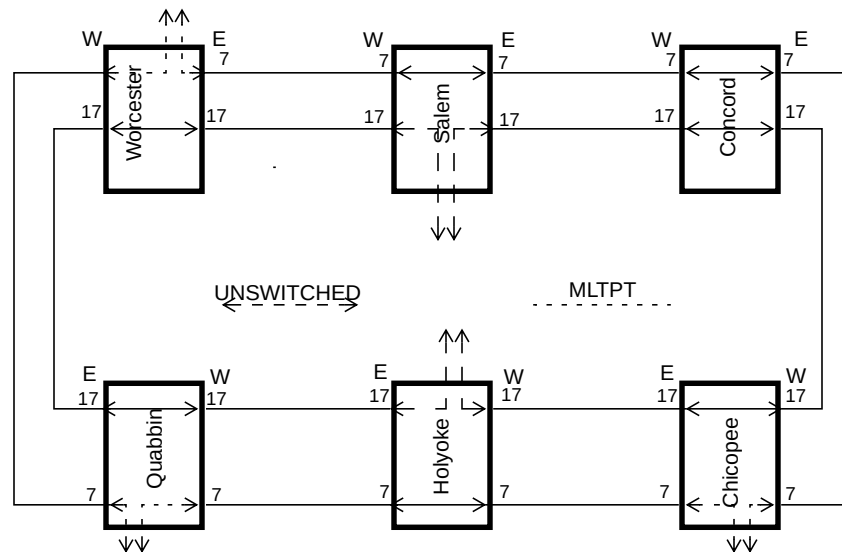


```
RTRV-CKT:worcester:m2-1-7:123456;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g-v1-4,m-1-7,MLTPT,STS1"
"worcester,0,g-v2-4,m-1-7,MLTPT,STS1"
"salem,5,m1-1-7,m2-1-7,2WAYPR,STS1:loca=worcester,locz=chicopee"
"concord,3,REM-W-7,REM-E-7,2WAYPR,STS1:loca=worcester,
locz=chicopee"
"chicopee,2,m1-1-7,REMAID,2WAYPR,STS1"
;
```


Beginning in Release 4.0, the response in the previous example contains the *rnvtyp* parameter as shown below.

```
RTRV-CKT:worcester:m2-1-7:123456;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g-v1-4,m-1-7,MLTPT,STS1,TYPE3"
"worcester,0,g-v2-4,m-1-7,MLTPT,STS1,TYPE3"
"salem,5,m1-1-7,m2-1-7,2WAYPR,STS1,TYPE3:loca=worcester,
locz=chicopee"
"concord,3,REM-W-7,REM-E-7,2WAYPR,STS1,TYPE1:loca=worcester,
locz=chicopee"
"chicopee,2,m1-1-7,REMAID,2WAYPR,STS1,TYPE3"
;
```

The following example, which is based on the ring illustrated below containing UNSWITCHED cross-connections, shows the output for a **RTRV-CKT** command that requests the circuits using m1-1-17 at the salem node. All nodes in the ring with the exception of the concord node are DMX nodes.



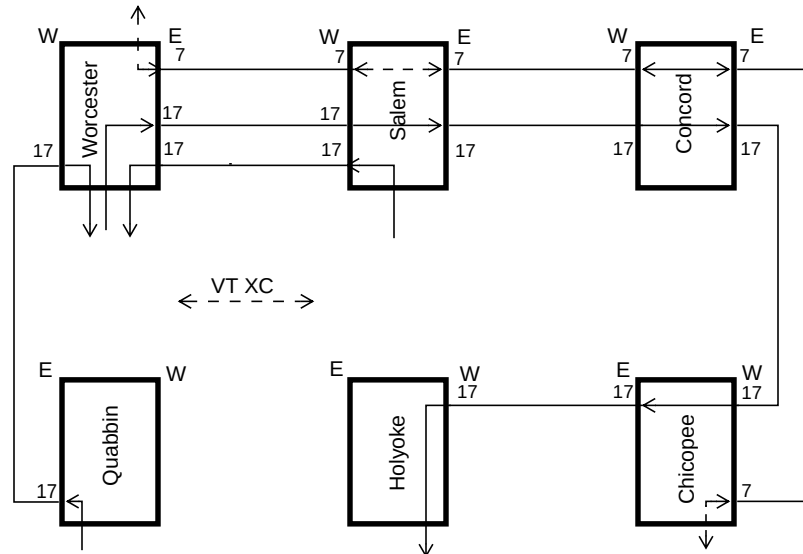
```
RTRV-CKT:salem:m1-1-17:123456;  
salem 03-01-01 08:00:00  
M 123456 COMPLD  
"ring23"  
"salem,5,g-1-1,m-1-17,2WAYPR,STS1:chappl=UNSWITCHED"  
"worchester,0,m2-1-17,m1-1-17,2WAYPR,STS1:loca=salem,locz=holyoke"  
"quabbin,1,m2-1-17,m1-1-17,2WAYPR,STS1:loca=salem,locz=holyoke"  
"holyokey,4,m2-1-17,REMAID,2WAYPR,STS1"  
;
```

Beginning in Release 4.0, the response in the previous example contains the *rnvtyp* parameter as shown below.

```
RTRV-CKT:salem:m1-1-17:123456;  
salem 03-01-01 08:00:00  
M 123456 COMPLD  
"ring23"  
"salem,5,g-1-1,m-1-17,2WAYPR,STS1,TYPE3:chappl=UNSWITCHED"  
"worchester,0,m2-1-17,m1-1-7,2WAYPR,STS1,TYPE3:loca=salem,  
locz=holyoke"  
"quabbin,1,m2-1-17,m1-1-17,2WAYPR,STS1,TYPE3:loca=salem,  
locz=holyoke"  
"holyokey,4,m2-1-17,REMAID,2WAYPR,STS1,TYPE3"  
;
```

The following example, which is based on the ring illustrated below containing VT1 cross-connections, shows the output for a **RTRV-CKT** command that

requests the circuits using m2-1-7-1-1 at the worcester node. All nodes in the ring are DMX nodes.

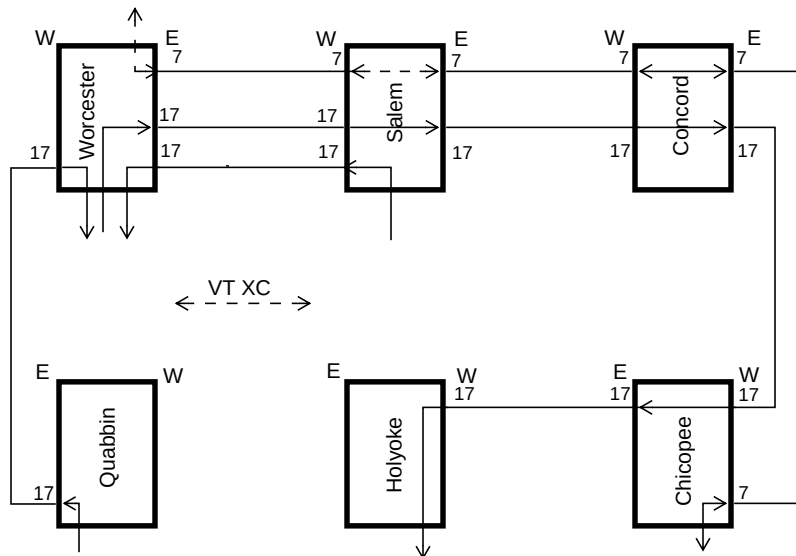


```
RTRV-CKT:worcester:m2-1-7-1-1:123456;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g-2-4-1-1,m2-1-7-1-1,2WAYPR,VT1,TYPE3:locz=salem,
vtlocz=chicopee"
"salem,5,m1-1-7-1-1,m2-1-7-1-1,2WAYPR,VT1,TYPE3:loca=worcester,
locz=chicopee"
"concord,3,g1-1-7,g2-1-7,2WAYPR,STS1,TYPE2:loca=salem,
locz=chicopee,vtacc=YES"
"chicopee,2,m1-1-7-1-1,REMAID,2WAYPR,VT1,TYPE3:loca=salem,
vtloca=worcester"
;
```

Beginning in Release 5.0, the response in the preceding example will contain the *circuitid* parameter for VT cross-connections on the local node as shown below.

```
RTRV-CKT:worcester:m2-1-7-1-1:123456;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g-2-4-1-1,m2-1-7-1-1,2WAYPR,VT1,TYPE3:locz=salem,
vtlocz=chicopee,circuitid=\"Worcester Chicopee #1\""
"salem,5,m1-1-7-1-1,m2-1-7-1-1,2WAYPR,VT1,TYPE3:loca=worcester,
locz=chicopee"
"concord,3,g1-1-7,g2-1-7,2WAYPR,STS1,TYPE2:loca=salem,
locz=chicopee,vtacc=YES"
"chicopee,2,m1-1-7-1-1,REMAID,2WAYPR,VT1,TYPE3:loca=salem,
vtloca=worcester"
;
```

The following example, which is based on the ring illustrated below containing VT1 cross-connections, shows the output for a **RTRV-CKT** command that requests the circuits using m2-1-7 at the worcester node. In this example the m2-1-7 contains a VT circuit which includes a circuit provisioning error (CPE) at the chicopee node due to the STS1 drop of a VT-accessed STS1. All nodes in the ring are DMX nodes.



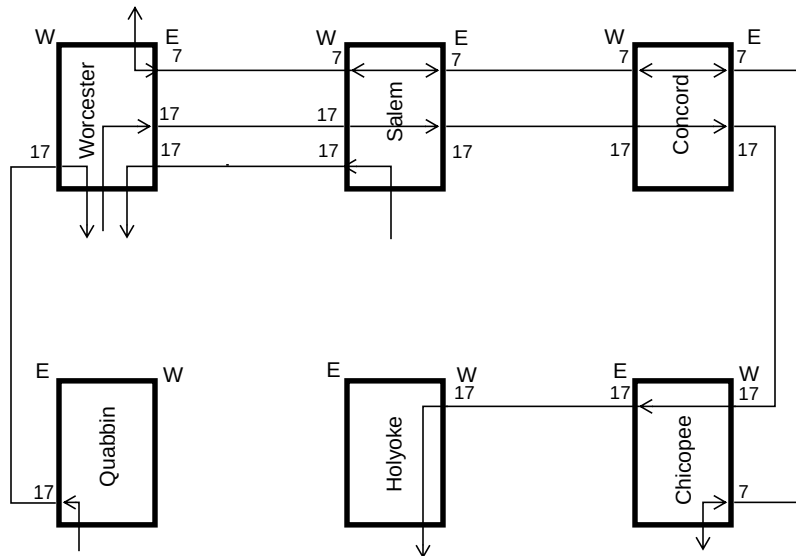
```
RTRV-CKT:worchester:m2-1-7:123456;  
worchester 03-01-01 08:00:00  
M 123456 COMPLD  
"ring23"  
"worchester,0,g-2-4-1-1,m2-1-7-1-1,2WAYPR,VT1,TYPE3:locz=salem,  
vtlocz=chicopee"  
"salem,5,m1-1-7-1-1,m2-1-7-1-1,2WAYPR,VT1,TYPE3:loca=worchester,  
locz=chicopee"  
"concord,3,g1-1-7,g2-1-7,2WAYPR,STS1,TYPE2:loca=salem,  
locz=chicopee,vtacc=YES"  
"chicopee,2,m1-1-7,CPE,,,TYPE3:loca=salem"  
;
```

Beginning in Release 5.0, the response in the preceding example will contain the *circuitid* parameter for VT cross-connections on the local node as shown below.

```
RTRV-CKT:worchester:m2-1-7:123456;  
worchester 03-01-01 08:00:00  
M 123456 COMPLD  
"ring23"  
"worchester,0,g-2-4-1-1,m2-1-7-1-1,2WAYPR,VT1,TYPE3:locz=salem,  
vtlocz=chicopee,circuitid=\"Worcester Chicopee #1\""  
"salem,5,m1-1-7-1-1,m2-1-7-1-1,2WAYPR,VT1,TYPE3:loca=worchester,  
locz=chicopee"  
"concord,3,g1-1-7,g2-1-7,2WAYPR,STS1,TYPE2:loca=salem,  
locz=chicopee,vtacc=YES"  
"chicopee,2,m1-1-7,CPE,,,TYPE3:loca=salem"  
;
```

The following examples are valid beginning in Release 6.0.

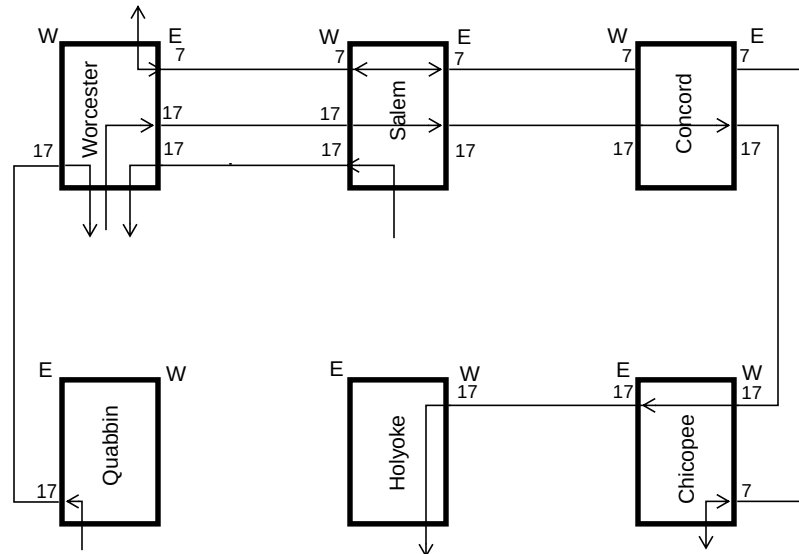
The following example, which is based on the ring illustrated below, shows the output for a **RTRV-CKT** command that requests the circuits using ring channel m2-1-7 at the salem node. All nodes in the ring are DMX nodes.



```
RTRV-CKT:salem:m2-1-7:123456;
salem 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"chicopee,2,REMAID,m1-1-7,1WAY,STS3c,TYPE3:locz=worchester"
"concord,3,m2-1-7,m1-1-7,1WAY,STS3c,TYPE3:loca=chicopee,
locz=worchester"
"salem,5,m2-1-7,m1-1-7,1WAY,STS3c,TYPE3:circuitid=\"Worcester
Chicopee #1\",loca=chicopee,locz=worchester,xcappl=11,xcnum=010100700"
"worchester,0,m2-1-7,REMAID,1WAY,STS3c,TYPE3:loca=chicopee"
"worchester,0,REMAID,m2-1-7,1WAY,STS3c,TYPE3:locz=chicopee"
"salem,5,m1-1-7,m2-1-7,1WAY,STS3c,TYPE3:circuitid=\"Worcester
Chicopee #1\",loca=worchester,locz=chicopee,xcappl=11,xcnum=010100700"
"concord,3,m1-1-7,m2-1-7,1WAY,STS3c,TYPE3:loca=worchester,
locz=chicopee"
"chicopee,2,m1-1-7,REMAID,1WAY,STS3c,TYPE3:loca=worchester"
;
```

The following example, which is based on the ring illustrated below, shows the output for a **RTRV-CKT** command that requests circuits using ring channel m2-1-7 at the salem node. The circuits include a path integrity failure (PIF) at the concord node due to the missing pass-through cross-connections. Both loca and locz, for the circuit with the path integrity failure, are reported. This implies that these values were user provisioned since the automatic squelch map generation

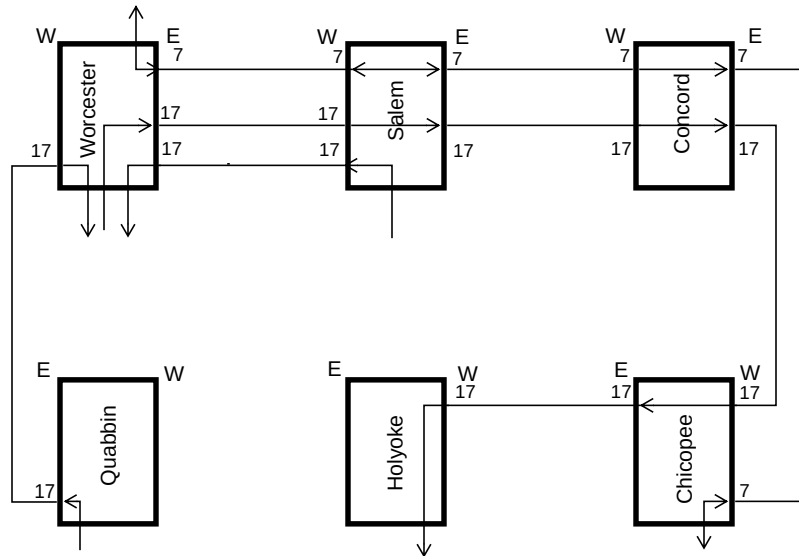
algorithm could not discover that the circuit terminated at chicopee due to the PIF.
All nodes in the ring are DMX nodes.



```
RTRV-CKT:salem:m2-1-7:123456;
salem 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"concord,3,PIF,m1-1-7,,,TYPE3"
"salem,5,m2-1-7,m1-1-7,1WAY,STS3c,TYPE3:circuitid=\"Worcester
Chicopee #1\", loca=chicopee, locz=worchester, xcappl=11, xcnun=010100700"
"worchester,0,m2-1-7,REMAID,1WAY,STS3c,TYPE3:loca=chicopee"
"worchester,0,REMAID,m2-1-7,1WAY,STS3c,TYPE3:locz=chicopee"
"salem,5,m1-1-7,m2-1-7,1WAY,STS3c,TYPE3:circuitid=\"Worcester
Chicopee #1\", loca=worchester, locz=chicopee, xcappl=11, xcnun=010100700"
"concord,3,m1-1-7,PIF,,,TYPE3"
;
```

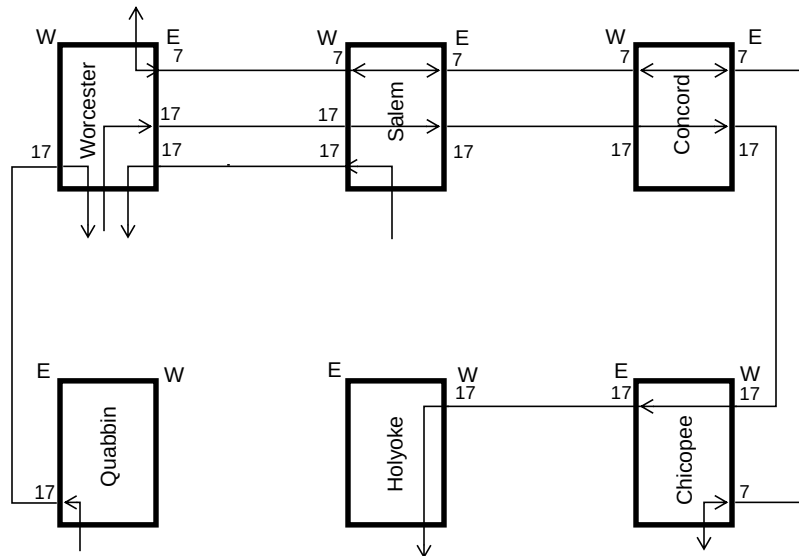
The following example, which is based on the ring illustrated below, shows the output for a **RTRV-CKT** command that requests the circuits using ring channel m1-1-7 at the chicopee node. The circuit includes a path integrity failure (PIF) in one direction of transmission at the concord node due to the presence of a single 1-way cross-connection in a 2-way circuit. Due to the path integrity failure, the automatic squelch map generation algorithm cannot discover the locz value for

the circuit originating at the chicopee node. Note, at the chicopee node, there is a 1WAYPR add cross-connection. All nodes in the ring are DMX nodes.



```
RTRV-CKT:chicopee:m1-1-7:123456;
chicopee 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"chicopee,2,a1-1-13,m1-1-7,1WAYPR,STS3c,TYPE3,a2-1-13:xcappl=70,
xcnum=030101300"
"concord,3,m2-1-7,PIF,,,TYPE3"
"worchester,0,REMAID,m2-1-7,1WAY,STS3c,TYPE3:locz=chicopee"
"salem,5,m1-1-7,m2-1-7,1WAY,STS3c,TYPE3:loca=worchester,
locz=chicopee,circuitid=\"Worcester Chicopee #1\""
"concord,3,m1-1-7,m2-1-7,1WAY,STS3c,TYPE3:loca=worchester,
locz=chicopee"
"chicopee,2,m1-1-7,a1-1-13,1WAY,STS3c,TYPE3:loca=worchester,
xcappl=70,xcnum=030101300"
;
```

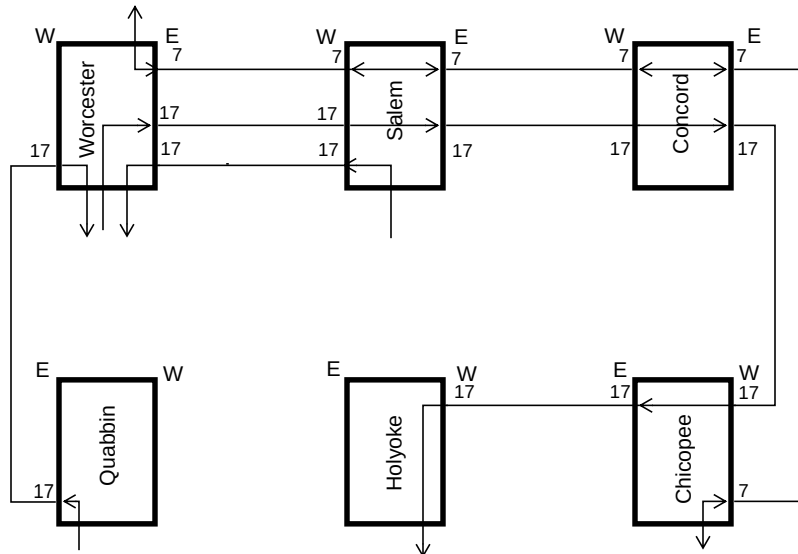

The following example, which is based on the ring illustrated below, shows the output for a **RTRV-CKT** command that requests the circuits using ring channel m2-1-17 at the worcester node. All nodes in the ring are DMX nodes.



```
RTRV-ckt:worcester:m2-1-17:123456;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
  "worcester,0,c1-3-1,m2-1-17,1WAYPR,STS1,TYPE3,c2-3-1:circuitid=
  \"worcester to Holyoke\",locz=holyoke,xcappl=70,xcnum=080300100"
  "salem,5,m1-1-17,m2-1-17,1WAY,STS1,TYPE3:loca=worcester,
  locz=holyoke"
  "concord,3,m1-1-17,m2-1-17,1WAY,STS1,TYPE3:loca=worcester,
  locz=holyoke"
  "chicopee,2,m1-1-17,m2-1-17,1WAY,STS1,TYPE3:loca=worcester,
  locz=holyoke"
  "holyoke,4,m1-1-17,REMAID,1WAY,STS1,TYPE3:loca=worcester"
  "salem,5,REMAID,m1-1-17,1WAY,STS1,TYPE3:locz=worcester"
  "worcester,0,m2-1-17,g1-1-1,1WAY,STS1,TYPE3:circuitid=\"Salem to
  Worcester\",loca=salem,xcappl=70,xcnum=080300100"
;
```

The following example, which is based on the ring illustrated below, shows the output for a **RTRV-CKT** command that requests the circuits using ring channel m2-

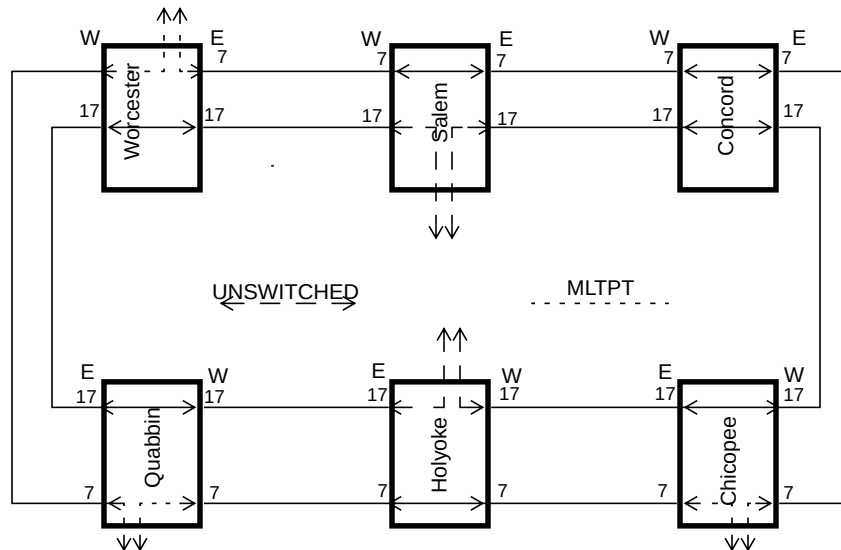
1-7 at the salem node. All nodes in the ring with the exception of the Concord node are DMX nodes.



```
RTRV-CKT:salem:m2-1-7:123456;
salem 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"chicopee,2,REMAID,m1-1-7,1WAY,STS3c,TYPE3:locz=worchester"
"concord,3,REM-E-7,REM-W-7,1WAY,STS3c,TYPE1:loca=chicopee,
locz=worchester"
"salem,5,m2-1-7,m1-1-7,1WAY,STS3c,TYPE3:circuitid=\"Worcester
Chicopee #1\",loca=chicopee,locz=worchester,xcappl=11,xnum=010100700"
"worchester,0,m2-1-7,REMAID,1WAY,STS3c,TYPE3:loca=chicopee"
"worchester,0,REMAID,m2-1-7,1WAY,STS3c,TYPE3:locz=chicopee"
"salem,5,m1-1-7,m2-1-7,1WAY,STS3c,TYPE3:circuitid=\"Worcester
Chicopee #1\",loca=worchester,locz=chicopee,xcappl=11,xnum=010100700"
"concord,3,REM-W-7,REM-E-7,1WAY,STS3c,TYPE1:loca=worchester,
locz=chicopee"
"chicopee,2,m1-1-7,REMAID,1WAY,STS3c,TYPE3:loca=worchester"
;
```

The following example, which is based on the ring illustrated below containing multipoint cross-connections, shows the output for a **RTRV-CKT** command that requests the circuits using m2-1-7 at the worcester node. All nodes in the ring

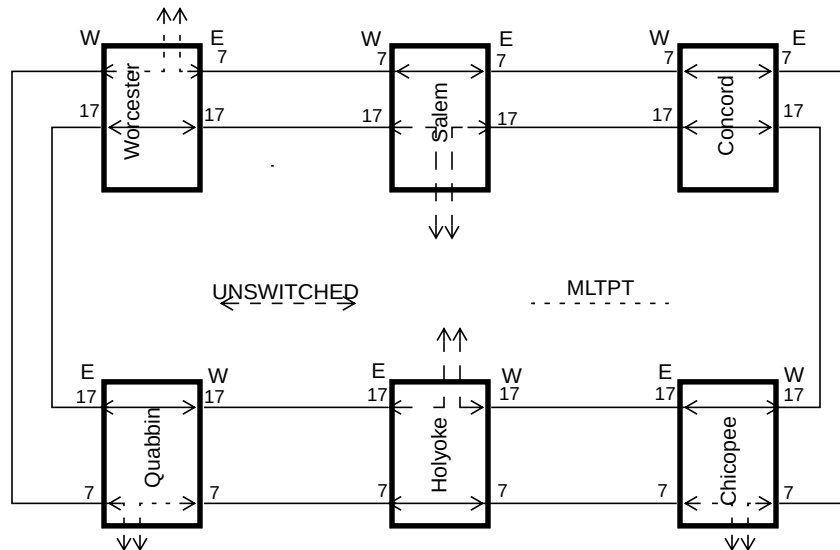
with the exception of the concord node are DMX nodes. Multipoint cross-connections are reported with chappl=UNSWITCHED.



```
RTRV-CKT:worcester:m2-1-7:123456;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g1-v2-4,m2-1-7,1WAY,STS1,TYPE3:chappl=UNSWITCHED,
xcappl=14,xcnum=110200400"
"salem,5,m1-1-7,m2-1-7,1WAY,STS1,TYPE3:loca=worcester,
locz=chicopee"
"concord,3,REM-W-7,REM-E-7,1WAY,STS1,TYPE1:loca=worcester,
locz=chicopee"
"chicopee,2,m1-1-7,REMAID,1WAY,STS1,TYPE3"
"chicopee,2,REMAID,m1-1-7,1WAY,STS1,TYPE3"
"concord,3,REM-E-7,REM-W-7,1WAY,STS1,TYPE1:loca=chicopee,
locz=worcester"
"salem,5,m2-1-7,m1-1-7,1WAY,STS1,TYPE3:loca=chicopee,
locz=worcester"
"worcester,0,m2-1-7,g1-v2-4,1WAY,STS1,TYPE3:chappl=UNSWITCHED,
xcappl=14,xcnum=110200400"
;
```

The following example, which is based on the ring illustrated below containing UNSWITCHED cross-connections, shows the output for a **RTRV-CKT** command

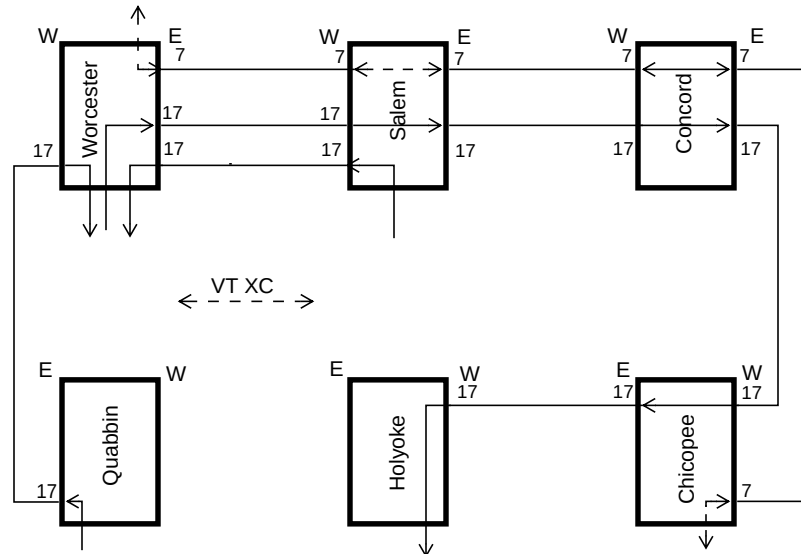
that requests the circuits using m1-1-17 at the salem node. All nodes in the ring with the exception of the concord node are DMX nodes.



```
RTRV-CKT:salem:m1-1-17:123456;
salem 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"salem,5,g1-1-1,m1-1-17,1WAY,STS1,TYPE3:chappl=UNSWITCHED,
xcappl=23,xcnum=110100100"
"worchester,0,m2-1-17,m1-1-7,1WAY,STS1,TYPE3:loca=salem,
locz=holyoke"
"quabbin,1,m2-1-17,m1-1-17,1WAY,STS1,TYPE3:loca=salem,
locz=holyoke"
"holyoke,4,m2-1-17,REMAID,1WAY,STS1,TYPE3"
"holyoke,4,REMAID,m2-1-17,1WAY,STS1,TYPE3"
"quabbin,1,m1-1-17,m2-1-17,1WAY,STS1,TYPE3:loca=holyoke,
locz=salem"
"worchester,0,m1-1-17,m2-1-7,1WAY,STS1,TYPE3:loca=holyoke,
locz=salem"
"salem,5,m1-1-17,g1-1-1,1WAY,STS1,TYPE3:chappl=UNSWITCHED,
xcappl=23,xcnum=110100100"
;
```

The following example, which is based on the ring illustrated below containing VT1 cross-connections, shows the output for a **RTRV-CKT** command that

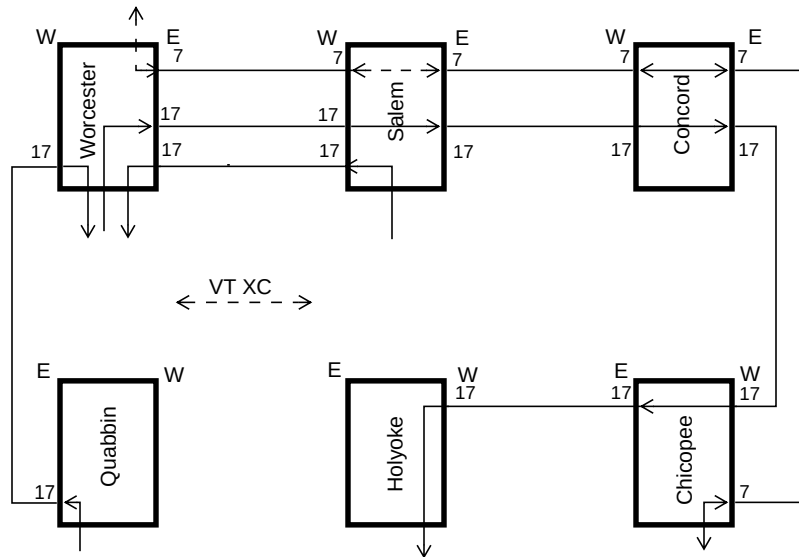
requests the circuits using m2-1-7-1-1 at the worcester node. All nodes in the ring are DMX nodes.



```
RTRV-CKT:worcester:m2-1-7-1-1:123456;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g1-2-4-1-1,m2-1-7-1-1,1WAY,VT1,TYPE3:circuitid=
\"Worcester Chicopee #1\", locz=salem,xcappl=70,xcnum=110200401"
"salem,5,m1-1-7-1-1,m2-1-7-1-1,1WAY,VT1,TYPE3: loca=worcester,
locz=chicopee"
"concord,3,g1-1-7,g2-1-7,1WAY,STS1,TYPE2: loca=salem,
locz=chicopee,vtacc=YES"
"chicopee,2,m1-1-7-1-1,REMAID,1WAY,VT1,TYPE3: loca=salem,
vtloca=worcester"
"chicopee,2,REMAID,m1-1-7-1-1,1WAY,VT1,TYPE3: loca=salem"
"concord,3,g2-1-7,g1-1-7,1WAY,STS1,TYPE2: loca=chicopee,
locz=salem,vtacc=YES"
"salem,5,m2-1-7-1-1,m1-1-7-1-1,1WAY,VT1,TYPE3: loca=chicopee,
locz=salem"
"worcester,0,m2-1-7-1-1,g1-2-4-1-1,1WAY,VT1,TYPE3:circuitid=
\"Worcester Chicopee #1\", loca=salem,vtloca=chicopee,xcappl=70,
xcnum=110200401"
;
```

The following example, which is based on the ring illustrated below containing VT1 cross-connections, shows the output for a **RTRV-CKT** command that requests the circuits using m2-1-7 at the worcester node. In this example the m2-

1-7 contains a VT circuit which includes circuit provisioning errors (CPE) at the chicopee node due to the STS1 add/drop of a VT-accessed STS1. Note that as a result of the circuit provisioning error, vtloca, for the VT drop cross-connection at the worcester node, cannot be determined and is therefore not reported. All nodes in the ring are DMX nodes.



```
RTRV-CKT:worcester:m2-1-7:123456;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g1-2-4-1-1,m2-1-7-1-1,1WAY,VT1,TYPE3:circuitid=
\"Worcester Chicopee #1\", locz=salem,xcappl=70,xcnum=110200401"
"salem,5,m1-1-7-1-1,m2-1-7-1-1,1WAY,VT1,TYPE3: loca=worcester,
locz=chicopee"
"concord,3,g1-1-7,g2-1-7,1WAY,STS1,TYPE2: loca=salem,
locz=chicopee,vtacc=YES"
"chicopee,2,m1-1-7,CPE,,,TYPE3: loca=salem"
"chicopee,2,CPE,m1-1-7,,,TYPE3: locz=salem"
"concord,3,g2-1-7,g1-1-7,1WAY,STS1,TYPE2: loca=chicopee,
locz=salem,vtacc=YES"
"salem,5,m2-1-7-1-1,m1-1-7-1-1,1WAY,VT1,TYPE3: loca=chicopee,
locz=worcester"
"worcester,0,m2-1-7-1,g2-2-4-1-1,1WAY,VT1,TYPE3:circuitid=
\"Worcester Chicopee #1\", loca=salem,xcappl=70,xcnum=110200401"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may apply to this command.

If the system receives an **RTRV-CKT** command in which a required parameter is not specified, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more of the required
parameters is missing */
;
```

If the NE receives an **RTRV-CKT** command in which one or more of the input parameter values does not belong to the set of allowable parameter values for that specific parameter, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid value of one or more
of the input parameters */
;
```

If the NE receives a **RTRV-CKT** command with an **aid** that is incorrect or not supported by the system, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access Identifier, AID is wrong or missing */
;
```

If the NE receives a **RTRV-CKT** command in which the specified *aid* is not a ring channel on an existing BLSR protection group, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not Valid State, Not a 2F protection group */
;
```

If the NE receives a valid **RTRV-CKT** command but the command cannot be processed because the ring topology is incomplete for one of the following reasons,

- Ring topology incomplete due to ring communications failure
- Ring topology incomplete due to nodes with duplicate TIDs or NSAPs
- Ring topology incomplete due to more than 16 nodes in the ring
- Ring circuit map incomplete due to ring communications failure
- Automatic Ring Discovery is disabled

The command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, ring circuit topology
incomplete */
;
```

RELATED TL1 MESSAGES

RTRV-TMSLT

NAME

RTRV-COND: Retrieve Condition

The **RTRV-COND** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-COND -
modifier : *tid* : [*aid*] : *ctag* : : [*condtype*], [*locn*], [*dirn*], [*tmper*];

DESCRIPTION

RTRV-COND command requests that the network element (NE) send the current state of every circuit pack slot and facility whose AID is specified in the command. If the command is **RTRV-COND-ALL** the state of all the slots and facilities associated with the NE is returned.

In response to the **RTRV-COND** command message, the system generates an output message that includes *all* active status conditions, unless the **RTRV-COND** command message specifies that the response be limited to a specific *aid*.

RTRV-COND is closely related to **REPT EVT** which autonomously reports when an alarm of notification code NA either sets or clears. **RTRV-COND** retrieves the **REPT EVT** events that are still set.

When the system receives a **RTRV-COND** command message, the system responds with separate lines for each facility and/or equipment *aid* requested. For each *aid*, the system reports the current state condition type from Appendix C.

The state condition types in Appendix C are different from the condition types used in the autonomous **REPT ALM** and **REPT EVT** messages, and in the responses to **RTRV-ALM** command messages (those condition types are specified in **Appendix C**).

Using state condition types in **RTRV-COND** response messages enables the system to report the status of system components that are operating normally, and thus do not appear in response to the **RTRV-ALM** command message (for example, **IS-NR-ACT**). Also, state condition types enable the system to report protection switching status and the provisioned state of facilities and equipment.

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-313. RTRV-COND Input Parameters (cont 1 of 4)

Parameter Name	Description
<i>modifier</i>	The command code modifier must have one of the following values: EQPT, COM, ALL or “rr”. This is a required parameter. Null or anything other than the supported values will not be accepted. ■ EQPT Equipment ■ COM Common Equipment ■ ALL Includes all values. ■ rr - the specified facility type. Valid values of rr are listed below: ■ E1 E1 port. ■ EC1 EC-1 ■ FELAN A condition at an Ethernet 10/100T ■ GELAN A condition at an Ethernet GbE ■ ENET An Ethernet condition ■ VCG A Virtual Concatenation Group ■ DATA A Data port ■ LAG A Link Aggregation Group ■ OC3 OC-3 line. ■ OC12 OC-12 line. ■ OC48 OC-48 line. ■ OC192 OC-192 line. ■ STS1 STS-1 ring channel ■ STS3c STS-3c ring channel.

Table 2-313. RTRV-COND Input Parameters (cont 2 of 4)

Parameter Name	Description
	■ STS12c STS-12c ring channel. ■ STS48c STS-48c ring channel. ■ T1 DS1 port ■ T3 DS3 port ■ VT1 VT1.5 channel. ■ VC12 VC12 channel. ■ OCH Optical Channel ■ OTS OTS Line ■ ODU2 ODU2 Line ■ OTU2 OTU2 Line
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The system accepts and limits information included in the RTRV-COND response message based on the slot <i>aid</i>, if any are included in the command message. The <i>aid</i> parameter will specify the slot <i>aid</i> for which the current status conditions are requested. Beginning in Release 4.0, the AID Format/Rules are as follows: ■ Slot AID ■ Port AID ■ Channel or Ring Channel AID ■ Line or line pair AID Beginning in Release 6.0, the <i>aid</i> parameter will no longer accept Channel or Line Pair AIDs. Ring Channel AIDs and Line AIDs will be accepted. ■ Shelf ■ Socket AID ■ NVM AID ■ LAG AID ■ OCH AID

Table 2-313. RTRV-COND Input Parameters (cont 3 of 4)

Parameter Name	Description
	■ ODU2 AID ■ OTU2 AID ■ OTS AID Beginning in Release 4.0, the aid parameter accepts and limits the information included in the RTRV-COND response message based on the aid, if any, included in the command message. If the aid parameter value is ALL, if it is invalid or if it conflicts with the command code modifier, the system will ignore the aid value and respond without limiting the output response based on the input aid value. Beginning in Release 4.0, if the aid parameter value is invalid or conflicts with the command code modifier, an IIAC error response is returned. Refer to the RTRV-HDR command for an example of the IIAC error response. If the command code modifier is COM or ALL, aid is expected to be null or ALL, respectively and the system responds without limiting the output response based on the input aid value, if any. Beginning in Release 4.0, if the command code modifier is COM or ALL, aid is expected to be null. Beginning in Release 9.0, in a multi-shelf DCS system, if ALL is entered, the NE returns all conditions in the main shelf for entities of the type specified by the value of the command code modifier. To retrieve all conditions in a subshelf for entities of the type specified by the value of the command code modifier, use {shelf}-ALL where {shelf} indicates the subshelf number. Beginning in Release 9.0, in a multi-shelf DCS system, if NULL is entered, the NE returns all conditions in the system for entities of the type specified by the value of the command code modifier. For DS3 egress (from fiber) conditions, conditions may be retrieved using a modifier = ALL, or modifier = T3 and the aid = ALL. Beginning in Release 6.0, DS3 egress (from fiber) conditions may also be retrieved using a modifier = T3 and the aid of the DS3 port.

Table 2-313. RTRV-COND Input Parameters (cont 4 of 4)

Parameter Name	Description
	Beginning in Release 5.0, if the aid addresses a specific STSn cross-connect and the modifier = STSn, a report is generated for each constituent of that cross-connect. If the modifier = STSn and the aid = ALL, a report is generated for only those conditions issued against that specific rate (e.g. if modifier = STS12c and the aid = ALL, a report is generated for each alarm or event which has an accepted rate of STS12c). See the AID table in Appendix A.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
condtype	Condition Type. The system is not required to support condtype parameters for RTRV-COND commands. If a RTRV-COND message is received with non-null values for condtype parameters, the system will still respond without limiting the output response based on those input parameter values. Beginning in Release 1.0, condtype of SWFTDWN is allowed. When this condition type is used in the input command, the RTRV-COND response includes active status conditions pertaining only to the SWFTDWN condition type.
locn	Location. The system is not required to support the locn parameter for RTRV-COND commands. If a RTRV-COND message is received with a non-null value for the locn parameter, the system will still respond without limiting the output response based on the input parameter value.
dirn	Direction. The system is not required to support the dirn parameter for RTRV-COND commands. If a RTRV-COND message is received with a non-null value for the dirn parameter, the system will still respond without limiting the output response based on the input parameter value.
tmper	Time Period. The system is not required to support the tmper parameter for RTRV-COND commands. If a RTRV-COND message is received with a non-null value for the tmper parameter, the system will still respond without limiting the output response based on the input parameter value.

OUTPUT FORMAT

If there are no conditions to report, the following report is output:

```
sid date time
M ctag COMPLD
;
```

If there are conditions to report, the following report is output:

```
sid date time
M ctag COMPLD
"aid,aidtype:ntfcncde,condtype,srveff,ocrdat,ocrtm,,,\"conddescr\""
;
```

OUTPUT PARAMETERS

Table 2-314. RTRV-COND Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. Beginning in Release 6.0, for UPSR applications, when STS cross-connected, and the modifier = VT1 or VC12, the report is generated for the currently active side, regardless of which side is entered in the <i>aid</i> field. Beginning in Release 6.0, for 1+1 applications, when VT1 or VC12 cross-connected and the modifier = VT1 or VC12, the report is generated for the currently active side, regardless of which side is entered in the <i>aid</i> field.
<i>aidtype</i>	Access Identifier Type. Valid values for <i>aidtype</i> are (the same as the valid values of the message modifier included in the input command, except when the message modifier is ALL) as follows:

Table 2-314. RTRV-COND Output Parameters (cont 2 of 2)

Parameter Name	Description
	■ EQPT Equipment. Although there may not be any equipment status conditions initially, they may be required in the future (e.g., for equipment protection switch status). ■ rr Facility ■ COM Common
<i>ntfcncde</i>	Notification Code. This parameter will have one of the following values: ■ NA Not alarmed. ■ NR Not reported when the event occurs, that is, with normal in-service status conditions.
<i>condtype</i>	Condition Type. This parameter should have the applicable value from Appendix C.
<i>srveff</i>	Service effect. This indicates the effect of the reported condition on service. This parameter value is always NSA (non service affecting) for status conditions.
<i>ocrdat</i>	Occurrence Date. It has the format MM-DD (month-day).
<i>ocrtm</i>	Occurrence Time. It has the format HH-MM-SS (hours-minutes-seconds).
<i>conddescr</i>	Condition Description. This is the detailed text description of the status condition and shall have the same value as the description (<i>conddescr</i>) in the autonomous REPT EVT message used to report the condition when it occurs. The <i>conddescr</i> entry is enclosed inside a pair of escaped quotes (\").

EXAMPLE INPUT/OUTPUT

If there are conditions to report, the following sample report is output:

```
RTRV-COND-OC48:TID123:main-1-1:123456;  
  
TID123 94-10-26 16:42:11  
M 123456 COMPLD  
"main-1-1,OC48:NA,RDI-L,NSA,10-04,16-21-08,,,,\"Incoming OC-48 RDI-L\""  
;
```

If a **RTRV-COND** report is submitted with the condtype of **SWFTDWN**, while an **APPLY** command is in progress (for NE generic or circuit pack when taking part of a bundled software download (No AID is used)), the following sample report is output:

```
RTRV-COND-COM:LT-TID123::123456::swftdwn;  
  
LT-TID123 01-10-26 16:42:11  
M 123456 COMPLD  
",COM:NA,SWFTDWN,SC,10-04,16-21-08,,,,\"install program IP\""  
;
```

If a **RTRV-COND** report is submitted with the condtype of **MAN**, while the ABN LED is illuminated, an **ABN** condition will be active. The following sample report is output:

```
RTRV-COND-COM:LT-TID123::123456::man;  
  
LT-TID123 01-10-26 16:42:11  
M 123456 COMPLD  
"userpanel,COM:NA,MAN,SC,10-04,16-21-08,,,,\"ABN condition\""  
;
```

Beginning in Release 5.0, the following example shows the standing conditions for the STS1 constituents of a tributary cross-connected at the STS3c rate.

RTRV-COND-STS3c:LT-TID123:m1-1-1:123456;

```
LT-TID123 01-10-26 16:42:11
M 123456 COMPLD
"m1-1-1,STS1:NA,AIS,SC,01-01,00-01-50,,,,\"inc. STS1 AIS\""
"m1-1-2,STS1:NA,AIS,SC,01-01,00-01-50,,,,\"inc. STS1 AIS\""
"m1-1-3,STS1:NA,AIS,SC,01-01,00-01-50,,,,\"inc. STS1 AIS\""
;
```

Beginning in Release 4.0, the following example shows a standing condition for T3 egress (from fiber) conditions.

RTRV-COND-T3:LT-TID123:all:123456;

```
LT-TID123 04-08-11 18:26:26
M 123456 COMPLD
"g2-4-3,T3:NA,AIS,SC,08-11,18-03-33,,,,\"inc. (from fiber) DS3 AIS\""
;
```

Beginning in Release 6.0, the following example replaces the previous example for T3 conditions.

RTRV-COND-T3:LT-TID123:b-1:123456;

```
LT-TID123 04-08-11 18:26:26
M 123456 COMPLD
"b-1,T3:NA,AIS,SC,08-11,18-03-33,,,,\"inc. (from fiber) DS3 AIS\""
;
```

Beginning in Release 6.0, the following example shows the standing conditions for the VT1.5 in a UPSR configuration when STS cross-connected. The retrieve request is for side 2, but side 1 is the active side, so the report is on side 1.

RTRV-COND-VT1:LT-TID123:m2-1-1-2-4:123456;

```
LT-TID123 01-10-26 16:42:11
M 123456 COMPLD
"m1-1-1-2-4,VT1:NA,AIS,SC,01-01,00-01-50,,,,\"inc. VT AIS\"";
```

Beginning in Release 6.0, the following example shows the standing conditions for the VT1.5 in a 1+1 configuration when VT cross-connected.

RTRV-COND-VT1:LT-TID123:m1-1-1-2-4:123456;

```
LT-TID123 01-10-26 16:42:11
M 123456 COMPLD
"m1-1-1-2-4,VT1:NA,AIS,SC,01-01,00-01-50,,,,\"inc. VT AIS\"";
```

The following example shows the OTS condition at b1:

RTRV-COND-OTS:LT-TID123:b1-OTS:123456;

```
LT-TID123 01-10-26 16:42:11
M 123456 COMPLD
"b1-OTS,OTS:NA,LOS,SC,10-26,16-42-12,,,,\"inc. OTS LOS\"";
```

ERROR RESPONSES

If the system receives a **RTRV-COND** command with a command code modifier other than EQPT, a supported "rr" value, **COM** or **ALL**, the following error response will be returned:

```
sid date time
M ctag DENY
  ICNV
  /* Input, Command Not Valid, invalid modifier */
;
```

During the initial software download state, the **RTRV-COND** command can only take *modifier* value of **COM**. If the **RTRV-COND** command is received with a *modifier* other than **COM**, the system will reply with:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, only com modifier is allowed during
  initial software download state */
;
```

If the system receives a **RTRV-COND** command with an *aid* of side 2 when VT cross-connected in a 1+1 configuration, the following error response will be returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID must be VT logical ring channel
  aid */
;
```

RELATED TL1 MESSAGES

REPT ALM

REPT ALM ENV

RTRV-COND
TL1 Message Details

RTRV-COND
Alcatel-Lucent 1665 DMX, R9.0

REPT EVT

RTRV-ALM

NAME

RTRV-CONN: Retrieve Control Plane Connection

The **RTRV-CONN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-CONN:*tid::ctag::[callid][,connid][:spec_block];*

DESCRIPTION

The **RTRV-CONN** command retrieves the connection segment information associated with the specified end-to-end soft permanent connection (SPC). To retrieve the data for all connection segments of the end-to-end SPC, the management system must retrieve the connection segment information at the ingress node of each domain traversed by the SPC. **RTRV-CONN** permits the user to retrieve connection segment information for all control plane connections on the NE (**callid=ALL**), for all control plane connection segments associated with a specific **callid**, or for a specific control plane connection segment identified by the **callid** and **connid** parameters. In addition, the command permits the user to retrieve all connection segments on an EDGE port identified by a logical port ID (**logportid**).

Execution of this command is not recorded in the Security log.

Following the successful completion of the command, the NE does not issue a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-315. RTRV-CONN Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax, and a description of this parameter.
<i>callid</i>	Call Identifier. Operator-specific call identifiers are supported. An operator-specific <i>callid</i> is a fixed-length 12-byte (24-character) hexadecimal string. One suggested format is where the first 4 bytes (8 characters) represent the source network element address (the hexadecimal encoding of the <i>nodeid</i> (see RTRV-NODE-ENNI)) and the remaining 8 bytes (16 characters) represent the local identifier. ALL is an allowable <i>callid</i> value. If <i>callid</i>=ALL, <i>connid</i> must be omitted. <i>callid</i> cannot be specified in the same command with <i>logportid</i>.

Table 2-315. RTRV-CONN Input Parameters (cont 2 of 2)

Parameter Name	Description
connid	Connection Identifier. connid is a unique identifier for a connection segment within the local domain. There may be more than one connid associated with a single callid. connid is a character string containing up to 41 characters that is composed of the source node ID, a tributary aid and an index number. The format is as follows. nodeid&tributary_aid&index where nodeid The node ID of the ingress node within the local domain for this connection. It is an IPv4 formatted identifier consisting of four dot-separated integers ranging from 0 to 255. tributary_aid A dash-separated string of 5 integers, representing Bay/Frame #, Shelf #, Slot #, Port #, Tributary #, that identifies the ingress port's tributary within the local domain for this connection, with — Bay/Frame # = 1 — Shelf # = 1 — Slot # = 1-12 (see Table 2-319 for a mapping of NE slots to integer values) — Port # = 1-48 — Tributary # = 1-192 For slots equipped with Ethernet packs, the Port # corresponds to a VCG number. For example, Port # = 1 represents VCG v1. index An integer in the range 0-4294967295 Example 200.10.10.10&1-1-2-1-1&100 If callid=ALL, connid must be omitted. connid cannot be specified in the same command with logportid.
spec_block	The spec_block parameters are listed and described in the following table.

Table 2-316. RTRV-CONN Input *spec_block* Parameters

Parameter Name	Description
<i>logportid</i>	Logical Port Identifier. <i>logportid</i> is an integer that identifies an EDGE port. Values: ■ 1 - 4294967295 <i>logportid</i> cannot be specified in the same command with <i>callid</i> or <i>connid</i>.

OUTPUT FORMAT

If the **RTRV-CONN** is accepted, the following normal completion response is returned.

```

sid date time
M ctag COMPLD
  < zero or more occurrences of the following lines for each
  connection that originated at this node >
    "callid=x,connid=x,servlevel=x,dir=x,bandwidth=x,
    prototype=x,remotetid=x,,connorigin=x:spec_block"
  ...
  ...
  < zero or more occurrences of the following lines for each
  connection that originated at another node >
    "callid=x,connid=x,servlevel=x,dir=x,bandwidth=x,
    prototype=x,remotetid=,,connorigin=x":ennisegid=x,ero=x
  ;

```

If only the ***callid*** or ***logportid*** is specified, but it does not exist, the command completes without returning the connection-specific output parameters.

If both the ***callid*** and the ***connid*** are specified, but a connection with the specified ***callid*** and ***connid*** does not exist, the command is denied in accordance with the error response.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to this command.

Table 2-317. RTRV - CONN Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>callid</i>	Call Identifier. Operator-specific call identifiers are supported. An operator-specific <i>callid</i> is a fixed-length 12-byte (24-character) hexadecimal string. One suggested format is where the first 4 bytes (8 characters) represent the source network element address (the hexadecimal encoding of the <i>nodeid</i> (see RTRV - NODE - ENNI)) and the remaining 8 bytes (16 characters) represent the local identifier.
<i>connid</i>	Connection Identifier. <i>connid</i> is a unique identifier for a connection segment within the local domain. There may be more than one <i>connid</i> associated with a single <i>callid</i>. <i>connid</i> is a character string containing up to 41 characters that is composed of the source node ID, a tributary aid and an index number. The format is as follows. <i>nodeid</i>&<i>tributary_aid</i>&<i>index</i> where <i>nodeid</i> The node ID of the ingress node within the local domain for this connection. It is an IPv4 formatted identifier consisting of four dot-separated integers ranging from 0 to 255. <i>tributary_aid</i> A dash-separated string of 5 integers, representing Bay/Frame #, Shelf #, Slot #, Port #, Tributary #, that identifies the ingress port's tributary within the local domain for this connection, with — Bay/Frame # = 1 — Shelf # = 1 — Slot # = 1-12 (see Table 2-319 for a mapping of NE slots to integer values) — Port # = 1-48 — Tributary # = 1-192 For slots equipped with Ethernet packs, the Port # corresponds to a VCG number. For example, Port # = 1 represents VCG v1. <i>index</i> An integer in the range 0-4294967295 Example 200.10.10.10&1-1-2-1-1&100

Table 2-317. RTRV-CONN Output Parameters (cont 2 of 2)

Parameter Name	Description						
<i>servlevel</i>	Service Level. <i>servlevel</i> is an integer in the range 0-255 that specifies the service level for the I-NNI segments of the SPC.						
<i>dir</i>	Direction. <i>dir</i> specifies whether the connection is unidirectional or bidirectional. Values: ■ 1WAY Unidirectional connection ■ 2WAY Bidirectional connection						
<i>bandwidth</i>	Bandwidth. <i>bandwidth</i> specifies the signal rate of the connection. Values: ■ STS1 ■ STS3c ■ STS12c ■ STS48c						
<i>protype</i>	Protection Type. <i>protype</i> specifies the protection type for the E-NNI segments of the SPC. The following values are defined for E-NNI segments: <table> <tr> <td>Value</td><td>E-NNI Protection Type</td></tr> <tr> <td>■ 0x1</td><td>unprotected</td></tr> <tr> <td>■ 1+1</td><td>1+1 protected</td></tr> </table>	Value	E-NNI Protection Type	■ 0x1	unprotected	■ 1+1	1+1 protected
Value	E-NNI Protection Type						
■ 0x1	unprotected						
■ 1+1	1+1 protected						
<i>remotetid</i>	Remote Node Target Identifier. <i>remotetid</i> is the TID of the node to which the downstream ENNI port belongs. Refer to the RTRV-HDR command for the parameter syntax and description of this parameter. <i>remotetid</i> is reported with no value at a destination node.						
<i>connorigin</i>	Connection Origin. <i>connorigin</i> indicates whether the connection was originally initiated (via ENT-CONN) at the local node or at a remote node. Values ■ LOCAL ■ REMOTE						
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.						

Table 2-318. RTRV-CONN Output *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description
<i>destlabel</i>	Destination Label. <i>destlabel</i> identifies a timeslot (tributary) on the destination EDGE port identified by <i>destlogportid</i> . In conjunction with <i>desttna</i> and <i>destlogportid</i> , it identifies the destination of the connection. See <i>srclabel</i> for the format description.
<i>destlogportid</i>	Destination Logical Port Identifier. <i>destlogportid</i> is an integer that identifies the destination EDGE port (within the TNA). In conjunction with <i>desttna</i> and <i>destlabel</i> , it identifies the destination of the connection. Values: ■ 1 - 4294967295
<i>desttnaaddress</i>	Destination Transport Network Assigned Address (TNA). <i>desttnaaddress</i> identifies an address assigned to one endpoint of the connection by the transport service provider. <i>desttnaaddress</i> , in conjunction with <i>destlogportid</i> and <i>destlabel</i> , identifies the destination of the connection. See <i>desttnatype</i> for the allowable <i>desttnaaddress</i> values as a function of the <i>desttnatype</i> value.
<i>desttnatype</i>	Destination Transport Network Assigned Address (TNA) Type. See <i>srctnatype</i> for the format description.
<i>ennisegid</i>	E-NNI Segment Identifier. A unique identifier for an E-NNI connection segment (between eNNI-U and eNNI-D) that is assigned by the upstream node (eNNI-U). <i>ennisegid</i> format = <i>spcid-tunnelid-lspid</i> where <i>spcid</i> Signaling Protocol Controller Identifier. An IPv4 formatted identifier of the upstream signaling protocol controller, consisting of four dot-separated integers ranging from 0 to 255, for example: 10.10.10.10. <i>tunnelid</i> Tunnel Identifier. An integer in the range 0-65535. <i>lspid</i> LSP (Label Switched Path) Identifier. An integer in the range 0-65535. Example 220.10.10.10-1-10

Table 2-318. RTRV-CONN Output *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description												
<i>ero</i>	Explicit Route Object. <i>ero</i> specifies the Level 1 routing for the connection as a list of Level 1 node IDs and link IDs (logical port IDs). The <i>ero</i> retrieved from an intermediate or destination domain will not include upstream node IDs or Link IDs. <i>ero</i> format = <i>localadvnodeid-locallinkID&localadvnodeid-locallinkid&...&localadvnodeid</i> where <i>localadvnodeid</i> Local Advertised Node Identifier. Identifies a node in the transport topology. It is an IPv4 formatted identifier consisting of four dot-separated integers ranging from 0 to 255. <i>locallinkid</i> Local Link Identifier. An integer in the range 1-4294967295 that identifies the local link. Example 220.10.10.10-34219&29.10.10.10-43910&220.10.10.20												
<i>srclabel</i>	Source Label. <i>srclabel</i> identifies a timeslot (tributary) on the source EDGE port identified by <i>srclogportid</i>. In conjunction with <i>srctna</i> and <i>srclogportid</i>, it identifies the source of the connection. <i>srclabel</i> has format S-U-K-L-M, where: S identifies a particular STS-3 group within an STS-N, U specifies a particular STS-1 within an STS-3 group, K specifies a particular TUG-3 within an VC-4 and is only significant for SDH, L specifies a particular VT group within an STS-1, and M specifies a particular VT1.5 within a VTG. <table> <tr> <td>Field</td><td>Value</td></tr> <tr> <td>S</td><td> ■ 0 (on port/line with a rate of STS1 or less) ■ 1 (1st STS-3c within an STS-N) ■ 2 (2st STS-3c within an STS-N) ■ ... ■ N/3 (N/3th STS-3c within an OC-N port) </td></tr> <tr> <td>U</td><td> ■ 0 (on port/line with a rate of STS1 or less, and when bandwidth=STS3c or greater) ■ 1 (1st STS-1 within an STS-3) ■ 2 (2nd STS-1 within an STS-3) ■ 3 (3rd STS-1 within an STS-3) </td></tr> <tr> <td>K</td><td>■ 0 (SDH not supported)</td></tr> <tr> <td>L</td><td>■ 0 (VT not supported)</td></tr> <tr> <td>M</td><td>■ 0 (VT not supported)</td></tr> </table>	Field	Value	S	■ 0 (on port/line with a rate of STS1 or less) ■ 1 (1st STS-3c within an STS-N) ■ 2 (2st STS-3c within an STS-N) ■ ... ■ N/3 (N/3th STS-3c within an OC-N port)	U	■ 0 (on port/line with a rate of STS1 or less, and when bandwidth=STS3c or greater) ■ 1 (1st STS-1 within an STS-3) ■ 2 (2nd STS-1 within an STS-3) ■ 3 (3rd STS-1 within an STS-3)	K	■ 0 (SDH not supported)	L	■ 0 (VT not supported)	M	■ 0 (VT not supported)
Field	Value												
S	■ 0 (on port/line with a rate of STS1 or less) ■ 1 (1st STS-3c within an STS-N) ■ 2 (2st STS-3c within an STS-N) ■ ... ■ N/3 (N/3th STS-3c within an OC-N port)												
U	■ 0 (on port/line with a rate of STS1 or less, and when bandwidth=STS3c or greater) ■ 1 (1st STS-1 within an STS-3) ■ 2 (2nd STS-1 within an STS-3) ■ 3 (3rd STS-1 within an STS-3)												
K	■ 0 (SDH not supported)												
L	■ 0 (VT not supported)												
M	■ 0 (VT not supported)												

[illegible]

Table 2-319. *connid slot* Mapping

Slot AID	Slot #
main-1	1

Table 2-319. *connid slot* Mapping

Slot AID	Slot #
main-2	2
fn-a-1	3
fn-a-2	4
fn-b-1	5
fn-b-2	6
fn-c-1 ¹	7
fn-c-2 ¹	8
fn-d-1	9
fn-d-2	10
growth-1	11
growth-2	12

1. DMX only

EXAMPLE INPUT/OUTPUT

The following example retrieves a bidirectional STS1 connection originating at this node.

```
RTRV-CONN:LT-TID123::123456::DC640A0A0102030405060708,
200.10.10.10&1-1-1-1-1&1;

IP 123456
<
  LT-TID123 07-11-26 16:42:11
M 123456 COMPLD
  "callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-1-1&1,
servicelevel=0,dir=2WAY,bandwidth=STS1,prototype=0x1,remotetid=LT-TID456,,
connorigin=LOCAL:srcnattype=IPV4,srcnaaddress=220.10.10.10,
srclogportid=15,srclabel=3-1-0-0-0,destnattype=IPV4,
destnaaddress=220.10.10.20,destlogportid=3,destlabel=1-2-0-0-0,
ennisegid=220.10.10.10-1-1,
ero=220.10.10.10-34219&29.10.10.10-43910&220.10.10.20"
;
```

The following example retrieves a bidirectional STS1 connection at the destination node.

```
RTRV-CONN:LT-TID123::123456::DC640A0A0102030405060708,
200.10.10.10&1-1-1-1&1;

IP 123456
<
  LT-TID123 07-11-26 16:42:11
M 123456 COMPLD
  "callid=DC640A0A0102030405060708,connid=200.10.10.10&1-1-1-1&1,
servicelevel=0,dir=2WAY,bandwidth=STS1,protype=0x1,remotetid=,,
connorigin=REMOTE:ennisegid=220.10.10.10-1-1,ero=220.10.10.20"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an NE equipped with non-VLF mains receives a **RTRV-CONN** command, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  ENRI
  /* Equipage, Not equipped for Retrieving specified Information,
control plane not supported */
;
```

If the NE receives a **RTRV-CONN** command with a specified **aid**, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier */
;
```

If the NE receives a **RTRV-CONN** command with an invalid **callid**, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   IIAC
   /* Input, Data Not Valid, invalid CALLID value */
;
```

If the NE receives a **RTRV-CONN** command with a specified **logportid** and any of the following conditions exist,

- ❶ **callid** is specified
- ❷ the specified **logportid** is invalid

then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid LOGPORTID value */
;
```

If the NE receives a **RTRV-CONN** command with a specified **connid** and any of the following conditions exists,

- ❶ **callid=ALL**
- ❷ **logportid** is specified
- ❸ the specified **connid** is invalid

then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid CONNID value */
;
```


If the NE receives a **RTRV-CONN** command in which neither *callid* nor *logportid* are specified, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, callid or logportid must be specified */
;
```

If the NE receives a **RTRV-CONN** command in which both *callid* and *connid* are specified, but a connection with the specified *callid* and *connid* does not exist, then the command is denied and the following error response is returned.

```
sid date time
M  ctag DENY
   IENE
   /* Input, Entity Not Exists, connection does not exist */
;
```

RELATED TL1 MESSAGES

DLT-CONN

ENT-CONN

RTRV-PATH

NAME

RTRV-CPORT-rr: Retrieve Control Plane Port

The **RTRV-CPORT-rr** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-CPORT-modifier: *tid:aid:ctag*;

DESCRIPTION

The **RTRV-CPORT-rr** retrieves the control plane parameters of lines and ports. Throughout the remainder of this document, the term port, when not qualified by a specific port type (electrical or VCG), should be interpreted to mean line or port as appropriate.

Execution of this command is not recorded in the Security log.

Following the successful completion of the command, the NE does not issue a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-320. RTRV-CPORT-rr Input Parameters

Parameter Name	Description
<i>modifier</i>	Modifier. <i>modifier</i> specifies the target control plane port type Values ■ T3 This is for a DS3 port. ■ EC1 This is for an electrical STS-1 port. ■ OC3 This is for an optical OC-3 line. ■ OC12 This is for an optical OC-12 line. ■ OC48 This is for an optical OC-48 line. ■ OC192 This is for an optical OC-192 line. ■ VCG This is for a VCG port.
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of the control plane port. For the valid <i>aids</i>, refer to the AID Table in Appendix A. Access identifier (<i>aid</i>) guidelines: ■ Port <i>aid</i> is used when addressing a T3 port. ■ Port <i>aid</i> is used when addressing an EC1 port. ■ OC-n Line <i>aid</i> is used when addressing an OC-n line. ■ Port <i>aid</i> is used when addressing a VCG port. ALL is an allowed value for each of the modifiers.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax, and a description of this parameter.

OUTPUT FORMAT

If the **RTRV-CPORT-rr** is accepted, the following normal completion response is returned.

```
sid date time
M ctag COMPLD
  "aid:spec_block"
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to this command.

Table 2-321. RTRV-CPORT-rr Output Parameters

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of the control plane port. For the valid aids , refer to the AID Table in Appendix A. Access identifier (aid) guidelines: ■ A specific port aid is used when addressing a T3 port. ■ A specific port aid is used when addressing an EC1 port. ■ A specific OC-n Line aid is used when addressing an OC-n line. ■ A specific port aid is used when addressing a VCG port.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax, and a description of this parameter.
<i>spec_block</i>	The spec_block parameters are listed and described in the following table.

Table 2-322. RTRV-CPORT-rr Output *spec_block* Parameters (cont 1 of 5)

Parameter Name	Description of <i>spec_block</i> Parameters														
<i>linkmetric</i>	Link metric: <i>linkmetric</i> specifies the link cost for traffic engineering purposes. Its value is used to indicate the relative desirability of a particular link over another during path selection/computation procedures. A lower value indicates a higher desirability. Values ■ 1-65535 <i>linkmetric</i> is applicable to ports with the following <i>portclass</i>: — ENNI														
<i>linkprotype</i>	Link Protection Type: <i>linkprotype</i> specifies the protection application of the ENNI port. <i>linkprotype</i> is not a provisionable parameter of the ENT - CPORT-rr command. It is based on the provisioned line <i>application</i> (see RTRV-rr). Values <table border="0"> <tr> <td></td><td>E-NNI Link Protection Type</td></tr> <tr> <td>■ 0x1</td><td>unprotected: This value is reported when the line <i>application</i> is provisioned to the following value.</td></tr> <tr> <td></td><td>— 0x1</td></tr> <tr> <td>■ 1+1</td><td>1+1 protected: This value is reported when the line <i>application</i> is provisioned to one of the following values.</td></tr> <tr> <td></td><td>— 1+1</td></tr> <tr> <td></td><td>— 1+1_BIDIR</td></tr> <tr> <td></td><td>— 1+1_OPTM</td></tr> </table> <i>linkprotype</i> is applicable to ports with the following <i>portclass</i>: — ENNI		E-NNI Link Protection Type	■ 0x1	unprotected: This value is reported when the line <i>application</i> is provisioned to the following value.		— 0x1	■ 1+1	1+1 protected: This value is reported when the line <i>application</i> is provisioned to one of the following values.		— 1+1		— 1+1_BIDIR		— 1+1_OPTM
	E-NNI Link Protection Type														
■ 0x1	unprotected: This value is reported when the line <i>application</i> is provisioned to the following value.														
	— 0x1														
■ 1+1	1+1 protected: This value is reported when the line <i>application</i> is provisioned to one of the following values.														
	— 1+1														
	— 1+1_BIDIR														
	— 1+1_OPTM														

Table 2-322. RTRV-CPORT-rr Output *spec_block* Parameters (cont 2 of 5)

Parameter Name	Description of <i>spec_block</i> Parameters								
<i>locnid</i>	Local Node Identifier: An IPv4 formatted identifier of the local node, consisting of four dot-separated integers ranging from 0 to 255, for example: 10.10.10.10. <i>locnid</i> is not a provisionable parameter of the ENT-CPORT-rr command. It is equivalent to the provisioned <i>nodeid</i> parameter for the local node (see RTRV-NODE). <i>locnid</i> is applicable to ports with the following <i>portclass</i>: — EDGE — ENNI								
<i>logportid</i>	Logical Port Identifier: <i>logportid</i> is an integer that identifies the local logical port. Values ■ 1-4294967295 <i>logportid</i> is applicable to ports with the following <i>portclass</i>: — EDGE — ENNI								
<i>portclass</i>	Port Class: <i>portclass</i> specifies the role of the port. <table border="1"> <thead> <tr> <th>Values</th><th>Description</th></tr> </thead> <tbody> <tr> <td>■ EDGE</td><td>Control plane EDGE port</td></tr> <tr> <td>■ ENNI</td><td>Control plane ENNI port</td></tr> <tr> <td>■ TRADITIONAL</td><td>Traditional port (non-"control plane" port)</td></tr> </tbody> </table>	Values	Description	■ EDGE	Control plane EDGE port	■ ENNI	Control plane ENNI port	■ TRADITIONAL	Traditional port (non-"control plane" port)
Values	Description								
■ EDGE	Control plane EDGE port								
■ ENNI	Control plane ENNI port								
■ TRADITIONAL	Traditional port (non-"control plane" port)								

Table 2-322. RTRV-CPORT-rr Output *spec_block* Parameters (cont 3 of 5)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>portcontrol</i>	Port Control: <i>portcontrol</i> specifies the administrative mode of the port. Values Description ■ NORMAL Port is allowed to support control plane connections. ■ LOCKOUT Port is prohibited from supporting additional control plane connections <i>portcontrol</i> is applicable to ports with the following <i>portclass</i>: — EDGE — ENNI
<i>remlogportid</i>	Remote Logical Port Identifier: <i>remlogportid</i> is an integer that identifies the remote port at the other end of the link. Values ■ 1-4294967295 <i>remlogportid</i> is applicable to ports with the following <i>portclass</i>: — ENNI
<i>remnid</i>	Remote Node Identifier: An IPv4 formatted identifier of the remote node, consisting of four dot-separated integers ranging from 0 to 255, for example: 10.10.10.10. <i>remnid</i> is applicable to ports with the following <i>portclass</i>: — ENNI
<i>remrcid</i>	Remote Routing Controller Identifier: An IPv4 formatted identifier of the remote routing protocol controller, consisting of four dot-separated integers ranging from 0 to 255, for example: 10.10.10.10. <i>remrcid</i> is applicable to ports with the following <i>portclass</i>: — ENNI

Table 2-322. RTRV - CPORT - rr Output *spec_block* Parameters (cont 4 of 5)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>remspcid</i>	Remote Signaling Protocol Controller Identifier: An IPv4 formatted identifier of the remote signaling protocol controller, consisting of four dot-separated integers ranging from 0 to 255, for example: 10.10.10.10. <i>remspcid</i> is applicable to ports with the following <i>portclass</i>: — ENNI
<i>remspcscn</i>	Remote Signaling Protocol Controller SCN Address: An IPv4 SCN address of the remote signaling protocol controller, consisting of four dot-separated integers ranging from 0 to 255, for example: 220.10.10.10. <i>remspcscn</i> is applicable to ports with the following <i>portclass</i>: — ENNI
<i>remtid</i>	Remote Node Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter. <i>remtid</i> is applicable to ports with the following <i>portclass</i>: — ENNI
<i>tna</i>	Transport Network Assigned Address: An address assigned to endpoints of the connections by the transport service provider. The same TNA address can be assigned to multiple ports terminating on the same node. See <i>tnatype</i> for the allowable values as a function of the <i>tnatype</i> value. <i>tna</i> is applicable to ports with the following <i>portclass</i>: — EDGE

Table 2-322. RTRV-CPORT-rr Output *spec_block* Parameters (cont 5 of 5)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tnatype</i>	Transport Network Assigned Address Type: Values: Description ■ IPv4 An IPv4 formatted Source TNA consisting of four dot-separated integers ranging from 0 to 255, for example: 220.10.10.10. ■ IPv6 An IPv6 formatted Source TNA consisting of 8 dash-separated 4-digit hexadecimal numbers. For example, fedc-0000-0000-76b4-417a-1080-3210-1111. ■ NSAP An NSAP formatted Source TNA consisting of a 20-byte (40 hexadecimal digits) string, for example: 39840f8000000000000000000000008006a067197aa. <i>tnatype</i> is applicable to ports with the following <i>portclass</i>: — EDGE

EXAMPLE INPUT/OUTPUT

The following example retrieves the control plane parameters for **EDGE** port fn-d-1-1.

```
RTRV-CPORT-0C48:LT-TID123:fn-d-1-1:123456;
IP 123456
<
  LT-TID123 07-11-26 16:42:11
M 123456 COMPLD
  "fn-d-1-1:locnid=220.10.10.50,logportid=12,portclass=EDGE,
portcontrol=normal,tnatype=IPV4,tna=220.10.10.10"
;
```

The following example retrieves the control plane parameters for **ENNI** port main-1-1.

```
RTRV-CPORT-OC192:LT-TID123:main-1-1:123456;  
IP 123456  
<  
    LT-TID123 07-11-26 16:42:11  
M 123456 COMPLD  
    "main-1-1:linkmetric=1,linkprotype=0x1,locnid=220.10.10.50,  
logportid=12,portclass=ENNI,portcontrol=NORMAL,  
remnid=220.10.10.10,remlogportid=5,remrcid=220.10.10.10,  
remspcid=220.10.10.10,remspcscn=220.10.10.10,remtid=LT-TID456"  
;
```

The following example retrieves the control plane parameters for **TRADITIONAL** port fn-d-1-1.

```
RTRV-CPORT-OC48:LT-TID123:fn-d-1-1:123456;  
IP 123456  
<  
    LT-TID123 07-11-26 16:42:11  
M 123456 COMPLD  
    "fn-d-1-1:portclass=TRADITIONAL"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If an NE equipped with non-VLF mains receives a **RTRV-CPORT** command, then the command is denied and the following error response is returned.

```
sid date time  
M ctag DENY  
ENRI  
/* Equipage, Not equipped for Retrieving specified Information,  
control plane not supported */  
;
```

If the NE receives an **RTRV-CPORT-rr** command with an **aid** that is missing, invalid or inconsistent with the **modifier**, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

If the NE receives an **RTRV-CPORT-rr** command with an invalid **modifier**, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid modifier */
;
```

If the NE receives an **RTRV-CPORT-rr** command and the specified port is not provisioned to be equipped, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
ENEQ
/* Equipage Not EQuipped */
;
```

RELATED TL1 MESSAGES

ENT-CPORT-rr

NAME

RTRV-CRS-OCH: Retrieve Optical channel cross-connections.

The **RTRV-CRS-OCH** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance, and Reports Only access.

INPUT FORMAT

RTRV-CRS-OCH:*tid:aid:ctag*;

DESCRIPTION

This command retrieves cross-connect provisioning associated with optical channels.

Execution of this command, whether successful or denied, is recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-323. RTRV-CRS-OCH Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-323. RTRV-CRS-OCH Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i> <i>ctag</i>	Access Identifier. The <i>aid</i> determines the interface for which the cross-connect provisioning is being requested. See Appendix A - AID Table for valid AIDs. The response includes any cross-connection where the <i>aid</i> matches either the <i>src_aid</i> or the <i>dest_aid</i>. Valid AIDs include: ALL OCH AID OTU2 port AID OC192 line AID REMAID
	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **RTRV-CRS-OCH** command. If there is no data that matches the request, the NE responds with a COMPLD message and an empty report.

```

sid date time
M ctag COMPLD
  "src_aid,dest_aid"
    :      :      :      :      :      :      :
    :      :      :      :      :      :      :
  "src_aid,dest_aid"
;

```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

Table 2-324. RTRV-CRS-OCH Output Parameters

Parameter Name	Description								
<i>src_aid</i>	Source Access Identifier. See Appendix A - AID Table for valid AIDs. Valid AIDs include: <table> <tr> <td>REMAID</td><td>Remote AID. The source is alien, i.e. not on the shelf.</td></tr> <tr> <td>OCH AID</td><td>The source is an Optical Channel on an OMD pack.</td></tr> <tr> <td>OTU2 port AID</td><td>The source is an OTU2 port.</td></tr> <tr> <td>OC192 line AID</td><td>The source is an OC192 line.</td></tr> </table>	REMAID	Remote AID. The source is alien, i.e. not on the shelf.	OCH AID	The source is an Optical Channel on an OMD pack.	OTU2 port AID	The source is an OTU2 port.	OC192 line AID	The source is an OC192 line.
REMAID	Remote AID. The source is alien, i.e. not on the shelf.								
OCH AID	The source is an Optical Channel on an OMD pack.								
OTU2 port AID	The source is an OTU2 port.								
OC192 line AID	The source is an OC192 line.								
<i>dest_aid</i>	Destination Access Identifier. See Appendix A - AID Table for valid AIDs. Valid AIDs include: <table> <tr> <td>REMAID</td><td>Remote AID. The destination is alien, i.e. not on the shelf.</td></tr> <tr> <td>OCH AID</td><td>The destination is an Optical Channel on an OMD pack.</td></tr> <tr> <td>OTU2 port AID</td><td>The destination is an OTU2 port .</td></tr> <tr> <td>OC192 line AID</td><td>The source is an OC192 line.</td></tr> </table>	REMAID	Remote AID. The destination is alien, i.e. not on the shelf.	OCH AID	The destination is an Optical Channel on an OMD pack.	OTU2 port AID	The destination is an OTU2 port .	OC192 line AID	The source is an OC192 line.
REMAID	Remote AID. The destination is alien, i.e. not on the shelf.								
OCH AID	The destination is an Optical Channel on an OMD pack.								
OTU2 port AID	The destination is an OTU2 port .								
OC192 line AID	The source is an OC192 line.								

EXAMPLE INPUT/OUTPUT

When retrieving multiple OCH cross-connections, the OCH cross-connections are sorted by *dest_aid* and displayed in ascending slot order beginning with main, followed by the left to right fn slots, and ending with REMAID. For each reported slot, the ports within that slot are reported in ascending port order. REMAID *dest_aids* will be reported last and in ascending *src_aid* order.

The following example retrieves cross-connections associated with an optical channel which is the source of a cross-connection to an alien channel, and the destination of a cross-connection from an alien channel.

```
RTRV-CRS-OCH:LT-TID123:d1-9530:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 07-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
"remaid,d1-9530"
```

```
"d1-9530,remaid"
```

```
;
```

The following example retrieves all optical channel cross-connections in an NE.

```
RTRV-CRS-OCH:LT-TID123:all:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 07-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
"d2-9530,main-1-1"
```

```
"d2-9520,d1-9520"
```

```
"remaid,d1-9540"
```

```
"g2-9,d1-9550"
```

```
"remaid,d1-9580"
```

```
"g1-9,d1-9590"
```

```
"d1-9520,d2-9520"
```

```
"main-1-1,d2-9530"
```

```
"d1-9590,g1-9"
```

```
"d1-9550,g2-9"
```

```
"d1-9540,remaid"
```

```
"d1-9580,remaid"
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **RTRV-CRS-OCH** command with an *aid* that is not valid, the following error response is returned:


```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

RELATED TL1 MESSAGES

DLT-CRS-OCH

ENT-CRS-OCH

NAME

RTRV-CRS-rr: Retrieve Cross Connect

The **RTRV-CRS-rr** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-CRS-modifier:tid:aid:ctag;

Beginning in Release 7.1, the syntax is:

RTRV-CRS-modifier:tid:[aid]:ctag[:connid];

DESCRIPTION

The **RTRV-CRS-rr** command retrieves established cross-connections. Cross-connections are always two-way in the sense that each cross-connection represents both transmit and receive.

When the NE receives a **RTRV-CRS-rr** command, it will retrieve the cross-connections of the specified level (rate) associated with the specified entity.

Beginning in Release 3.1, the NE supports 1-way cross-connections in addition to 2-way cross-connections. The **RTRV-CRS-rr** command returns all cross-connections for which the channels of the specified **aid** are used as a source or a destination of a cross-connection.

Beginning in Release 6.0, support for 2-way cross-connections is discontinued. In addition all cross-connections are reported using logical ring channel *aids*.

If main slots 1 and 2 are equipped with different pack types (that is, during upgrade), the report includes data for what is considered at the time as the valid system pack type.

While a MLTPT cross-connection is provisioned on a single VCG, the cross-connection is established using two VCGs. When retrieving cross-connections on a specific VCG, only the portion of the MLTPT connection(s) on that specified VCG is reported. When retrieving cross-connections on all VCG (at any of the

supported levels), both portions of the MLTPT cross-connection(s) on the specified VCGs are reported.

Beginning in Release 6.0, multipoint connectivity is achieved by provisioning separate cross-connections to a pair of VCGs. When retrieving cross-connections on a specific VCG, only the multipoint connections on that specified VCG are reported.

The response to **RTRV-CRS** does not include the fixed cross-connections on subshelves in a multi-shelf DCS system.

Execution of this command will not be recorded in the Security log.

In response to the **RTRV-CRS-rr** command, the NE does not issue a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-325. RTRV-CRS-rr Input Parameters (cont 1 of 4)

Parameter Name	Description
<i>modifier</i>	This is the message modifier for the RTRV-CRS-rr message and may only have one of the following values: ■ STS1 This specifies that STS-1 cross-connections be retrieved. ■ STS3c This specifies that STS-3c cross-connections be retrieved. ■ STS12c This specifies that STS-12c cross-connections be retrieved. ■ STS48c This specifies that STS-48c cross-connections be retrieved. ■ VT1 This specifies that VT1.5 cross-connections be retrieved. ■ ALL This specifies that all cross-connections be retrieved.
<i>tid</i>	Target identifier. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-325. RTRV-CRS-rr Input Parameters (cont 2 of 4)

Parameter Name	Description
aid	Access identifier. See Appendix A - AID Tables. The aid is a required parameter and must address a valid channel. When an "ALL" modifier is used, all VT1.5 cross-connects are reported with only the source AID (at the STS1 level), a "-" for destination AID, and a note indicating that the STS-1 has one or more VT1.5 cross-connections. <u>No AID is allowed to be entered in this case.</u> Beginning in Release 7.1, aid is an optional parameter. Either aid or connid must be specified, but not both. Supported AID formats: ■ STS-n channel ■ VT1.5 channel ■ STS-n ring channel ■ VT1.5 ring channel ■ STS-n logical ring channel ■ VT1.5 logical ring channel Beginning in Release 6.0, a logical ring channel aid is used to specify the target ring channel. Refer to Appendix A - AID Tables for the supported aids and for a definition of the logical ring channels. ALL is supported in some fields of the aid, as indicated in Appendix A, for the purposes of retrieving all cross-connections on all ports in a pair of slots or on all channels on a single port pair. ALL is supported in some fields of the aid, as indicated in Appendix A, for the purposes of retrieving all cross-connections on all channels of a port in a single slot.

Table 2-325. RTRV-CRS-rr Input Parameters (cont 3 of 4)

Parameter Name	Description
	aid=ALL is permitted per Appendix A for the purposes of retrieving all cross-connections at a specific rate. In a multi-shelf DCS system utilizing a single TID, aid may specify a tributary (ring channel) of a customer interfacing port in a subshelf. See Appendix A for the list supported subshelf ring channel AIDs. Beginning in Release 9.0, for all values of the modifier, aid=NULL retrieves all cross-connections, with the specified modifier, in the system (including a multi-shelf DCS system utilizing a single TID). On a stand-alone shelf, aid=ALL retrieves all cross-connections with the specified modifier. On a multi-shelf DCS system utilizing a single TID, aid=ALL retrieves all cross-connections, with the specified modifier, with a source and/or destination on the main shelf. On a multi-shelf DCS system utilizing a single TID, aid={shelf}-ALL retrieves all cross-connections, with the specified modifier, with a source and/or destination on the subshelf specified by {shelf}.
ctag	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
connid	Connection Identifier. For control-plane connections (initiated with ENT-CONN), connid is a unique identifier for a connection segment within the local domain. ALL is an allowable value, and retrieves any connection matching the modifier rate with xconclas=NN. If connid is included in the request, aid must be omitted. If the ALL modifier is used, connid must be omitted. connid is a character string containing up to 41 characters that is composed of the source node ID, a tributary aid and an index number. The format is as follows. nodeid&tributary_aid&index where nodeid The node ID of the ingress node within the local domain for this connection. It is an IPv4-formatted identifier consisting of four dot-separated integers ranging from 0 to 255.

Table 2-325. RTRV-CRS-rr Input Parameters (cont 4 of 4)

Parameter Name	Description
<i>tributary_aid</i>	A dash-separated string of 5 integers, representing Bay/Frame #, Shelf #, Slot #, Port #, Tributary #, that identifies the ingress port's tributary within the local domain for this connection, with — Bay/Frame # = 1 — Shelf # = 1 — Slot # = 1-12 (see Table 2-326 for a mapping of NE slots to integer values) — Port # = 1-48 — Tributary # = 1-192 For slots equipped with Ethernet packs, the Port # corresponds to a VCG number. For example, Port # = 1 represents VCG v1.
<i>index</i>	An integer in the range 0-4294967295
Example	200.10.10.10&1-1-2-1-1&100

The format of the *tributary_aid* field of the *connid* parameter is *Bay/frame # Shelf # Slot # Port # Tributary #* where *Slot #* is a 2-digit field defined in the following table.

Table 2-326. connid Slot Mapping

Slot AID	Slot #
main-1	1
main-2	2
fn-a-1	3
fn-a-2	4
fn-b-1	5
fn-b-2	6
fn-c-1 ^a	7

Table 2-326. *connid* Slot Mapping

Slot AID	Slot #
fn-c-2 ^a	8
fn-d-1	9
fn-d-2	10
growth-1	11
growth-2	12

a. DMX only

OUTPUT FORMAT

In response to the **RTRV-CRS-rr** command the NE returns cross-connections in ascending order based on the STS number of the *src_aid* where the value of STS number as a function of the group type is main<fna<fnb<fnc<fnd<growth.

Beginning in Release 3.1, in response to the **RTRV-CRS-rr** command the NE returns cross-connections in ascending order based on the STS number of the *dest_aid* where the value of STS number as a function of the group type is main<fna<fnb<fnc<fnd<growth.

In response to the **RTRV-CRS-all** command, the NE will report each cross-connection twice.

Beginning in Release 3.1, in response to the **RTRV-CRS-all** command, the NE will report each cross-connection once.

Beginning in Release 4.0, in response to the **RTRV-CRS-all** command, the NE will report any STS1 which is used as an input or an output of a 1-way VT1 cross-connection, as having VT1.5 cross-connections.

If the NE fully complies with the retrieve cross-connection request, the following output message is returned.

```
sid date time
M ctag COMPLD
  "src_aid,dest_aid::cct"
;
```


Beginning in Release 2.1, if the NE fully complies with the retrieve cross-connection request, the following output message is returned.

```
sid date time
M ctag COMPLD
  "src_aid,dest_aid::cct,rate:spec_block"
;
```

Beginning in Release 6.0, if the NE fully complies with the retrieve cross-connection request, the following output message is returned.

```
sid date time
M ctag COMPLD
  "src_aid,dest_aid::cct,rate[,src2_aid]:spec_block"
;
```

Beginning in Release 6.0, for a **1WAYPR** atomic cross-connection, the slot 1 ring channel input is reported as the *src_aid* and the slot 2 ring channel input is reported as the *src2_aid*, regardless of the order in which the aids were originally entered.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to this command.

Table 2-327. RTRV-CRS-rr Output Parameters (cont 1 of 2)

Parameter Name	Description				
<i>src_aid</i>	Source access identifier. This is the AID of the channel specified in the RTRV-CRS-rr command. When an "ALL" modifier is used, all VT1.5 cross-connects are reported with only the source AID (at the STS1 level), a "-" for destination AID, and a note indicating that the STS-1 has one or more VT1.5 cross-connections. Beginning in Release 6.0, <i>src_aid</i> identifies the input of a 1WAY cross-connection or the first input of a 1WAYPR cross-connection. In addition, logical ring channel aids are used to specify the source of a cross-connection. Refer to Appendix A - AID Tables for the supported aids and for a definition of logical ring channels.				
<i>dest_aid</i>	Destination access identifier. This is the destination address of the channel in the high-speed line or low-speed line, port or channel that is cross-connected to the <i>src_aid</i>. Beginning in Release 6.0, logical ring channel aids are used to specify the destination of a cross-connection. Refer to Appendix A - AID Tables for the supported aids and for a definition of logical ring channels.				
<i>cct</i>	Cross-connection type. This parameter specifies the type of cross-connection and has the following values: <table> <tr> <td>2WAYPR</td><td> A two-way add/drop, hairpin or pass-through cross-connection between the source and destination. Beginning in Release 6.0, 2WAYPR is no longer a supported value. </td></tr> <tr> <td>MLTPT</td><td> A multipoint (Ethernet-related) cross-connection between the source and destination in a non-path-switched ring configuration. Beginning in Release 6.0, MLTPT is no longer a supported value. Multipoint cross-connections are reported with <i>chapp</i>=UNSWITCHED. </td></tr> </table>	2WAYPR	A two-way add/drop, hairpin or pass-through cross-connection between the source and destination. Beginning in Release 6.0, 2WAYPR is no longer a supported value.	MLTPT	A multipoint (Ethernet-related) cross-connection between the source and destination in a non-path-switched ring configuration. Beginning in Release 6.0, MLTPT is no longer a supported value. Multipoint cross-connections are reported with <i>chapp</i>=UNSWITCHED.
2WAYPR	A two-way add/drop, hairpin or pass-through cross-connection between the source and destination. Beginning in Release 6.0, 2WAYPR is no longer a supported value.				
MLTPT	A multipoint (Ethernet-related) cross-connection between the source and destination in a non-path-switched ring configuration. Beginning in Release 6.0, MLTPT is no longer a supported value. Multipoint cross-connections are reported with <i>chapp</i>=UNSWITCHED.				

Table 2-327. RTRV-CRS-rr Output Parameters (cont 2 of 2)

Parameter Name	Description
	1WAY A 1-way point-to-point cross-connection from the <i>src_aid</i> to the <i>dest_aid</i>. 1WAYPR A 1-way path protected cross-connection from the <i>src_aid</i> to the <i>dest_aid</i>, where <i>src_aid</i> is a channel aid. Beginning in Release 6.0, the inputs of a 1WAYPR cross-connection are identified by two logical ring channel aids and the output is identified by a single logical ring channel aid. Refer to Appendix A - AID Tables for the supported aids and for a definition of logical ring channels.
<i>rate</i>	Cross-connect rate. This parameter specifies the rate of cross-connection and has the following values: STS1 STS3c STS12c STS48c VT1
<i>src2_aid</i>	Second Source Access Identifier. See "Appendix A - AID Tables". <i>src2_aid</i> identifies the second input of a 1WAYPR cross-connection. It is reported only for 1WAYPR cross-connections. See <i>src_aid</i> for the list of supported aid values and formats.
<i>spec_block</i>	The following table contains <i>spec_block</i> parameters.

Table 2-328. RTRV-CRS-rr Output *spec_block* Parameters (cont 1 of 4)

Parameter Name	Description of Spec_Block Parameters
<i>chappl</i>	Channel application. <i>chappl</i> indicates that the cross-connection is an unswitched cross-connection. For these cross-connections, internal equipment protection is disabled. If the parameter is omitted, internal equipment protection is enabled. Values: UNSWITCHED For supported path-protected cross-connections from UPSR interfaces, <i>chappl</i>=UNSWITCHED also indicates that path switching is disabled. Beginning in Release 6.0, <i>chappl</i>=UNSWITCHED is no longer supported for path-protected cross-connections from UPSR interfaces. Beginning in Release 6.0, multipoint cross-connections are reported with <i>chappl</i>=UNSWITCHED.
<i>circuitid</i>	Circuit Identifier. <i>circuitid</i> is a quoted text string of up to 36 ASCII characters. The permitted character set consists of the 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language), with the following exceptions: the ; (semicolon), " (double quote), and \ (backslash) characters are not permitted within the quoted string. <i>circuitid</i> is a provisionable attribute of an STSn rate cross-connection. Beginning in Release 5.0, <i>circuitid</i> is a provisionable attribute of a VT1 rate cross-connection.
<i>connid</i>	Connection identifier. This parameter is returned only for connections initiated by an ENT-CONN command (i.e <i>xconclas</i>=NN). See the Input <i>spec_block</i> Parameters table for a description of the format.

Table 2-328. RTRV-CRS-rr Output *spec_block* Parameters (cont 2 of 4)

Parameter Name	Description of Spec_Block Parameters
<i>loca</i>	Identifies the <i>tid</i> associated with <i>src_aid</i> of the node at which service is added to the BLSR. A non-NULL <i>loca</i> is reported if the input is a tributary in a BLSR port protection group. This parameter is not applicable to ADD and non-BLSR connections. Values: See <i>tid</i> in the RTRV-HDR command. <i>loca</i> is not supported on cross-connections for which <i>cct</i>=MLTPT or <i>chappl</i>=UNSWITCHED. Beginning in Release 6.0, <i>cct</i>=MLTPT is no longer supported. Multipoint cross-connections are reported with <i>chappl</i>=UNSWITCHED.
<i>locz</i>	Identifies the <i>tid</i> associated with <i>dest_aid</i> of the node at which service is dropped from the BLSR. A non-NULL <i>locz</i> is reported if the output is a tributary in a BLSR port protection group. This parameter is not applicable to DROP and non-BLSR connections. Values: See <i>loca</i>. <i>locz</i> is not supported on cross-connections for which <i>cct</i>=MLTPT or <i>chappl</i>=UNSWITCHED. Beginning in Release 6.0, <i>cct</i>=MLTPT is no longer supported. Multipoint cross-connections are reported with <i>chappl</i>=UNSWITCHED.
<i>taccstat</i>	Test Access Status. <i>taccstat</i> indicates if any part of the existing cross-connection is used in a test access connection. Values: YES <i>taccstat</i> is not included in the response if there is no test access session associated with the reported cross-connection.
<i>vtacc</i>	VT Accessed. <i>vtacc</i> is an attribute of a STS1 BLSR pass-through cross-connection. It specifies whether or not the STS1 transports VTs which are cross-connected at the VT1 rate at other nodes in the circuit. Values: YES - VT-accessed <i>vtacc</i> is not reported if the STS1 is not VT-accessed.

Table 2-328. RTRV-CRS-rr Output *spec_block* Parameters (cont 3 of 4)

Parameter Name	Description of Spec_Block Parameters
<i>vtloca</i>	VT loca. <i>vtloca</i> is the source node tid of a VT1 BLSR cross-connection. A non-Null <i>vtloca</i> is reported for VT1 cross-connections if and only if <i>src_aid</i> is a VT1.5 in a BLSR protection group, subject to the following exceptions: <i>vtloca</i> is not provisioned for VT1 pass-through cross-connections and VT1 UNSWITCHED cross-connections. Values: See <i>tid</i> in the RTRV-HDR command.
<i>vtlocz</i>	VT locz. <i>vtlocz</i> is the destination node tid of a VT1 BLSR cross-connection. A non-Null <i>vtlocz</i> is reported for VT1 cross-connections if and only if <i>dest_aid</i> is a VT1.5 in a BLSR protection group, subject to the following exceptions: <i>vtlocz</i> is not provisioned for 1-way VT1 cross-connections, VT1 pass-through cross-connections and VT1 UNSWITCHED cross-connections. Values: See <i>tid</i> in the RTRV-HDR command. Beginning in Release 6.0, <i>vtlocz</i> is no longer reported since it is not applicable to 1-way cross-connections and all reported cross-connections are 1-way cross-connections.
<i>xcappl</i>	Cross-connection Application. <i>xcappl</i> is provided as a means to identify the application in which the cross-connection is used. The management system can use <i>xcappl</i> in conjunction with <i>xcnum</i> to uniquely identify a set of cross-connections associated with one instance of an application. Values: 0-255 The mapping of applications to numeric values is a management system function.
<i>xcnum</i>	Cross-Connection Number. <i>xcnum</i> is provided as a means to identify the instance of the application (<i>xcappl</i>) in which the cross-connection is used. The management system can use <i>xcnum</i> in conjunction with <i>xcappl</i> to uniquely identify a set of cross-connections associated with one instance of an application. Values: Any 9-digit number is acceptable. The suggested format of the 9 digits is as follows: 2 digits for the slot, 2 digits for the port, 3 digits for the STS tributary and 2 digits for the VT tributary.

Table 2-328. RTRV-CRS-rr Output *spec_block* Parameters (cont 4 of 4)

Parameter Name	Description of Spec_Block Parameters
<i>xconclas</i>	Cross-Connection Class. Beginning in Release 7.1, this parameter indicates how the cross-connection was initiated. Values: TRADITIONAL: the connection was initiated using ENT-CRS-rr . NN: the connection was initiated using ENT-CONN .

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, support for **2WAYPR** cross-connections is discontinued. 2-way connectivity is achieved by provisioning multiple 1-way cross-connections. In addition all cross-connections are reported using logical ring channel aids. Consequently, unless otherwise specified, the following examples should be considered invalid in Release 6.0.

The following example illustrates the retrieval of a two-way (add/drop) cross-connection associated with the STS-1 channel m-1-2 in the high-speed OC-48 line.

```
rtrv-crs-sts1:TID123:m-1-2:123456;
IP 123456
<
  TID123 00-11-26 16:42:11
M 123456 COMPLD
  "m-1-2, b-1::2WAYPR"
;
```

Beginning in Release 2.1, the NE response in the previous example includes the cross-connect rate as shown below.

```
rtrv-crs-sts1:TID123:m-1-2:123456;
IP 123456
<
  TID123 00-11-26 16:42:11
M 123456 COMPLD
  "m-1-2, b-1::2WAYPR, STS1"
;
```

Beginning in Release 3.1, the reported order of aids in the previous example is as follows.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "b-1,m-1-2::2WAYPR,STS1"  
;
```

The following example illustrates the retrieval of a two-way (add/drop) cross-connection associated with the STS-1 channel m-1-2 in the high-speed OC-192 line.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m-1-2,b-1::2WAYPR,STS1"  
;
```

Beginning in Release 3.1, the reported order of aids in the previous example is as follows.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "b-1,m-1-2::2WAYPR,STS1"  
;
```


The following example illustrates the retrieval of a multipoint (MLTPT) cross-connection between an STS-1 channel in the high-speed OC-48 line, m-1-2, and a Fast Ethernet card in slot "d" through d-v1-1.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m-1-2,d-v1-1::MLTPT"  
    "m-1-2,d-v2-1::MLTPT"  
;
```

Beginning in Release 2.1, the NE response in the previous example includes the cross-connect rate as shown below.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m-1-2,d-v1-1::MLTPT,STS1"  
    "m-1-2,d-v2-1::MLTPT,STS1"  
;
```

Beginning in Release 3.1, the reported order of aids and cross-connections in the previous example is as follows.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "d-v1-1,m-1-2::MLTPT,STS1"  
    "d-v2-1,m-1-2::MLTPT,STS1"  
;
```

The following example illustrates the retrieval of a two-way (**2WAYPR**) cross-connection between STS-1 channel m-1-2 in the high-speed OC-48 lines and a Fast Ethernet card in slot "d" through d-v1-1.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m-1-2,d-v1-1::2WAYPR"  
;
```

Beginning in Release 2.1, the NE response in the previous example includes the cross-connect rate as shown below.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m-1-2,d-v1-1::2WAYPR,STS1"  
;
```

Beginning in Release 3.1, the reported order of aids in the previous example is as follows.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "d-v1-1,m-1-2::2WAYPR,STS1"  
;
```

The following example illustrates the retrieval of a multipoint (MLTPT) cross-connection between an STS-1 channel in the high-speed OC-48 and a 1GbE Ethernet card through d-v1-1.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
  TID123 00-11-26 16:42:11  
M 123456 COMPLD  
  "m-1-1, d-v1-1::MLTPT"  
  "m-1-1, d-v2-1::MLTPT"  
;
```

Beginning in Release 2.1, the NE response in the previous example includes the cross-connect rate as shown below.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
  TID123 00-11-26 16:42:11  
M 123456 COMPLD  
  "m-1-1, d-v1-1::MLTPT, STS1"  
  "m-1-1, d-v2-1::MLTPT, STS1"  
;
```

Beginning in Release 3.1, the reported order of aids and cross-connections in the previous example is as follows.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
  TID123 00-11-26 16:42:11  
M 123456 COMPLD  
  "d-v1-1, m-1-1::MLTPT, STS1"  
  "d-v2-1, m-1-1::MLTPT, STS1"  
;
```

The following example illustrates the retrieval of a nonexistent cross-connection associated with the STS-1 channel in the high-speed OC-48 line.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
;
```

The following example illustrates the retrieval of all **STS3c** cross-connects, using the address m-1-all. Note how STS-1 cross-connected channels (m-1-4 and m-1-5) are not listed in the report; only **STS3c** cross-connected channels are listed. This example uses an OC-48 OLIU in Main and 2OC-12 OLIU in Fn-a.

```
rtrv-crs-sts3c:TID123:m-1-all:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m-1-1,a-1-1::2WAYPR"  
    "m-1-7,a-1-7::2WAYPR"  
;
```

Beginning in Release 2.1, the NE response in the previous example includes the cross-connect rate as shown below.

```
rtrv-crs-sts3c:TID123:m-1-all:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m-1-1,a-1-1::2WAYPR, STS3c"  
    "m-1-7,a-1-7::2WAYPR, STS3c"  
;
```

Beginning in Release 3.1, the reported order of aids and cross-connections in the previous example is as follows.

```
rtrv-crs-sts3c:TID123:m-1-all:123456;  
IP 123456  
<  
  TID123 00-11-26 16:42:11  
M 123456 COMPLD  
  "a-1-1,m-1-1::2WAYPR,STS3c"  
  "a-1-7,m-1-7::2WAYPR,STS3c"  
;
```

The following example illustrates the retrieval of a two-way pass-through cross-connection associated with the VT1.5 line channel m-1-2-5-4 in an OC-48 Path-Switched Ring.

```
rtrv-crs-vt1:TID123:m-1-2-5-4:Z89abc;  
IP Z89abc  
<  
  TID123 00-11-26 16:53:22  
M Z89abc COMPLD  
  "m-1-2-5-4,m-1-2-5-4::2WAYPR"  
;
```

Beginning in Release 2.1, the NE response in the previous example includes the cross-connect rate as shown below.

```
rtrv-crs-vt1:TID123:m-1-2-5-4:Z89abc;  
IP Z89abc  
<  
  TID123 00-11-26 16:53:22  
M Z89abc COMPLD  
  "m-1-2-5-4,m-1-2-5-4::2WAYPR,VT1"  
;
```

The following example retrieves a two-way (add/drop) cross-connection associated with a low-speed DS3 port d-2.

```
rtrv-crs-sts1:TID123:d-2:654321;  
IP 654321  
<  
    TID123 00-11-26 16:54:33  
M 654321 COMPLD  
    "d-2,m-1-6::2WAYPR"  
;
```

Beginning in Release 2.1, the NE response in the previous example includes the cross-connect rate as shown below.

```
rtrv-crs-sts1:TID123:d-2:654321;  
IP 654321  
<  
    TID123 00-11-26 16:54:33  
M 654321 COMPLD  
    "d-2,m-1-6::2WAYPR,STS1"  
;
```

Beginning in Release 3.1, the reported order of aids in the previous example is as follows.

```
rtrv-crs-sts1:TID123:d-2:654321;  
IP 654321  
<  
    TID123 00-11-26 16:54:33  
M 654321 COMPLD  
    "d-2,m-1-6::2WAYPR,STS1"  
;
```

The following example retrieves all **STS1** cross-connections in a system as follows. (**Note** that only ten STS-1 channels are cross-connected; the HS channels m-1-8 and m-1-9 and the low-speed channels b-2, b-3 using 12 DS3 packs have no associated cross-connections). Note also that it is implied that function slot d is unequipped).

```
rtrv-crs-sts1:TID123:all:654321;  
IP 654321  
<  
    TID123 00-11-26 16:54:33  
M 654321 COMPLD  
    "m-1-1,m-1-1::2WAYPR"  
    "m-1-2,m-1-2::2WAYPR"  
    "m-1-3,a-1::2WAYPR"  
    "m-1-4,b-1::2WAYPR"  
    "m-1-6,a-2::2WAYPR"  
    "m-1-7,a-3::2WAYPR"  
    "m-1-10,m-1-10::2WAYPR"  
    "m-1-11,m-1-11::2WAYPR"  
    "m-1-12,m-1-12::2WAYPR"  
    "m-1-1,m-1-1::2WAYPR"  
    "m-1-2,m-1-2::2WAYPR"  
    "a-1,m-1-3::2WAYPR"  
    "b-1,m-1-4::2WAYPR"  
    "c-1,m-1-5::2WAYPR"  
    "a-2,m-1-6::2WAYPR"  
    "a-3,m-1-7::2WAYPR"  
    "m-1-10,m-1-10::2WAYPR"  
    "m-1-11,m-1-11::2WAYPR"  
    "m-1-12,m-1-12::2WAYPR"  
;
```

Beginning in Release 2.1, the NE response in the previous example includes the cross-connect rate as shown below.

```
rtrv-crs-sts1:TID123:all:654321;
IP 654321
<
  TID123 00-11-26 16:54:33
M 654321 COMPLD
  "m-1-1,m-1-1::2WAYPR,STS1"
  "m-1-2,m-1-2::2WAYPR,STS1"
  "m-1-3,a-1::2WAYPR,STS1"
  "m-1-4,b-1::2WAYPR,STS1"
  "m-1-6,a-2::2WAYPR,STS1"
  "m-1-7,a-3::2WAYPR,STS1"
  "m-1-10,m-1-10::2WAYPR,STS1"
  "m-1-11,m-1-11::2WAYPR,STS1"
  "m-1-12,m-1-12::2WAYPR,STS1"
  "m-1-1,m-1-1::2WAYPR,STS1"
  "m-1-2,m-1-2::2WAYPR,STS1"
  "a-1,m-1-3::2WAYPR,STS1"
  "b-1,m-1-4::2WAYPR,STS1"
  "c-1,m-1-5::2WAYPR,STS1"
  "a-2,m-1-6::2WAYPR,STS1"
  "a-3,m-1-7::2WAYPR,STS1"
  "m-1-10,m-1-10::2WAYPR,STS1"
  "m-1-11,m-1-11::2WAYPR,STS1"
  "m-1-12,m-1-12::2WAYPR,STS1"
;
```

Beginning in Release 3.1, the reported order of aids and cross-connections in the previous example is as follows.

```
rtrv-crs-sts1:TID123:all:654321;
IP 654321
<
  TID123 00-11-26 16:54:33
M 654321 COMPLD
  "m-1-1,m-1-1::2WAYPR,STS1"
  "m-1-2,m-1-2::2WAYPR,STS1"
  "a-1,m-1-3::2WAYPR,STS1"
  "b-1,m-1-4::2WAYPR,STS1"
  "c-1,m-1-5::2WAYPR,STS1"
  "a-2,m-1-6::2WAYPR,STS1"
  "a-3,m-1-7::2WAYPR,STS1"
  "m-1-10,m-1-10::2WAYPR,STS1"
  "m-1-11,m-1-11::2WAYPR,STS1"
  "m-1-12,m-1-12::2WAYPR,STS1"
;
```


The following example retrieves all cross-connections in a system as follows
(Note the cases where VT cross-connects are reported).

```
rtrv-crs-all:TID123::654321;
IP 654321
<
  TID123 00-11-26 16:54:33
M 654321 COMPLD
  "m-1-1,-::STS-1 has VT1.5 cross-connections"
  "m-1-2,m-1-2::2WAYPR"
  "m-1-4,b-1::2WAYPR"
  "m-1-5,c-v1-1::MLTPT"
  "m-1-5,c-v2-1::MLTPT"
  "m-1-7,a-3::2WAYPR"
  "m-1-11,m-1-11::2WAYPR"
  "m-1-1,m-1-1::2WAYPR"
  "m-1-2,m-1-2::2WAYPR"
  "a-1,-::STS-1 has VT1.5 cross-connections"
  "b-1,m-1-4::2WAYPR"
  "c-v1-1,m-1-5::MLTPT"
  "c-v2-1,m-1-5::MLTPT"
  "a-3,m-1-7::2WAYPR"
  "m-1-11,m-1-11::2WAYPR"
;
```

Beginning in Release 2.1, the NE response in the previous example includes the cross-connect rate as shown below.

```
rtrv-crs-all:TID123::654321;
IP 654321
<
  TID123 00-11-26 16:54:33
M 654321 COMPLD
  "m-1-1,-::STS-1 has VT1.5 cross-connections"
  "m-1-2,m-1-2::2WAYPR,STS1"
  "m-1-4,b-1::2WAYPR,STS1"
  "m-1-5,c-v1-1::MLTPT,STS1"
  "m-1-5,c-v2-1::MLTPT,STS1"
  "m-1-7,a-3::2WAYPR,STS1"
  "m-1-11,m-1-11::2WAYPR,STS1"
  "m-1-1,m-1-1::2WAYPR,STS1"
  "m-1-2,m-1-2::2WAYPR,STS1"
  "a-1,-::STS-1 has VT1.5 cross-connections"
  "b-1,m-1-4::2WAYPR,STS1"
  "c-v1-1,m-1-5::MLTPT,STS1"
  "c-v2-1,m-1-5::MLTPT,STS1"
  "a-3,m-1-7::2WAYPR,STS1"
  "m-1-11,m-1-11::2WAYPR,STS1"
;
```

Beginning in Release 3.1, the reported order of aids and cross-connections in the previous example is as follows.

```
rtrv-crs-all:TID123::654321;  
IP 654321  
<  
  TID123 00-11-26 16:54:33  
M 654321 COMPLD  
  "m-1-1,-::STS-1 has VT1.5 cross-connections"  
  "m-1-2,m-1-2::2WAYPR,STS1"  
  "b-1,m-1-4::2WAYPR,STS1"  
  "c-v1-1,m-1-5::MLTPT,STS1"  
  "c-v2-1,m-1-5::MLTPT,STS1"  
  "a-3,m-1-7::2WAYPR,STS1"  
  "m-1-11,m-1-11::2WAYPR,STS1"  
  "a-1,-::STS-1 has VT1.5 cross-connections"  
;
```

The following example retrieves all **STS3c** cross-connections associated with a low-speed channel b-1-1 (within an OC-3 interface).

```
rtrv-crs-sts3c:TID123:b-1-1:654321;  
IP 654321  
<  
  TID123 00-11-26 16:54:33  
M 654321 COMPLD  
  "b-1-1,m-1-10::2WAYPR"  
;
```

Beginning in Release 2.1, the NE response in the previous example includes the cross-connect rate as shown below.

```
rtrv-crs-sts3c:TID123:b-1-1:654321;  
IP 654321  
<  
  TID123 00-11-26 16:54:33  
M 654321 COMPLD  
  "b-1-1,m-1-10::2WAYPR,STS3c"  
;
```

Beginning in Release 3.1, the reported order of aids in the previous example is as follows.

```
rtrv-crs-sts3c:TID123:b-1-1:654321;  
IP 654321  
<  
    TID123 00-11-26 16:54:33  
M 654321 COMPLD  
    "m-1-10,b-1-1::2WAYPR,STS3c"  
;
```

The following example retrieves all **STS1** cross-connections. (**Note** that only six STS-1 channels are cross-connected; the rest have no associated cross-connections).

```
rtrv-crs-sts1:TID123:all:654321;  
IP 654321  
<  
    TID123 00-11-26 16:54:33  
M 654321 COMPLD  
    "m-1-1,m-1-1::2WAYPR"  
    "m-1-2,m-1-2::2WAYPR"  
    "m-1-4,b-1::2WAYPR"  
    "m-1-10,m-1-10::2WAYPR"  
    "m-1-11,m-1-11::2WAYPR"  
    "m-1-12,m-1-12::2WAYPR"  
    "m-1-1,m-1-1::2WAYPR"  
    "m-1-2,m-1-2::2WAYPR"  
    "b-1,m-1-4::2WAYPR"  
    "m-1-10,m-1-10::2WAYPR"  
    "m-1-11,m-1-11::2WAYPR"  
    "m-1-12,m-1-12::2WAYPR"  
;
```

Beginning in Release 2.1, the NE response in the previous example includes the cross-connect rate as shown below.

```
rtrv-crs-sts1:TID123:all:654321;  
IP 654321  
<  
  TID123 00-11-26 16:54:33  
M 654321 COMPLD  
  "m-1-1,m-1-1::2WAYPR,STS1"  
  "m-1-2,m-1-2::2WAYPR,STS1"  
  "m-1-4,b-1::2WAYPR,STS1"  
  "m-1-10,m-1-10::2WAYPR,STS1"  
  "m-1-11,m-1-11::2WAYPR,STS1"  
  "m-1-12,m-1-12::2WAYPR,STS1"  
  "m-1-1,m-1-1::2WAYPR,STS1"  
  "m-1-2,m-1-2::2WAYPR,STS1"  
  "b-1,m-1-4::2WAYPR,STS1"  
  "m-1-10,m-1-10::2WAYPR,STS1"  
  "m-1-11,m-1-11::2WAYPR,STS1"  
  "m-1-12,m-1-12::2WAYPR,STS1"  
;
```

Beginning in Release 3.1, the reported order of aids and cross-connections in the previous example is as follows.

```
rtrv-crs-sts1:TID123:all:654321;  
IP 654321  
<  
  TID123 00-11-26 16:54:33  
M 654321 COMPLD  
  "m-1-1,m-1-1::2WAYPR,STS1"  
  "m-1-2,m-1-2::2WAYPR,STS1"  
  "b-1,m-1-4::2WAYPR,STS1"  
  "m-1-10,m-1-10::2WAYPR,STS1"  
  "m-1-11,m-1-11::2WAYPR,STS1"  
  "m-1-12,m-1-12::2WAYPR,STS1"  
;
```

The following example retrieves all of the **STS3c** cross-connections in a system equipped with OC-48 high-speed interfaces.

```
rtrv-crs-sts3c:TID123:all:654321;  
IP 654321  
<  
    TID123 00-11-26 16:54:33  
M 654321 COMPLD  
    "m-1-4,m-1-4::2WAYPR"  
    "m-1-10,m-1-10::2WAYPR"  
;
```

Beginning in Release 2.1, the NE response in the previous example includes the cross-connect rate as shown below.

```
rtrv-crs-sts3c:TID123:all:654321;  
IP 654321  
<  
    TID123 00-11-26 16:54:33  
M 654321 COMPLD  
    "m-1-4,m-1-4::2WAYPR, STS3c"  
    "m-1-10,m-1-10::2WAYPR, STS3c"  
;
```

The following example illustrates the retrieval of a two-way (add/drop) cross-connection associated with the STS-1 channel in the high-speed OC-192 (Release 2.0), line m-1-2, when MLTPT (dual 0X1) is cross-connected to a Fast Ethernet card in slots "b" through b-1-1.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m-1-2,b-v1-1::MLTPT, STS1"  
    "m-1-2,b-v2-1::MLTPT, STS1"  
;
```

Beginning in Release 3.1, the reported order of aids and cross-connections in the previous example is as follows.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
  TID123 00-11-26 16:42:11  
M 123456 COMPLD  
  "b-v1-1,m-1-2::MLTPT,STS1"  
  "b-v2-1,m-1-2::MLTPT,STS1"  
;
```

The following example illustrates the retrieval of a two-way (add/drop) cross-connection associated with the STS-1 channel in the high-speed OC-48 or OC-192, line m-1-2, when **2WAYPR** is cross-connected to a Fast Ethernet card in slot "b" through b-v1-1.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
  TID123 00-11-26 16:42:11  
M 123456 COMPLD  
  "m-1-2,b-v1-1::2WAYPR,STS1"  
;
```

Beginning in Release 3.1, the reported order of aids in the previous example is as follows.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
  TID123 00-11-26 16:42:11  
M 123456 COMPLD  
  "b-v1-1,m-1-2::2WAYPR,STS1"  
;
```

The following example illustrates the retrieval of a two-way (add/drop) cross-connection associated with the STS-1 channel in the high-speed OC-48 or

OC-192, line m-1-1, when MLTPT (dual0X1) is cross-connected to a 1GbE Ethernet card in slot "b" through b-v1-1.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m-1-2,b-v1-1::MLTPT,STS1"  
    "m-1-2,b-v2-1::MLTPT,STS1"  
;
```

Beginning in Release 3.1, the reported order of aids and cross-connections in the previous example is as follows.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "b-v1-1,m-1-2::MLTPT,STS1"  
    "b-v2-1,m-1-2::MLTPT,STS1"  
;
```

The following example illustrates the retrieval of a nonexistent cross-connection associated with the STS-1 channel in the high-speed OC-48 or OC-192 line.

```
rtrv-crs-sts1:TID123:m-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
;
```

The following example illustrates the retrieval of a two-way (add/drop) cross-connection associated with the STS-1 channel in the high-speed OC-n

BLSR, which is cross-connected to a channel on a LS OC-n, and includes the rate parameter in the response.

```
rtrv-crs-sts1:TID123:m1-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m1-1-2,a-2-4::2WAYPR,STS1:loca=LT-DMX2"  
;
```

Beginning in Release 3.1, the reported order of aids in the previous example is as follows.

```
rtrv-crs-sts1:TID123:m1-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "a-2-4,m1-1-2::2WAYPR,STS1:locz=LT-DMX2"  
;
```

The following example illustrates the retrieval of a two-way (add/drop) cross-connection associated with the STS-1 channel in a LS OC-n, which is cross-connected to a channel in the high-speed OC-n BLSR, and includes the rate parameter in the response.

```
rtrv-crs-sts1:TID123:a-2-4:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "a-2-4,m1-1-2::2WAYPR,STS1:locz=LT-DMX2"  
;
```


Beginning in Release 3.1, the reported order of aids in the previous example is as follows.

```
rtrv-crs-sts1:TID123:a-2-4:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m1-1-2,a-2-4::2WAYPR,STS1:loca=LT-DMX2"  
;
```

The following example retrieves a **VT1** add/drop cross-connection on a BLSR interface.

```
rtrv-crs-VT1:TID123:m1-1-4-1-1:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m1-2-4-1-1,a-2-4-1-1::2WAYPR,VT1:loca=LT-DMX2,vtloca=LT-DMX2"  
;
```

The following example retrieves a **VT1** pass-through cross-connection on a BLSR interface.

```
rtrv-crs-VT1:TID123:m1-1-1-1-1:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m1-1-1-1-1,m2-1-1-1-1::2WAYPR,VT1:loca=LT-DMX2,locz=LT-DMX4"  
;
```

The following example retrieves a VT-accessed **STS1** pass-through cross-connection on a BLSR interface.

```
rtrv-crs-VT1:TID123:m2-1-2:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m2-1-2,m1-1-2::2WAYPR,VT1:loca=LT-DMX4,locz=LT-DMX2,vtacc=YES"  
;
```

The following example retrieves all cross-connections in a system and includes the rate in the response.

```
rtrv-crs-all:TID123::654321;
IP 654321
<
  TID123 00-11-26 16:54:33
M 654321 COMPLD
  "m-1-1, -:STS-1 has VT1.5 cross-connections"
  "m-1-4,b-1::2WAYPR,STS1"
  "m1-1-5,m2-1-5::2WAYPR,STS1:loca=LT-DMX1,locz=LT-DMX2"
  "m-1-2,c-v1-1::MLTPT,STS1"
  "m-1-2,c-v2-1::MLTPT,STS1"
  "m2-1-7,d-1-4::2WAYPR,STS3c:loca=LT-DMX3"
  "m-1-10,d-1-1::2WAYPR,STS3c"
  "m-1-13,m-1-13::2WAYPR,STS12c"
  "m-1-12,m-1-12::2WAYPR,STS12c"
  "a-1, -:STS-1 has VT1.5 cross-connections"
  "b-1,m-1-4::2WAYPR,STS1"
  "c-v1-1,m-1-2::MLTPT,STS1"
  "c-v2-1,m-1-2::MLTPT,STS1"
  "d-1-1,m-1-10::2WAYPR,STS3c"
  "d-1-4,m2-1-7::2WAYPR,STS3c:locz=LT-DMX3"
  "m2-1-5,m1-1-5::2WAYPR,STS1:loca=LT-DMX2,locz=LT-DMX1"
;
```

Beginning in Release 3.1, the reported order of aids and cross-connections in the previous example is as follows.

```
rtrv-crs-all:TID123::654321;
IP 654321
<
  TID123 00-11-26 16:54:33
M 654321 COMPLD
  "m-1-1, -:STS-1 has VT1.5 cross-connections"
  "c-v1-1,m-1-2::MLTPT,STS1"
  "c-v2-1,m-1-2::MLTPT,STS1"
  "b-1,m-1-4::2WAYPR,STS1"
  "m2-1-5,m1-1-5::2WAYPR,STS1:loca=LT-DMX2,locz=LT-DMX1"
  "d-1-4,m2-1-7::2WAYPR,STS3c:locz=LT-DMX3"
  "d-1-1,m-1-10::2WAYPR,STS3c"
  "m-1-12,m-1-12::2WAYPR,STS12c"
  "m-1-13,m-1-13::2WAYPR,STS12c"
  "a-1, -:STS-1 has VT1.5 cross-connections"
;
```

The following example illustrates the response to the retrieval of a two-way (add/drop) **STS1** cross-connection, with *chappl*=UNSWITCHED, between the LS OC-n channel a-2-4 and the HS OC-n UPSR ring channel m-1-2.

```
rtrv-crs-sts1:TID123:a-2-4:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "a-2-4,m-1-2::2WAYPR,STS1:chappl=UNSWITCHED"  
;
```

Beginning in Release 3.1, the reported order of aids in the previous example is as follows.

```
rtrv-crs-sts1:TID123:a-2-4:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m-1-2,a-2-4::2WAYPR,STS1:chappl=UNSWITCHED"  
;
```

The following example illustrates the response to the retrieval of a two-way (add/drop) **STS1** cross-connection, with *circuitid*="Boston to Chicago", between the LS OC-n channel g-2-4 and the HS OC-n UPSR ring channel m-1-2. Note, for cross-connections for which the associated *circuitid* parameter is not provisioned (i.e. *circuitid* is a null string) the *circuitid* parameter is not reported in the command response.

```
rtrv-crs-sts1:TID123:g-2-all:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "g-2-4,m-1-2::2WAYPR,STS1:circuitid=\"Boston to Chicago\""   
    "g-2-5,m-1-3::2WAYPR,STS1"  
;
```

Beginning in Release 3.1, the reported order of aids and cross-connections in the previous example is as follows.

```
rtrv-crs-sts1:TID123:g-2-all:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m-1-2,g-2-4::2WAYPR,STS1:circuitid=\"Boston to Chicago\""  
    "m-1-3,g-2-5::2WAYPR,STS1"  
;
```

The following example illustrates the response to the retrieval of a two-way (add/drop) **VT1** cross-connection, with *circuitid*="Boston to Chicago", between the LS OC-n channel g-2-4-1-1 and the HS OC-n UPSR ring channel m-1-2-1-1. Note, for cross-connections for which the associated *circuitid* parameter is not provisioned (i.e. *circuitid* is a null string) the *circuitid* parameter is not reported in the command response.

```
rtrv-crs-vt1:TID123:g-2-4-all:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m-1-2-1-1,g-2-4-1-1::2WAYPR,VT1:circuitid=\"Boston to Chicago\""  
    "m-1-3-1-1,g-2-4-1-2::2WAYPR,VT1"  
;
```

The following example illustrates the response to the retrieval of all cross-connections on an NE with existing 1WAY and 1WAYPR cross-connections in support of UPSR dual ring interworking.

```
rtrv-crs-sts1:TID123:m-1-all:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m-1-1,-::STS1 has VT1.5 cross-connections"  
    "b-1,m-1-2::2WAYPR,STS1"  
    "b-1,m-1-3::1WAY,STS1"  
    "a-2-1,m1-1-5::1WAY,STS1:circuitid=\"UPSR DRI add connection\""  
    "m-1-6,-::STS1 has VT1.5 cross-connections"  
    "m-1-7,m-1-7::2WAYPR,STS1"  
    "m-1-10,-::STS1 has VT1.5 cross-connections"  
    "m1-1-5,m2-1-5::1WAY,STS1:circuitid=\"UPSR DRI through connection\""  
    "a-1-10,-::STS1 has VT1.5 cross-connections"  
    "m-1-5,a-2-1::1WAYPR,STS1:circuitid=\"UPSR DRI drop connection\""  
    "c-1-1,-::STS1 has VT1.5 cross-connections"  
    ;
```

The following example illustrates the response to the retrieval of a cross-connection with support for the *taccstat* parameter.

```
rtrv-crs-sts1:TID123:g-2-all:123456;  
IP 123456  
<  
    TID123 00-11-26 16:42:11  
M 123456 COMPLD  
    "m-1-2,g-2-4::2WAYPR,STS1:taccstat=YES"  
    "m-1-3,g-2-5::2WAYPR,STS1"  
    ;
```

The following examples are valid beginning in Release 6.0.

The following example retrieves two 1WAY VT cross-connections that provide 2-way connectivity between a DS1 interface and a HS BLSR interface.

```
RTRV-CRS-VT:LT-123:a1-1-1-1:654321;
IP 654321
<
  LT-123 05-12-30 16:54:33
M 654321 COMPLD
  "a1-1-1-1,m1-1-13-1-2::1WAY,VT:circuitid=\"BLSR WEST to DS1\"
, locz=TID456,xcappl=70,xcnum=030100101"
  "m1-1-13-1-2,a1-1-1-1::1WAY,VT:circuitid=\"DS1 to BLSR WEST\",
locz=TID456,xcappl=70,xcnum=030100101"
;
```

The following example retrieves two 1WAY STS1 cross-connections that provide 2-way UPSR pass-through connectivity.

```
RRTV-CRS-STs1:LT-123:m1-1-1:654321;
IP 654321
<
  LT-123 05-12-30 16:54:33
M 654321 COMPLD
  "m2-1-1,m1-1-1::1WAY,STs1:circuitid=\"UPSR EAST to WEST\",
xcappl=11,xcnum=030100101"
  "m1-1-1,m2-1-1::1WAY,STs1:circuitid=\"UPSR WEST to EAST\",
xcappl=11,xcnum=030100101"
;
```

Each of the following example retrieves three 1WAYPR STS1 hairpin cross-connections that provide part of the 2-way connectivity between two LS UPSR interfaces. Four 1WAYPR cross-connections are required to provide full UPSR to UPSR connectivity. However, as each UPSR ring channel is involved in only three of the cross-connections, retrieving on a single aid returns only three cross-connection, not all four. Notice that two of the cross-connections are identical in each report.

```
RTRV-CRS-sts1:LT-123:d1-1-1:654321;
IP 654321
<
  LT-123 05-12-30 16:54:33
M 654321 COMPLD
  "g1-2-1,d1-1-1::1WAYPR,STs1,g2-2-1:circuitid=\"RING2 drop to RING1 WEST\"
,xcappl=21,xcnum=110200100"
  "d1-1-1,g1-2-1::1WAYPR,STs1,d2-1-1:circuitid=\"RING1 drop to RING2 WEST\"
,xcappl=21,xcnum=110200100"
  "d1-1-1,g2-2-1::1WAYPR,STs1,d2-1-1:circuitid=\"RING1 drop to RING2 EAST\"
,xcappl=21,xcnum=110200100"
;
```

```
RTRV-CRS-sts1:LT-123:d2-1-1:654321;  
IP 654321  
<  
  LT-123 05-12-30 16:54:33  
M 654321 COMPLD  
  "g1-2-1,d2-1-1::1WAYPR,STS1,g2-2-1:circuitid=\"RING2 drop to RING1 WEST\"  
,xcappl=21,xcnum=110200100"  
  "d1-1-1,g1-2-1::1WAYPR,STS1,d2-1-1:circuitid=\"RING1 drop to RING2 WEST\"  
,xcappl=21,xcnum=110200100"  
  "d1-1-1,g2-2-1::1WAYPR,STS1,d2-1-1:circuitid=\"RING1 drop to RING2 EAST\"  
,xcappl=21,xcnum=110200100"  
;
```

The following example retrieves three STS1 hairpin cross-connections that provide 2-way connectivity between a LS UPSR interface and a LS 1+1 interface.

```
RTRV-CRS-sts1:LT-123:g1-2-1:654321;  
IP 654321  
<  
  LT-123 05-12-30 16:54:33  
M 654321 COMPLD  
  "g1-2-1,d1-1-1::1WAY,STS1:circuitid=\"1+1 add to UPSR WEST\",  
xcappl=13,xcnum=110200100"  
  "g1-2-1,d2-1-1::1WAY,STS1:circuitid=\"1+1 add to UPSR EAST\",  
xcappl=13,xcnum=110200100"  
  "d1-1-1,g1-2-1::1WAYPR,STS1,d2-1-1:circuitid=\"UPSR drop to 1+1\",  
xcappl=13,xcnum=110200100"  
;
```

Each of the following example retrieves two 1WAY STS3c UNSWITCHED cross-connections that provide 2-way unswitched connectivity between a HS UPSR interface and a LS UPSR interface.

```
RTRV-CRS-sts3c:LT-123:m1-1-1:654321;  
IP 654321  
<  
  LT-123 05-12-30 16:54:33  
M 654321 COMPLD  
  "d1-1-1,m1-1-1::1WAY,STS3c:chappl=UNSWITCHED,circuitid=\"UPSR2 WEST to  
UPSR1 WEST\",xcappl=23,xcnum=090100100"  
  "m1-1-1,d1-1-1::1WAY,STS3c:chappl=UNSWITCHED,circuitid=\"UPSR1 WEST to  
UPSR2 WEST\",xcappl=23,xcnum=090100100"  
;
```

```
RTRV-CRS-sts3c:LT-123:m2-1-1:654321;  
IP 654321  
<  
  LT-123 05-12-30 16:54:33  
M 654321 COMPLD  
  "d2-1-1,m2-1-1::1WAY,STS3c:chappl=UNSWITCHED,circuitid=\"UPSR2 EAST to  
UPSR1 EAST\",xcappl=23,xcnum=090100100"  
  "m2-1-1,d2-1-1::1WAY,STS3c:chappl=UNSWITCHED,circuitid=\"UPSR1 EAST to  
UPSR2 EAST\",xcappl=23,xcnum=090100100"  
;
```

Each of the following example retrieves two 1WAY STS1 multipoint cross-connections that provide 2-way multipoint connectivity between a HS UPSR interface and an Ethernet interface.

```
RTRV-CRS-sts1:LT-123:m1-1-1:654321;  
IP 654321  
<  
  LT-123 05-12-30 16:54:33  
M 654321 COMPLD  
  "d1-v1-1,m1-1-1::1WAY,STS1:chappl=UNSWITCHED,circuitid=\"VCG to UPSR  
WEST\",xcappl=14,xcnum=090100100"  
  "m1-1-1,d1-v1-1::1WAY,STS1:chappl=UNSWITCHED,circuitid=\"UPSR WEST to  
VCG\",xcappl=14,xcnum=090100100"  
;
```

```
RTRV-CRS-sts1:LT-123:m2-1-1:654321;  
IP 654321  
<  
  LT-123 05-12-30 16:54:33  
M 654321 COMPLD  
  "d1-v2-1,m2-1-1::1WAY,STS1:chappl=UNSWITCHED,circuitid=\"companion VCG to  
UPSR EAST\",xcappl=14,xcnum=090100100"  
  "m2-1-1,d1-v2-1::1WAY,STS1:chappl=UNSWITCHED,circuitid=\"UPSR EAST to  
companion VCG\",xcappl=14,xcnum=090100100"  
;
```


The following example retrieves all (STSn) cross-connections.

```
rtrv-crs-all:TID123::654321;  
IP 654321  
<  
    TID123 00-11-26 16:54:33  
M 654321 COMPLD  
    "m1-1-1,-::STS-1 has VT1.5 cross-connections"  
    "d1-v1-1,m1-1-2::1WAY,STS1:chappl=UNSWITCHED:circuitid=\"VCG to UPSR  
WEST\",xcappl=14,xcnum=090100100"  
    "b1-1,m1-1-4::1WAY,STS1:circuitid=\"DS1 to UPSR  
WEST\",taccstat=YES,xcappl=20,xcnum=050100100"  
    "m2-1-12,m1-1-12::1WAY,STS1:circuitid=\"STS1 UPSR WEST to UPSR  
EAST\",xcappl=11,xcnum=010101200"  
    "m2-1-13,m1-1-13::1WAY,STS12c:circuitid=\"STS12c UPSR WEST to UPSR  
EAST\",xcappl=11,xcnum=010101300"  
    "m2-1-1,-::STS-1 has VT1.5 cross-connections"  
    "d1-v2-1,m2-1-2::1WAY,STS1:chappl=UNSWITCHED:circuitid=\"companion VCG to  
UPSR EAST\",xcappl=14,xcnum=090100100"  
    "b1-1,m2-1-4::1WAY,STS1:circuitid=\"DS1 to UPSR  
EAST\",taccstat=YES,xcappl=20,xcnum=050100100"  
    "m1-1-12,m2-1-12::1WAY,STS1:circuitid=\"STS1 UPSR EAST to UPSR  
WEST\",xcappl=11,xcnum=010101200"  
    "m1-1-13,m2-1-13::1WAY,STS12c:circuitid=\"STS12c UPSR EAST to UPSR  
WEST\",xcappl=11,xcnum=010101300"  
    "a1-1,-::STS-1 has VT1.5 cross-connections"  
    "m1-1-4,b1-1::1WAYPR,STS1,m2-1-4:circuitid=\"UPSR to DS1  
WEST\",taccstat=YES,xcappl=20,xcnum=050100100"  
    "m1-1-2,d1-v1-1::1WAY,STS1:chappl=UNSWITCHED:circuitid=\"UPSR WEST to  
VCG\",xcappl=14,xcnum=090100100"  
    "m2-1-2,d1-v2-1::1WAY,STS1:chappl=UNSWITCHED:circuitid=\"UPSR EAST to  
companion VCG\",xcappl=14,xcnum=090100100"  
    "g1-1-1,d1-v3-1::1WAYPR,STS3c,g2-1-1:circuitid=\"UPSR to  
VCG\",xcappl=20,xcnum=090300100"  
    "d1-v3-1,g1-1-1::1WAY,STS3c:circuitid=\"VCG to UPSR  
WEST\",xcappl=20,xcnum=090300100"  
    "d1-v3-1,g2-1-1::1WAY,STS3c:circuitid=\"VCG to UPSR  
WEST\",xcappl=20,xcnum=090300100"  
;
```

Beginning in Release 7.0, for portless DS3 ports on the LNW20 (**RTRV-rr**, *pmd*=PORTLESS), the ring channel(s) associated with the port may simultaneously be the source of STS1 cross-connections (where the STS1 contains a channelized DS3) and VT1 cross-connections (created from the DS1s extracted from the channelized DS3). They may also simultaneously be the destination of an STS1 cross-connection and up to 28 VT1 cross-connections.

The following example shows cross-connections associated with one portless T3 port in b-3 (assuming they're the only cross-connections in the shelf, and some VTs are dropped to a TMUXed T3 [where *pmd*=PORTED, *tribmd*=CHAN] in b-12) retrieved with the ALL modifier:

```
rtrv-crs-all:TID123::654321;  
IP 654321  
<  
    TID123 07-04-13 02:21:45  
M 654321 COMPLD  
    "m1-1-2,b1-3::1WAY,STS1:circuitid=\"drop/extract DS1 from channelized  
DS3\",xcappl=24,xcnum=030300300"  
    "b1-3,-::STS-1 has VT1.5 cross-connections"  
    "b1-3,m1-1-2::1WAY,STS1::circuitid=\"create/add channelized  
DS3\",xcappl=24,xcnum=030300300"  
    "b1-12,-::STS-1 has VT1.5 cross-connections"  
;
```

The following example retrieves all (STS_n) cross-connections.

```
rtrv-crs-all:TID123::654321;  
IP 654321  
<  
    TID123 00-11-26 16:54:33  
M 654321 COMPLD  
    "m1-1-1,-::STS-1 has VT1.5 cross-connections"  
    "b1-1,m1-1-4::1WAY,STS1:circuitid=\"DS1 to UPSR WEST\",taccstat=YES,  
xcappl=20,xcnum=050100100,xconclas=TRADITIONAL"  
    "d1-v2-1,m2-1-2::1WAY,STS1:chappl=UNSWITCHED:circuitid=\"companion VCG to  
UPSR EAST\",xcappl=14,xcnum=090100100,xconclas=TRADITIONAL"  
    "b1-1,m2-2-4::1WAY,STS1:taccstat=YES, xcappl=20,xcnum=050100100,  
connid=200.10.10.10&1-1-2-1-1&100,xconclas=NN"  
    "m1-1-12,m2-1-12::1WAY,STS1:circuitid=\"STS1 UPSR EAST to UPSR WEST\",  
xcappl=11,xcnum=010101200,xconclas=TRADITIONAL"  
    "m1-1-13,m2-1-13::1WAY,STS12c:circuitid=\"STS12c UPSR EAST to UPSR WEST\",  
xcappl=11,xcnum=010101300,xconclas=TRADITIONAL"  
    "a1-1,-::STS-1 has VT1.5 cross-connections"  
    "m1-1-4,b1-1::1WAYPR,STS1,m2-1-4:circuitid=\"UPSR to DS1 WEST\",taccstat=  
YES,xcappl=20,xcnum=050100100,xconclas=TRADITIONAL"  
    "g1-1-1,d1-v3-1::1WAYPR,STS3c,g2-1-1:circuitid=\"UPSR to VCG\",xcappl=20,  
xcnum=090300100,xconclas=TRADITIONAL"  
;
```

The following example retrieves a cross-connection using the **connid** parameter.

```
rtrv-crs-all:TID123::654321::200.10.10.10&1-1-2-1-1&100;  
IP 654321  
<  
    TID123 07-11-26 16:54:33  
M 654321 COMPLD  
  
    "b1-1,m2-1-1::1WAY,STS1:taccstat=NO,xcappl=0,xcnum=0,  
    connid=200.10.10.10&1-1-2-1-1&100,xconclas=NN"  
;
```

The following example retrieves two 1WAY VT1 cross-connections that provide 2-way connectivity between a DS1 tributary (of an LNW20 TMUX) in the main shelf of a Multi-shelf DCS system and a DS1 tributary in subshelf #2.

```
RTRV-CRS-VT1:TID123:2-a1-1-1-1:654321;  
IP 654321  
<  
    TID123 10-12-30 16:54:33  
M 654321 COMPLD  
    "2-a1-1-1-1,b1-1-1-1::1WAY,VT1:circuitid=\"Multi-shelf DCS DS1 subshelf  
to main\",xcappl=13,xcnum=050100101"  
    "b1-1-1-1,2-a1-1-1-1::1WAY,VT1:circuitid=\"Multi-shelf DCS DS1 main to  
subshelf\",xcappl=13,xcnum=050100101"  
;
```

ERROR RESPONSES

Refer to the error responses in **RTRV-HDR**. The error responses listed there may also apply.

If a **RTRV-CRS-rr** command is received with an invalid command code **modifier**, the following error response is returned.

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

If the NE receives a **RTRV-CRS-rr** command with a command code **modifier** and an **aid** combination not supported by the system (for example, **RTRV-CRS-STS3c** command to retrieve information on add/drop cross-connects sent to a system that is not equipped with packs that support an **STS3c** cross-connection), the following error response is returned.

```
sid date time
M ctag DENY
  ENEQ
/* Equipage, Not Equipped */
;
```

If the NE receives an **RTRV-CRS-rr** command with an **aid** that is incorrect or not supported by the system, the following error response is returned.

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

If the NE receives an **RTRV-CRS-ALL** command with an **aid**, the following error response is returned.

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

Beginning in Release 7.1, the above message is also returned if the NE receives an **RTRV-CRS-ALL** command with an **aid** or a **connid**.

Beginning in Release 7.1, if the NE receives an **RTRV-CRS-rr** command with both an **aid** and a **connid**, the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, either AID or CONNID required, but not
both */
;
```

RELATED TL1 MESSAGES

DLT-CRS-rr

ED-CRS-rr

ENT-CRS-rr

ENT-ROLL-rr

NAME

RTRV-DPORT : Retrieve Data Port

The **RTRV-DPORT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 5.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-DPORT -*modifier*:*tid*[:*aid*]:*ctag*;

DESCRIPTION

The **RTRV-DPORT** command retrieves the properties of a Data port, used for the LNW73/LNW73C/LNW705/LNW708 circuit packs, when available.

Execution of this command will not be recorded in the Security log.

The **RTRV-DPORT** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-329. RTRV-DPORT Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>modifier</i>	Modifier. Values are as follows: ■ DATA Applicable to data ports on the LNW73 circuit pack. Starting in 7.0, this modifier is also applicable to the LNW73C circuit pack. Starting in 7.1, this modifier is also applicable the LNW705 circuit pack.
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-329. RTRV-DPORT Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of a data port AID. Refer to the AID Table in Appendix A for a list of valid AIDs. Note: An "ALL" AID range is supported at the pack or system level. This parameter is optional. Default value is "ALL."
<i>ctag</i>	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the **RTRV-DPORT** request, the following normal completion response is returned:

```

sid date time
M ctag COMPLD
"aid::spec_block"
<one or more of the line above>
<one or more of this entire block, for another aid>
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-330. RTRV-DPORT Output Parameters

Parameter Name	Description
<i>aid</i>	Access identifier. This is the address of a data port. Refer to the AID Table in Appendix A for valid AIDs.
<i>spec_block</i>	Specific parameter block: The <i>spec_block</i> parameters are defined in the following table.

Table 2-331. RTRV-DPORT Output *spec_block* Parameters (cont 1 of 5)

<i>Parameter Name</i>	Description
<i>admin</i>	Port administration. This parameter is used to enable/disable all frames to and from a port. ■ ENABLE - Port enabled ■ DISABLE - Port disabled This parameter applies to LNW73, LNW73C. This parameter applies to the LNW705.
<i>almlvl</i>	Alarm Level. This parameter shows the alarm level for an incoming signal failure, link failure, and may have one of the following values: This parameter is removed beginning in Release 6.0. See RTRV-ASAP-ASGNMT . ■ CR (Critical) ■ MJ (Major Alarm) ■ MN (Minor Alarm) ■ NA (No Alarm) - A standing condition will exist instead of an alarm.
<i>compr</i>	Data Compression. This parameter is used to enable/disable data compression on a port, and is only reported for the LNW73C pack when the <i>gfptype</i>=ASYNC-FC and may have one of the following values: ■ ENABLE - Compression enabled ■ DISABLE - Compression disabled
<i>compro</i>	Data Compression Operation. This parameter is used to display the operational value of data compression on a port, and is only reported for the LNW73C pack when the <i>gfptype</i>=ASYNC-FC and may have one of the following values: ■ ENABLE - Compression operational ■ DISABLE - Compression not operational Data Compression is only operational if both ends are provisioned for compression, crossconnections are provisioned across the network, and vcgtrips are enabled in both directions.

Table 2-331. RTRV-DPORT Output *spec_block* Parameters (cont 2 of 5)

Parameter Name	Description
<i>epmode</i>	Data port monitoring mode. Values are as follows: ■ AUTO ■ IS ■ NMON This parameter applies to LNW73, and LNW73C. This parameter applies to the LNW705.
<i>eppm</i>	Data port PM enable. Values are as follows: ■ ENABLE ■ DISABLE This parameter applies to the LNW73 and LNW73C. This parameter applies to the LNW705.
<i>gfptype</i>	GFP Encapsulation Type. This parameter sets the User Payload Identifier for GFP Client Frames. This parameter is valid when the circuit pack is used as a Fibre channel/FICON circuit pack, that is when <i>datatype</i> is set to FC-FICON (see RTRV-EQPT). Values are as follows: ■ FC - Transparent Fibre Channel, used for synchronous full rate ■ FICON - Transparent FICON, used for synchronous full rate ■ ASYNC-FC - Asynchronous Transparent Fibre Channel Used for full and sub-rate rate, supports distance extension by managing FC buffer credits This parameter applies to LNW73, LNW73C. This parameter applies to the LNW705. ASYNC-FC is not a valid parameter value for the LNW705.
<i>Inrate</i>	Line Rate. This parameter is valid when the circuit pack is used as a Fibre channel/FICON circuit pack, that is when <i>datatype</i> is set to FC-FICON (see RTRV-EQPT). Values are as follows: ■ 1G - 1.0625 Gbps ■ 2G - 2.1250 Gbps

Table 2-331. RTRV-DPORT Output *spec_block* Parameters (cont 3 of 5)

<i>Parameter Name</i>	Description
	■ 4G - 4.250 Gbps (valid for LNW705) This parameter applies to the LNW73 and LNW73C. This parameter applies to the LNW705. For the LNW705, the value displayed is computed based on the <i>signaltype</i> of the port: 1G applies to <i>signaltype</i> of FC100 and FICON, 2G applies to <i>signaltype</i> of FC200 and FICON_EXP and 4G applies to <i>signaltype</i> of FC400 (see RTRV-OPTE).
<i>pstat</i>	Data port status. Values are as follows: ■ TRANS - Transparent Operation ■ LINKFAIL - Link failed The following values are also valid when <i>gfptype</i> is set to ASYNC-FC: ■ S-LNKINT - SONET Access Link Initialization ■ PRT-LNK-INIT - Port Link Initialization This parameter applies to the LNW73 and LNW73C. This parameter applies to the LNW705.
<i>rcf</i>	Remote Client Fail. This parameter is used to enable/disable Remote Client Fail message detection and generation, and may have one of the following values: ■ ENABLE - Remote Client Fail message enabled ■ DISABLE -Remote Client Fail message disabled This parameter applies to LNW73 and LNW73C.

Table 2-331. RTRV-DPORT Output *spec_block* Parameters (cont 4 of 5)

Parameter Name	Description
<i>rcf_almvl</i>	Remote Client Fail Alarm Level. This parameter shows the alarm level for Remote Client Fail, and may have one of the following values: This parameter is removed beginning in Release 6.0. See RTRV-ASAP-ASGNMT. ■ CR (Critical) ■ MJ (Major Alarm) ■ MN (Minor Alarm) ■ NA (No Alarm) - A standing condition will exist instead of an alarm. This parameter applies to the LNW73 and LNW73C.
<i>rcf_linkdown</i>	Remote Client Fail Link Shutdown. When <i>rcf</i> is enabled, this parameter is used to control link shut down by Remote Client Fail message reception, and may have one of the following values: ■ ENABLE - Link shutdown enabled, Laser will be turned off. ■ DISABLE - Link shutdown disabled This parameter applies to the LNW73 and LNW73C.
<i>tcamd</i>	TCA Monitoring Mode. This parameter specifies whether performance monitoring Threshold Crossing Alert reporting is enabled or disabled for the port, addressed by the <i>aid</i>. ■ ENABLE - TCA reporting is enabled ■ DISABLE - TCA reporting is disabled. This parameter applies to the LNW73 and LNW73C. This parameter applies to the LNW705.
<i>sync_ping</i>	Synchronous Ping Enable. This parameter enables WAN ping in synchronous GFP. This parameter is valid when <i>gfptype</i> is set to FC or FICON or when <i>datatype</i> is set to ESCON (see RTRV-EQPT). — ENABLE - Enable ping. Enabling this parameter allows the measurement of the WAN propagation delay. Delay is retrievable by <i>prop_delay</i> in (RTRV-DPORT). — DISABLE - Disable ping. (initial value) This parameter applies to the LNW73 and LNW73C.

Table 2-331. RTRV-DPORT Output *spec_block* Parameters (cont 5 of 5)

Parameter Name	Description
	This parameter applies to the LNW705.
<i>prop_delay</i>	WAN propagation Delay. This parameter retrieves the amount of propagation delay on the SONET link. This parameter is valid in: — Asynchronous GFP (<i>gfptype</i> is set to ASYNC-FC) — Synchronous GFP (<i>gfptype</i> is set to FC or FICON, or <i>datatype</i> is set to ESCON) and <i>sync_ping</i> is enabled <i>prop_delay</i> has a range of 1 to 64000. It represents the delay in micro seconds. If <i>prop_delay</i> is not available a "?" is reported (this could happen when the ping times out or <i>sync_ping</i> is not enabled in Synchronous GFP). This parameter applies to the LNW73 and LNW73C5. This parameter applies to the LNW705.

EXAMPLE INPUT/OUTPUT

The following is a **RTRV-DPORT** example for the LNW73:

RTRV-DPORT-DATA:TID123:d1-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00

M 123456 COMPLD
 "d1-1::epmode=IS, eppm=ENABLE, admin=ENABLE, tcamd=ENABLE"
 "d1-1::almlvl=MJ, rcf=ENABLE, rcf_linkdown=ENABLE, rcf_almlvl=MJ"
 "d1-1::gfptype=ASYNC-FC, lnrate=1G, pstat=TRANS, prop_delay=500"
 ;

The following is a **RTRV-DPORT** example for the LNW73:

```
RTRV-DPORT-DATA:TID123:d1-1:123456;  
  
IP 123456  
<  
  
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
  "d1-1::epmode=IS, eppm=ENABLE, admin=ENABLE, tcamd=ENABLE"  
  "d1-1::rcf=ENABLE, rcf_linkdown=ENABLE"  
  "d1-1::gfptype=ASYNC-FC, lnrate=1G, pstat=TRANS, prop_delay=500"  
  ;
```

The following is a **RTRV-DPORT** example for the LNW73C when the *gfptype=ASYNC-FC*:

```
RTRV-DPORT-DATA:TID123:g1-1:123456;  
  
IP 123456  
<  
  
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
  "g1-1, DATA::epmode=AUTO, eppm=ENABLE, admin=ENABLE, tcamd=DISABLE"  
  "g1-1::pstat=LINKFAIL"  
  "g1-1::gfptype=ASYNC-FC, lnrate=1G"  
  "g1-1::compr=ENABLE, compro=DISABLE"  
  "g1-1::prop_delay=5000"  
  "g1-1, DATA::rcf=DISABLE, rcf_linkdown=ENABLE"  
  ;
```

The following is a **RTRV-DPORT** example for the LNW705:

```
RTRV-DPORT-DATA:TID123:g1-1:123456;  
  
IP 123456  
<  
  
TID123 00-01-01 08:00:00  
M 123456 COMPLD  
  "g1-1, DATA::epmode=AUTO, eppm=ENABLE, admin=ENABLE, tcamd=DIS-  
  ABLE"  
  "g1-1::pstat=LINKFAIL"  
  "g1-1::gfptype=FICON, lnrate=2G"  
  "g1-1::prop_delay=5000"  
  ;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If a **RTRV-DPORT-rr** command contains a command code modifier other than a supported "rr" value, the following error response shall be returned to the OS:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

RELATED TL1 MESSAGES

ED-DPORT, ED-EQPT

NAME

RTRV - EPM: Retrieve Ethernet and Data Performance Monitoring

The **RTRV - EPM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV - EPM -
modifier:tid:aid:ctag::[emontype],[monlev],tmper,[mondatt],[montm];

DESCRIPTION

This command retrieves Ethernet performance monitoring data for the specified ports.

For Quality of Service performance monitoring data for specific services, see **RTRV - EPM - QOS**.

This command does not apply to the LNW78 RPR pack. See **RTRV - EPM - RPR**.

Starting in Release 5.1, for the LNW73 data pack, this command retrieves the performance monitoring data, but only for the specified Data port(s) or VCG(s).

Starting in Release 6.0, for the LNW73C data pack, this command retrieves the performance monitoring data, but only for the specified Data port(s) or VCG(s).

Starting in Release 7.1, for the LNW705 10G Muxponder circuit pack, this command retrieves the performance monitoring data. If **modifier** is **ENET**, performance monitoring data is retrieved for specified client port(s) or VCG(s) that are configured to be LAN ports (**RTRV - OTPE:signaltype=1GE**). If **modifier** is **DATA**, performance monitoring data is retrieved for specified client port(s) or VCG(s) that are configured to be Data ports (**RTRV - OTPE:signaltype=FC100, FC200, FICON or FICON_EXP**).

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-332. RTRV-EPM Input Parameters (cont 1 of 10)

Parameter Name	Description
<i>modifier</i>	This is the message modifier for the RTRV-EPM-rr message and has one of the following values: ■ ENET Applicable to LAN ports and VCGs (Virtual Concatenation Groups) on the Ethernet circuit packs. Starting in Release 7.1, applicable to ports provisioned as LAN ports and associated VCGs on the LNW705 circuit pack (RTRV-OTPE:signaltpe=1GE). ■ DATA Starting in Release 5.1, applicable to Fibre Channel/FICON/ESCON data ports and associated VCGs (Virtual Concatenation Groups) on the LNW73/LNW73C circuit pack. Starting in Release 7.1, applicable to ports provisioned as Fibre Channel and FICON data ports and associated VCGs on the LNW705 circuit pack (RTRV-OTPE:signaltpe=FC100, FC200, FICON or FICON_EXP).
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access identifier. This is the address of the entity for which the RTRV-EPM-rr command is intended. The <i>aid</i> is a required parameter and must reference a valid entity of the NE in order to be accepted. For the valid AIDs, refer to Appendix A. An "ALL" AID range is supported at the pack or shelf level. This is the address of either an Ethernet LAN port or a VCG port. Starting in Release 5.1, <i>aid</i> may also be the address of a data port.

Table 2-332. RTRV-EPM Input Parameters (cont 2 of 10)

Parameter Name	Description
	Starting in Release 7.0, on packs that support Link Aggregation Groups, a LAG port address is valid. Parameter values that are valid for a LAG are not valid for its member ports.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
emontype	These are the monitored parameter types for which data is requested. If the value is omitted, this parameter defaults to ALL. ■ EDFC Dropped frames-congestion. Valid for Ethernet LAN and VCG ports. For LNW70, this count represents the number of frames that could not be transmitted on the specified port because of congestion (the sum of EDFCG and EDFCY). For all other circuit packs, this count represents the number of frames that could not be received on the specified port because of congestion. This parameter does not apply to the LNW74 circuit pack. Starting in Release 7.1, on the LNW705 pack, this parameter applies only to LAN ports, not to VCGs. ■ EDFE Frame error. For Ethernet circuit packs, this count represents frames dropped due to errors. For the LNW73/LNW73C: this count represents frames received with invalid CRC on data port. For VCG, this count represents dropped GFP super-block frames due to CRC error. For the LNW63: this count represents frames dropped due to errors not including Ethernet CRC errors. Valid for LAN and VCG ports. For the LNW64: this count represents frames dropped due to errors not including CRC errors. Valid for LAN and VCG ports. For the LNW87: this count represents frames dropped due to errors not including CRC errors. Valid for LAN and VCG ports.

Table 2-332. RTRV-EPM Input Parameters (cont 3 of 10)

Parameter Name	Description
	For ports provisioned as LAN ports on the LNW705, this count represents frames dropped due to errors not including CRC errors. Valid for LAN and VCG ports. For ports provisioned as Data ports on the LNW705, this count represents frames received with invalid CRC on the data port. For associated VCG ports, this count represents dropped GFP super-block frames due to CRC error. ■ EFCRC Count of frames received with Ethernet CRC errors. Valid for LAN and VCG ports. This parameter applies to the LNW63 pack. Starting in Release 7.0, on the LNW64 pack, this parameter applies only to LAN ports. Starting in Release 9.0, on the LNW87 pack, this parameter applies only to LAN ports. Starting in Release 7.1, on the LNW705 pack, this parameter applies only to LAN ports. ■ GFPFCS Count of dropped GFP frames received with FCS errors. Valid for VCG ports only. This parameter applies to the LNW63 pack. Starting in Release 7.0, this parameter applies to the LNW64 pack. Starting in Release 9.0, on the LNW87 pack, this parameter applies only to LAN ports. Starting in Release 7.1, this parameter applies to the LNW705 pack. ■ EDFP Ethernet dropped frames - policer Valid for VCG ports. This parameter applies only to the LNW66/67/68 circuit packs. ■ EDFL Ethernet dropped frames due to locked source address (see RTRV-EPORT <i>locked_sa</i>), valid for LAN, VCG, and LAG ports (but not members of a LAG). This parameter applies to the LNW70 pack, starting in Release 7.0.

Table 2-332. RTRV-EPM Input Parameters (cont 4 of 10)

Parameter Name	Description
	■ EDFEMS Count of Ethernet Dropped Frames due to Exceeding MTU Size. Starting in Release 9.0, this parameter applies to LAN and VCG on the LNW70/170 circuit packs. Starting in Release 9.0, this parameter applies to LAN ports on the LNW64 circuit pack. Starting in Release 9.0, this parameter applies to LAN ports on the LNW74 circuit pack. Starting in Release 9.0, this parameter applies to LAN ports on the LNW87 circuit pack. ■ EINB Incoming number of bytes For LNW73/LNW73C, ordered sets are not included in the count. Valid for data ports only (not VCGs). For ports provisioned as Data ports on the LNW705, ordered sets are not included in the count. Valid for data ports only (not VCGs). ■ EINF Incoming number of frames ■ EONB Outgoing number of bytes For the LNW73/LNW73C, ordered sets are not included in the count. Valid for data ports only (not VCGs). For ports provisioned as Data ports on the LNW705, ordered sets are not included in the count. Valid for data ports only (not VCGs). ■ EONF Outgoing number of frames Starting in Release 5.1, the following counters are supported on the LNW73/LNW73C circuit pack. Starting in Release 7.1, the following counters are supported on ports provisioned as Data ports on the LNW705 circuit pack. ■ INTXWD Count of invalid transmission words received. Valid for data ports only (not VCGs). ■ LOS Count of instances of signal loss detected. Valid for data ports only (not VCGs).

Table 2-332. RTRV-EPM Input Parameters (cont 5 of 10)

Parameter Name	Description
■ LSYNC	Count of instances of synchronization loss detected. Valid for data ports only (not VCGs).
■ DSPERR	Count of disparity errors received. Valid for data ports only (not VCGs).
■ RFOVD	Count of received overflow frames dropped. Valid for data ports only (not VCGs).
■ TFOVD	Count of transmit overflow frames dropped. Valid for data ports only (not VCGs).
■ TFCRC	Count of transmitted frames with CRC errors. Valid for data ports only (not VCGs).
■ T10BERR	Count of transmitted 10B_ERR errors. Valid for data ports only (not VCGs).
■ RCORH	Count of received single-bit error corrected GFP header count. Valid for data ports only (not VCGs).
■ RCRCH	Count of received uncorrected multi-bit error GFP header count. Valid for VCG ports only (not data ports).
■ RCORF	Count of received single-bit error corrected GFP super-block count. Valid for VCG ports only (not data ports).
Starting in Release 5.0, the following counters are supported on the LNW70 circuit pack.	
■ EDFCG	Dropped Green frames-congestion. This parameter applies only to the LNW70 pack and counts the number of green frames that could not be transmitted because of congestion.
■ EDFCY	Dropped Yellow frames-congestion. This parameter applies only to the LNW70 pack and counts the number of yellow frames that could not be transmitted because of congestion.
■ EINDB	Incoming number of dropped frames-broadcast/multicast rate limit. See <i>bcratelimit</i> in RTRV-EPORT and RTRV-VCG . This parameter applies only to the LNW70 pack. Starting in Release 7.0, this parameter is valid for a LAG port but not its member ports.

Table 2-332. RTRV-EPM Input Parameters (cont 6 of 10)

Parameter Name	Description
	■ EINDP Incoming number of dropped PAUSE frames. See <i>fcmd</i> in RTRV-EPORT. This parameter applies only to the LNW70 pack. Starting in Release 6.0, this parameter applies to the LNW63 pack. Starting in Release 7.0, on the LNW64 pack, this parameter applies only to LAN ports. Starting in Release 7.1, on the LNW705 pack, this parameter applies only to LAN ports. Starting in Release 9.0, on the LNW87 pack, this parameter applies only to LAN ports. ■ EINFU Incoming number of unicast frames. This parameter applies only to the LNW70 pack. Starting in Release 6.0, this parameter applies to LAN ports only on the LNW63 pack. Starting in Release 7.0, on the LNW64 pack, this parameter applies only to LAN ports. Starting in Release 7.1, on the LNW705 pack, this parameter applies only to LAN ports. Starting in Release 9.0, on the LNW87 pack, this parameter applies only to LAN ports. ■ EINFM Incoming number of multicast frames. Multicast frames are frames where the Destination Address has the group address bit set to 1. This parameter applies only to the LNW70 pack. Starting in Release 6.0, this parameter applies to LAN ports only on the LNW63 pack. Starting in Release 7.0, on the LNW64 pack, this parameter applies only to LAN ports. Starting in Release 7.1, on the LNW705 pack, this parameter applies only to LAN ports. Starting in Release 9.0, on the LNW87 pack, this parameter applies only to LAN ports.

Table 2-332. RTRV-EPM Input Parameters (cont 7 of 10)

Parameter Name	Description
	■ EINFB Incoming number of broadcast frames. Broadcast frames are frames where the Destination Address is all 1's. This parameter applies only to the LNW70 pack. Starting in Release 6.0, this parameter applies to LAN ports only on the LNW63 pack. Starting in Release 7.0, on the LNW64 pack, this parameter applies only to LAN ports. Starting in Release 7.1, on the LNW705 pack, this parameter applies only to LAN ports. Starting in Release 9.0, on the LNW87 pack, this parameter applies only to LAN ports. ■ EONFU Outgoing number of unicast frames. This parameter applies only to the LNW70 pack. Starting in Release 6.0, this parameter applies to LAN ports only on the LNW63 pack. Starting in Release 7.0, on the LNW64 pack, this parameter applies only to LAN ports. Starting in Release 7.1, on the LNW705 pack, this parameter applies only to LAN ports. Starting in Release 9.0, on the LNW87 pack, this parameter applies only to LAN ports. ■ EONFM Outgoing number of multicast frames. Multicast frames are frames where the Destination Address has the group address bit set to 1. This parameter applies only to the LNW70 pack. Starting in Release 6.0, this parameter applies to LAN ports only on the LNW63 pack. Starting in Release 7.0, on the LNW64 pack, this parameter applies only to LAN ports. Starting in Release 7.1, on the LNW705 pack, this parameter applies only to LAN ports. Starting in Release 9.0, on the LNW87 pack, this parameter applies only to LAN ports.

Table 2-332. RTRV-EPM Input Parameters (cont 8 of 10)

Parameter Name	Description
	■ EONFB Outgoing number of broadcast frames. Broadcast frames are frames where the Destination Address is all 1's. This parameter applies only to the LNW70 pack. Starting in Release 6.0, this parameter applies to LAN ports only on the LNW63 pack. Starting in Release 7.0, on the LNW64 pack, this parameter applies only to LAN ports. Starting in Release 7.1, on the LNW705 pack, this parameter applies only to LAN ports. Starting in Release 9.0, on the LNW87 pack, this parameter applies only to LAN ports. ■ EINCP Number of frames trapped to CPU. This parameter applies only to the LNW70 pack. ■ EOCP Number of frames received from CPU. This parameter applies only to the LNW70 pack. Starting in Release 8.0, the following counters are supported on the LNW70 circuit pack, per VCG, LAN port, or LAG (not members). ■ STPROLE Number of times the STP port role changed. ■ STPSTATE Number of times the STP port state changed, except to or from DISA. ■ STPROOT Number of times the bridge changed to or from being root. The value is reported only on the lowest numbered port (a VCG if present, else a LAN if present, else a LAG) in a spanning tree group. All other ports in the group report 0. ■ BPDUT Number of occurrences of BPDU timeout. ■ BPDUI Incoming number of BPDU frames. ■ BPDUO Outgoing number of BPDU frames. ■ BPDUD Number of BPDU frames dropped.

Table 2-332. RTRV-EPM Input Parameters (cont 9 of 10)

Parameter Name	Description
	Starting in Release 9.0, the following ERP-related counters are supported on the LNW(1)70 circuit pack. They are retrieved using the <i>aid</i> of the first port of the ERP instance. This is the address of either an Ethernet LAN port or a VCG port or "ALL". ■ RPLBLK Number of times the RPL block state changed. ■ ERP1BLK Number of times the ERP port #1 block state changed. ■ ERP2BLK Number of times the ERP port #2 block state changed. ■ RAPSR Number of received R-APS PDUs (ERP) ■ RAPST Number of transmitted R-APS PDUs (ERP) Starting in Release 6.0, the following port-related counters are supported on the LNW73C circuit pack. ■ EINBC For the stream of data incoming from the client interface, is the number of octets or bytes after compression. Only applies to the LNW73C. Ordered sets are not included in the count. Valid only for data ports (not VCG ports). ■ EONBC For the stream of data outgoing to the client interface, is the number of octets or bytes before expansion that have been received from SONET. Only applies to the LNW73C. Ordered sets are not included in the count. Valid only for data ports (not VCG ports). ■ EBBCZCS Congestion on the outgoing data stream. Count of the number of seconds in which the cumulative time in the BBcredit zero state exceeded 200 ms of each second. The locally attached FC client is not providing buffer credits and prevents buffers from flowing on the outgoing stream to the client. This parameter is useful in helping to analyze performance with the Fibre Channel client consuming data from the DMX/DMXtend. Valid only for data ports (not VCG ports).

Table 2-332. RTRV-EPM Input Parameters (cont 10 of 10)

Parameter Name	Description
	■ EIBFCS Congestion on the incoming data stream. Count of the number of seconds in which the cumulative time in the Input Buffer Full state exceeded 200 ms of each second. An Input Buffer Full state occurs when all input buffers of a port were full and buffer-to-buffer credit toward the incoming stream transitioned to zero. There is no credit to provide for the incoming client data stream. This parameter is useful in helping to analyze performance with the Fibre Channel client trying to transmit at a faster rate than DMX/DMXtend can send out the WAN. It may be useful in determining if compression or a larger sub-rate bandwidth is warranted. Valid only for data ports (not VCG ports). ■ ALL All of the above monitored types
monlev	The level for the monitored parameter. The default value is 1-UP. ■ 1-UP Only nonzero data will be reported ■ 0-UP Zero and all positive data will be reported
tmper	Time period. There is no default value for this parameter. The parameter must have one of the following values: ■ 15-MIN This requests PM data in 15-minute measurement intervals. ■ 1-DAY This requests PM data in 1-day measurement intervals.
mondatt	Monitored date. See the mondatt parameter description in the RTRV-PM-rr command.
montm	Monitored time. See the montm parameter description in the RTRV-PM-rr command.

OUTPUT FORMAT

If there is no PM data to report the following normal completion response is displayed:

```
<cr> <lf> <lf>
      sid date time <cr> <lf>
M  ctag COMPLD <cr> <lf>
;
```

If there is PM data to report the following listing the input parameters is displayed:

```
<cr><lf><lf>
<sid> <date time> <cr><lf>
M  ctag COMPLD <cr><lf>
   "aid,aidtype:emontype,monval,[vldty],,[tmper],[mondatt],[montm]<cr><lf>"
   . . . . .
   . . . . .
;
```

The two commas after *vldty* are for a missing parameter (*tca*) not currently used.

The order of applicable output lines is as follows:

1. By AID in order of the shelf architecture with the LAN/Data ports for a given slot listed first followed by the VCG ports
2. By requested time intervals (starting with the current time interval),
3. By applicable PM parameters per AID in the order of the *emontype* as specified in the **INPUT PARAMETERS** section of this command.

Starting in Release 7.0, the order of applicable output lines is as follows:

1. By AID in order of the shelf architecture with the LAG ports (if any) for a given slot listed first followed by the LAN/Data ports and then the VCG ports,
2. By requested time intervals (starting with the current time interval),
3. By applicable PM parameters per AID in the order of the *emontype* as specified in the **INPUT PARAMETERS** section of this command.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command. Also, refer to the **OUTPUT PARAMETER** definitions for the **RTRV - PM** command for definitions of the output parameters listed here.

Table 2-333. RTRV-EPM Output Parameters

Parameter Value	Description
<i>aid</i>	Access Identifier. This is the address of either an Ethernet port, VCG port, Fibre Channel port. Refer to the Appendix A for valid AIDs.
<i>aidtype</i>	The type of access identifier. Values: 1GE Used for 1GE LAN port. FE Used for FE LAN port. LAG Used for LAG port. DATA Used for the LNW73 Data port. Starting in Release 7.1, applicable to ports provisioned as Fibre Channel and FICON data ports on the LNW705 circuit pack (RTRV-OTPE:signaltype=FC100, FC200, FICON or FICON_EXP). VCG Used for a VCG WAN port.
<i>emontype</i>	Monitored Parameter Type. See the <i>emontype</i> parameter descriptions under the previous INPUT PARAMETERS section.
<i>monval</i>	Monitored Value. This contains the measured value of the parameter specified in <i>emontype</i> .
<i>valdty</i>	This indicates the validity of the PM data. See the OUTPUT PARAMETERS section of the RTRV-PM command for the values of this parameter.
<i>tmper</i>	Time Period. This parameter has one of the following values: 15-MIN 1-DAY
<i>mondatt</i>	Monitored date. See the description of the <i>mondatt</i> parameter in the RTRV-PM command.
<i>montm</i>	Monitored time. See the description of the <i>montm</i> parameter in the RTRV-PM command.

See Output Parameters table in the **RTRV-PM** command for a specification of the output PM data response, which depends on the three time parameters: *tmper*, *mondat* and *montm*.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number may be included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

The following is an example for an Ethernet pack.

```
RTRV-EPM-ENET:TID123:d-1:123456::EDFE,,15-MIN,01-01,08-00;

TID123 2000-01-01 08:00:00
M 123456 COMPLD
"d-1,1GE:EDFE,2,,15-MIN,01-01,08-00"
;
```

The order of applicable output lines is as follows:

1. By AID in order of the shelf architecture with the LAN ports for a given slot listed first followed by the VCG ports
2. By requested time intervals (starting with the current time interval),
3. By applicable PM parameters per AID in the order of the *emontype* as specified in the **INPUT PARAMETERS** section of this command.

The following is an example for a Fibre Channel port.

```
RTRV-EPM-ENET:TID123:d-1:123456::EINF,,15-MIN,01-01,08-00;

TID123 2000-01-01 08:00:00
M 123456 COMPLD
"d-1,DATA:EINF,2,,15-MIN,01-01,08-00"
;
```

The order of applicable output lines is as follows:

1. By AID in order of the shelf architecture with the Data ports for a given slot listed first followed by the VCG ports,
2. By requested time intervals (starting with the current time interval),
3. By applicable PM parameters per AID in the order of the *emontype* as specified in the **INPUT PARAMETERS** section of this command.

The following is an example for an Ethernet pack that supports Link Aggregation Groups (LAGs).

```
RTRV-EPM-ENET:TID123:d-lag1:123456::EDFL,,15-MIN,01-01,08-00;
```

```
TID123 2000-01-01 08:00:00
M 123456 COMPLD
"d-lag1,1GE:EDFL,2,,15-MIN,01-01,08-00"
;
```

The order of applicable output lines is as follows:

1. By AID in order of the shelf architecture with the LAG ports for a given slot listed first followed by the LAN ports and then VCG ports,
2. By requested time intervals (starting with the current time interval),
3. By applicable PM parameters per AID in the order of the *emontype* as specified in the **INPUT PARAMETERS** section of this command.

ERROR RESPONSES

Refer to the **RTRV-HDR** and **RTRV-PM** command **ERROR RESPONSES** section. The error responses listed there apply to this command.

If the system receives a **RTRV-EPM** command for which *none* of the requested PM data is available due to equipage or provisioning, the system will not provide a normal command response.

If a **RTRV-EPM-rr** command contains a command code modifier other than a supported "rr" value, the following error response shall be returned to the OS:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

Starting in Release 3.0, when **RTRV-EQPT:eccmode** is set to STS3c, ports17-24 are not valid for the LNW71 circuit pack.

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, aid not valid for STS3c ECCMODE mode */
;
```

If a **RTRV - EPM** command contains an ***emontype*** value not supported by the command, the following error response shall be returned to the OS:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid EMONTYPE */
;
```

When a **RTRV - EPM** request is entered and PM or **RTRV - EPORT:admin** is disabled, the following SNVS error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, PM or admin disabled */
;
```

RELATED TL1 MESSAGES

RTRV - PM

NAME

RTRV-EPM-QOS: Retrieve Ethernet Performance Monitoring for Quality of Service

The **RTRV-EPM-QOS** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 5.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-EPM-QOS:*tid:aid:ctag::[tagid],[cos],[emontype],[monlev],tmper
,[mondatt],[montm];*

DESCRIPTION

This command retrieves the Ethernet Quality of Service performance monitoring data for the specified Ethernet LAN port(s), tagid, and class of service (cos). This command is applicable to the following circuit pack(s):

- LNW70

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-334. RTRV-EPM-QOS Input Parameters (cont 1 of 3)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
aid	Access Identifier. This is the address of an Ethernet port. It cannot be an INTERIOR port (see <i>porttype</i> in ED-EPORT). Refer to the AID Table in Appendix A for valid AIDs. An ALL AID range is supported at the pack or shelf level.

Table 2-334. RTRV-EPM-QOS Input Parameters (cont 2 of 3)

Parameter Name	Description
	Starting in Release 7.0, the AID can be the address of either a VCG, Ethernet port, or a Link Aggregation Group (LAG). It may not be the address of a port that is a member of a LAG. References to a port also apply to a LAG.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
tagid	Tag ID. Represents the VLAN ID in 802.1TAG mode and represents the Port Tag ID in TRANS mode. Value: An integer in the range of 1 to 4093 and ALL Default: If the value is omitted, this parameter defaults to ALL In case the value is ALL, all tagid values that have been explicitly assigned a service using the ENT-ERATE command will be output. If trafmgmtmd (in RTRV-EPORT) is set to PORT or to COSPORT, tagid is ignored.
cos	Class of Service. This parameter specifies the class of service that the parameters in this command apply to. Value: An integer between 0 and 3 and ALL Default: If the value is omitted, this parameter defaults to ALL In case the value is ALL, all cos values that have been explicitly assigned a service using the ENT-ERATE command will be output. If trafmgmtmd (in RTRV-EPORT) is set to PORT or to TAGPORT, cos is ignored. Starting in Release 6.0, if trafmgmtmd (in RTRV-EPORT) is set to PORT and hlayercos (in RTRV-EPORT) is set to: ■ DSCP: cos is used. ■ NONE: cos is ignored.

Table 2-334. RTRV - EPM - QOS Input Parameters (cont 3 of 3)

Parameter Name	Description
<i>emontype</i>	These are the monitored parameter types for which data is requested. If the value is omitted, this parameter defaults to ALL. ■ QIB-G Incoming bytes - Less than or equal to CIR and CBS ■ QIP-G Incoming packets - Less than or equal to CIR and CBS ■ QIB-Y Incoming bytes - Less than or equal to PIR and PBS and greater than CIR or CBS ■ QIP-Y Incoming packets - Less than or equal to PIR and PBS and greater than CIR or CBS ■ QIB-R Incoming bytes - Greater than PIR or PBS ■ QIP-R Incoming packets - Greater than PIR or PBS ■ ALL All of the above monitored types
<i>monlev</i>	The level for the monitored parameter. The default value is 1-UP. ■ 1-UP Only nonzero data will be reported ■ 0-UP Zero and all positive data will be reported
<i>tmper</i>	Time period. There is no default value for this parameter. The parameter must have one of the following values: ■ 15-MIN This requests PM data in 15-minute measurement intervals. ■ 1-DAY This requests PM data in 1-day measurement intervals.
<i>mondatt</i>	Monitored date. See the <i>mondatt</i> parameter description in the RTRV - PM - rr command.
<i>montm</i>	Monitored time. See the <i>montm</i> parameter description in the RTRV - PM - rr command.

OUTPUT FORMAT

If there is no PM data to report due to all data being 0 and **monlev** = 1-UP, then the following normal completion response is displayed:

```
<cr> <lf> <lf>
  <sid> <date time> <cr> <lf>
M  <ctag> COMPLD <cr> <lf>
;
```

If there is PM data to report, then the following listing of the input and PM parameters is displayed:

```
<cr><lf><lf>
<sid> <date time> <cr><lf>
M  <ctag> COMPLD <cr><lf>
   "aid, aidtype:trafmgmtmd, tagid, cos, emontype, monval, [vldty], , [tmper],
   [mondatt], [montm]<cr><lf>"
   . . . . .
   . . . . .
   ;
;
```

The two commas after *vldty* are for a missing parameter (*tca*) not currently used.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command. Also, refer to the **OUTPUT PARAMETER** definitions for the **RTRV - PM** command for definitions of the output parameters listed here.

Table 2-335. RTRV - EPM - QOS Output Parameters (cont 1 of 2)

Parameter Value	Description
<i>aid</i>	Access Identifier. This is the address of an Ethernet port. Refer to the AID Table for valid AIDs. Starting in Release 7.0, the AID can be the address of either a VCG, Ethernet port, or a Link Aggregation Group (LAG). It cannot be the address of a port that is a member of a LAG. References to a port also apply to a LAG.
<i>aidtype</i>	The type of access identifier. Values: ■ 1GE ■ FE ■ VCG ■ LAG
<i>trafmgmtmd</i>	The traffic management mode. Values: ■ PORT ■ TAGPORT ■ COSPORT ■ COSTAGPORT
<i>tagid</i>	Tag ID. Represents the VLAN ID in 802.1TAG mode and represents the Port Tag ID in TRANS mode. Value: An integer in the range of 1 to 4093 and "NA". If <i>trafmgmtmd</i> is set to PORT or to COSPORT, the text string "NA" is output for <i>tagid</i>.
<i>cos</i>	Class of Service. This parameter specifies the class of service for which the PM parameters are output. Value: An integer between 0 and 3 and "NA". If <i>trafmgmtmd</i> (in RTRV - EPORT) is set to PORT or to TAGPORT, the text string "NA" is output for <i>cos</i>. Starting in Release 6.0, if <i>trafmgmtmd</i> (in RTRV - EPORT) is set to PORT and <i>hlayercos</i> (in RTRV - EPORT) is set to: ■ DSCP: <i>cos</i> value is listed in the output. ■ NONE: the text string "NA" is output for <i>cos</i>.

Table 2-335. RTRV - EPM - QOS Output Parameters (cont 2 of 2)

Parameter Value	Description
<i>emontype</i>	Monitored Parameter Type. See the <i>emontype</i> parameter descriptions under the previous INPUT PARAMETERS section.
<i>monval</i>	Monitored Value. This contains the measured value of the parameter specified in <i>montype</i> .
<i>vldty</i>	This indicates the validity of the PM data. See the OUTPUT PARAMETERS section of the RTRV - PM command for the values of this parameter.
<i>tmper</i>	Time Period. This parameter must have one of the following values: ■ 15-MIN ■ 1-DAY
<i>mondatt</i>	Monitored date. See the description of the <i>mondatt</i> parameter in the RTRV - PM command.
<i>montm</i>	Monitored time. See the description of the <i>montm</i> parameter in the RTRV - PM command.

See Output Parameters table in the **RTRV - PM** command for a specification of the output PM data response, which depends on the three time parameters: *tmper*, *mondatt* and *montm*.

EXAMPLE INPUT/OUTPUT

The order of applicable output lines is as follows:

1. If **aid** = ALL, list all ports by **aid** in order of the shelf architecture.
2. If **tagid** = ALL, list by **tagid** order within each **aid** all values of **tagid** that are provisioned at the port pointed to by **aid**,
3. If **cos** = ALL, list by **cos** order within each provisioned **tagid**, if applicable, or within each **aid**. If **trafmgmtmd** is PORT only the default priority of the port is listed. If **trafmgmtmd** is TAGPORT only the default priority of the **tagid** is listed.
4. By requested time intervals (starting with the current time interval),
5. If **emontype** = ALL, list by applicable PM parameters in the order of the **emontype** as specified in the **INPUT PARAMETERS** section of this command.

Beware that output can be quite largely, especially if many **tagid**'s have been defined.

The following example retrieves the QIB-G counters (= incoming number of bytes within the CIR/CBS i.e. green) for all cos's of port d-1. Port d-1 is in COSPORT mode, therefore the tagid parameter is irrelevant and ignored.

```
RTRV-EPM-QOS:TID123:d-1:123456:,,QIB-G,,15-MIN,01-01,08-00;

TID123 2000-01-01 08:00:00
M 123456 COMPLD
"d-1,1GE:COSPORT,NA,0,QIB-G,2033687,PRTL,,15-MIN,01-01,08-00"
"d-1,1GE:COSPORT,NA,1,QIB-G,10037689,PRTL,,15-MIN,01-01,08-00"
"d-1,1GE:COSPORT,NA,2,QIB-G,40003687,PRTL,,15-MIN,01-01,08-00"
"d-1,1GE:COSPORT,NA,3,QIB-G,8036789,PRTL,,15-MIN,01-01,08-00"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR**, **RTRV-PM** and **RTRV-EPM** command **ERROR RESPONSES** section. The error responses listed there apply to this command.

If the system receives a **RTRV-EPM-QOS** command for which *none* of the requested PM data is available due to equipage or provisioning, the system will not provide a normal command response.

If the **RTRV-EPM-QOS** command contains a value of **aid** that is not an Ethernet port then the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access identifier, AID is missing, wrong, or refers
to a port that does not support this TL1 command */
;
```

Starting in Release 7.0, **aid** can be the AID of a VCG, Ethernet port; or LAG; if the **RTRV-EPM-QOS** command contains a value of **aid** that is none of those then the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access identifier, AID is missing, wrong, or refers
to a port that does not support this TL1 command */
;
```

If a port is a member of a Link Aggregation Group, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, one or more ports are members of a
LAG */
;
```

If there are no QoS services that match the input parameter(s), the following error response is returned, unless one or more of the input parameters implicitly or explicitly specifies ALL:

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, QoS service does not exist */
;
```

If a **RTRV-EPM-QOS** command contains a value of **tagid** that is not a value between 1 and 4093 or ALL, then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, the value of TAGID is invalid */
;
```

If a **RTRV-EPM-QOS** command contains a value of **cos** that is not a value between 0 and 3 or ALL, then the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, the value of COS is invalid */
;
```


If a **RTRV-EPM-QOS** command contains values for ***aid***, ***tagid***, ***cos*** that point to a service, depending on ***trafmgmtmd***, that is not enabled with PM, the following error response is returned to the OS:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, PM disabled */
;
```

RELATED TL1 MESSAGES

RTRV-HDR, RTRV-PM, RTRV-EPM

NAME

RTRV-EPM-RPR: Retrieve RPR Performance Monitoring

The **RTRV-EPM-RPR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-EPM-RPR: *tid:aid:ctag::[emontype],[monlev],tmper,[mondatt],[montm]*;
];

This command does not generate a **REPT DBCHG** message.

DESCRIPTION

The **RTRV-EPM-RPR** command retrieves the RPR/Ethernet performance monitoring data, for the specified port(s) on RPR circuit packs.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-336. **RTRV-EPM-RPR** Input Parameters (cont 1 of 6)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
aid	Access identifier. This is the address of the entity for which the RTRV-EPM-RPR command is intended. The aid is a required parameter and must reference a valid entity of the NE in order to be accepted. For the valid aids , refer to Appendix A. An "ALL" AID range is supported at the pack or shelf level.

Table 2-336. RTRV-EPM-RPR Input Parameters (cont 2 of 6)

Parameter Name	Description
	This is the address of: — Ethernet LAN port. — RPR-capable Span VCG port. When this is also an RPR IF VCG, both Span and IF parameters are retrieved. The same counter emontype will be listed once for Span aid and once for IF aid. — EoS VCG (starting in Release 7.0)
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
emontype	These are the monitored parameter types for which data is requested. If the value is omitted, this parameter defaults to ALL. ■ ALL All of the below monitored types The following RPR counters are valid for all ports ■ IUCAF Number of Class A unicast frames received with no error. ■ IUCAO Number of Class A unicast octets received with no error. ■ IUCBF Number of Class B unicast frames received below CIR (Committed Information Rate) with no error. ■ IUCBO Number of Class B unicast octets received below CIR with no error. ■ IUCBEF Number of Class B unicast frames received below EIR with no error. ■ IUCBEO Number of Class B unicast octets received below EIR with no error. ■ IUCCF Number of Class C unicast frames received with no error. ■ IUCCO Number of Class C unicast octets received with no error. ■ IMCAF Number of Class A multicast frames received with no error. ■ IMCAO Number of Class A multicast octets received with no error. ■ IMCBF Number of Class B multicast frames received below CIR with no error.

Table 2-336. RTRV-EPM-RPR Input Parameters (cont 3 of 6)

Parameter Name	Description
■ IMCBO	Number of Class B multicast octets received below CIR with no error.
■ IMCBEF	Number of Class B multicast frames received below EIR with no error.
■ IMCBEO	Number of Class B multicast octets received below EIR with no error.
■ IMCCF	Number of Class C multicast frames received with no error.
■ IMCCO	Number of Class C multicast octets received with no error.
■ OUCAF	Number of Class A unicast frames transmitted with no error.
■ OUCAO	Number of Class A unicast octets transmitted with no error.
■ OUCBF	Number of Class B unicast frames transmitted below CIR with no error.
■ OUCBO	Number of Class B unicast octets transmitted below CIR with no error.
■ OUCBEF	Number of Class B unicast frames transmitted below EIR with no error.
■ OUCBEO	Number of Class B unicast octets transmitted below EIR with no error.
■ OUCCF	Number of Class C unicast frames transmitted with no error.
■ OUCCO	Number of Class C unicast octets transmitted with no error.
■ OMCAF	Number of Class A multicast frames transmitted with no error.
■ OMCAO	Number of Class A multicast octets transmitted with no error.
■ OMCBF	Number of Class B multicast frames transmitted below CIR with no error.
■ OMCBO	Number of Class B multicast octets transmitted below CIR with no error.

Table 2-336. RTRV-EPM-RPR Input Parameters (cont 4 of 6)

Parameter Name	Description
	■ OMCBEF Number of Class B multicast frames transmitted below EIR, no error. ■ OMCBEO Number of Class B multicast octets transmitted below EIR with no error. ■ OMCCF Number of Class C multicast frames transmitted with no error. ■ OMCCO Number of Class C multicast octets transmitted with no error. The following bridge counters are valid for all ports except RPR Span VCG ports. ■ DRATEF Number of multicast and broadcast packets dropped due to exceeding port rate. ■ DTAGF Number of packets dropped due to VLAN filtering. ■ DSPIF Number of packets dropped due to internal error (SPI4). ■ DSIZEF Number of packets dropped due to being greater than configured maximum frame size for port. ■ DNOTAGF Number of packets dropped due to no tag when required. ■ DSMACF Number of packets dropped due to MAC table source address filtering. ■ DSMACO Number of octets dropped due to MAC table source address filtering. Starting in Release 7.0, DSMACO is removed. The following bridge counters are valid for all ports except RPR IF VCG ports. ■ DFCG Green packets dropped due to congestion. ■ DFCY Yellow packets dropped due to congestion. The following metering counters are valid for LAN ports only. Starting in release 7.0, they are valid for EoS VCG and LAN ports. ■ IUCAREDF Number of Unicast packets assigned to Class A and given drop precedence of red.

Table 2-336. RTRV-EPM-RPR Input Parameters (cont 5 of 6)

Parameter Name	Description
■ IUCAREDO	Number of Unicast octets assigned to Class A and given drop precedence of red.
■ IUCBREDF	Number of Unicast packets assigned to Class B and given drop precedence of red.
■ IUCBREDO	Number of Unicast octets assigned to Class B and given drop precedence of red.
■ IUCCREDF	Number of Unicast packets assigned to Class C and given drop precedence of red.
■ IUCCREDO	Number of Unicast octets assigned to Class C and given drop precedence of red.
■ IMCAREDF	Number of Multicast packets assigned to Class A and given drop precedence of red.
■ IMCAREDO	Number of Multicast octets assigned to Class A and given drop precedence of red.
■ IMCBREDF	Number of Multicast packets assigned to Class B and given drop precedence of red.
■ IMCBREDO	Number of Multicast octets assigned to Class B and given drop precedence of red.
■ IMCCREDF	Number of Multicast packets assigned to Class C and given drop precedence of red.
■ IMCCREDO	Number of Multicast octets assigned to Class C and given drop precedence of red.
The following span counters are valid for RPR Span VCG only.	
■ ICTRF	Number of control frames received.
■ IATDF	Number of Attribute Discovery (ATD) frame types received.
■ ITPF	Number of Topology and Protection (TP) frames received.
■ OCTRLF	Number of control frames transmitted.
■ OATDF	Number of ATD frames transmitted.
■ OTPF	Number of TP frames transmitted.
■ ITTLF	Number of frames received with expired TTL values.

Table 2-336. RTRV-EPM-RPR Input Parameters (cont 6 of 6)

Parameter Name	Description
	■ DLONG Number of frames received with length exceeding the max allowed length. ■ DHEC Number of frames received with HEC value not matching the expected HEC value. ■ DSS Number of frames received sourced by this station and then received by this station. ■ DSA Number of frames received with bad SA (Multicast or Broadcast). Starting in Release 7.0, DSA is removed. ■ DPTY Number of frames received with Parity value not matching the expected Parity value. ■ DSCFF Number of SCFF frames received with bad FCS or bad parity.
monlev	The level for the monitored parameter. The default value is 1-UP. ■ 1-UP Only nonzero data will be reported ■ 0-UP Zero and all positive data will be reported
tmper	Time period. There is no default value for this parameter. The parameter must have one of the following values: ■ 15-MIN This requests PM data in 15-minute measurement intervals. ■ 1-DAY This requests PM data in 1-day measurement intervals.
mondatt	Monitored date. See the mondatt parameter description in the RTRV-PM-r r command.
montm	Monitored time. See the montm parameter description in the RTRV-PM-r r command.

OUTPUT FORMAT

If there is no PM data to report, the following normal completion response is displayed:

```
sid date time
M ctag COMPLD
;
```

If there is PM data to report, the following is displayed:

```
sid date time
M ctag COMPLD
  "aid,aidtype:emontype,monval,[vldty],[tmper],[mondatt],[montm]"
  . . . . .
  . . . . .
;
```

The two commas after *vldty* are for a missing parameter (*tca*) not currently used.

The order of the outputted lines is as follows:

1. By AID (in order corresponding to the shelf architecture), by "function units" (LAN ports listed first, followed by RPR IF VCG ports, followed by the RPR Span VCG ports),
2. By requested time intervals (starting with the current time interval),
3. By applicable PM parameters per AID in the order of the *emontype* as specified in the **INPUT PARAMETERS** section of this command.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command. Also, refer to the **OUTPUT PARAMETER** definitions for the **RTRV-PM** command for definitions of the output parameters listed here.

Table 2-337. RTRV - EPM - RPR Output Parameters

Parameter Value	Description
<i>aid</i>	Access Identifier. This is the address of either a LAN port, RPR IF VCG port, or RPR Span VCG port. Refer to the Appendix A for valid AIDs.
<i>aidtype</i>	The type of access identifier. Values: 1GE Used for 1GE LAN port. FE Used for FE LAN port. VCG IF Used for a RPR IF VCG port. VCG SPAN Used for a RPR Span VCG port. VCG Used for EoS VCG port.
<i>emontype</i>	Monitored Parameter Type. See the <i>emontype</i> parameter descriptions under the previous INPUT PARAMETERS section.
<i>monval</i>	Monitored Value. This contains the measured value of the parameter specified in <i>emontype</i> .
<i>vldty</i>	This indicates the validity of the PM data. See the OUTPUT PARAMETERS section of the RTRV - PM command for the values of this parameter.
<i>tmper</i>	Time Period. This parameter must have one of the following values: ■ 15-MIN ■ 1-DAY
<i>mondatt</i>	Monitored date. See the description of the <i>mondatt</i> parameter in the RTRV - PM command.
<i>montm</i>	Monitored time. See the description of the <i>montm</i> parameter in the RTRV - PM command.

See Output Parameters table in the **RTRV - PM** command for a specification of the output PM data response, which depends on the three time parameters: *tmper*, *mondatt* and *montm*.

EXAMPLE INPUT/OUTPUT

The following is an example.

```
RTRV-EPM-RPR:LT-TID:d1-1:123456::IUCAF,0-UP,15-MIN,01-01,14-00;  
  
LT-TID 2000-01-01 16:42:11  
M 123456 COMPLD  
"d1-1,1GE:IUCAF,100,,15-MIN,01-01,14-00"  
;
```

The order of the outputted lines is as follows:

1. By AID (in order corresponding to the shelf architecture), by “function units” (LAN ports listed first, followed by RPR IF VCG ports, followed by the RPR Span VCG ports),
2. By requested time intervals (starting with the current time interval),
3. By applicable PM parameters per AID in the order of the *emontype* as specified in the **INPUT PARAMETERS** section of this command.

Starting in Release 7.0 when EoS VCGs are supported, output for EoS VCG ports follows the output for LAN ports.

ERROR RESPONSES

Refer to the **RTRV-HDR** and **RTRV-PM** command **ERROR RESPONSES** section. The error responses listed there apply to this command.

If the system receives a **RTRV-EPM-RPR** command for which *none* of the requested PM data is available due to equipage or provisioning, the system will not provide a normal command response.

If a **RTRV-EPM-RPR** command contains an *emontype* value not supported by the command, the following error response shall be returned to the OS:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid EMONTYPE */  
;
```

When a **RTRV-EPM-RPR** request is entered and PM **ED-EPORT : *eppm*** or **ED-EPORT : *admin*** is disabled, the following SNVS error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, PM or admin disabled */
;
```

RELATED TL1 MESSAGES

RTRV-PM

NAME

RTRV-EPORT: Retrieve Ethernet Port

The **RTRV-EPORT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-EPORT -*modifier*:*tid*:[*aid*]:*ctag*;

DESCRIPTION

The **RTRV-EPORT** command retrieves the attributes of one or more Ethernet ports.

Execution of this command will not be recorded in the Security log.

The **RTRV-EPORT** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-338. **RTRV-EPORT** Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>modifier</i>	Modifier. Values are as follows: ■ 1GE ■ FE
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of an Ethernet port AID. Refer to the AID Table in Appendix A for a list of valid AIDs.

Table 2-338. **RTRV - EPORT** Input Parameters (cont 2 of 2)

Parameter Name	Description
	Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. Except as specified otherwise: ■ output parameters are valid for a LAG, but not its member ports. ■ References to an Ethernet port also apply to a LAG. An "ALL" AID range is supported at the pack or system level. This parameter is optional. Default value is "ALL." "ALL" at the pack level includes any LAG defined on the pack.
ctag	Correlation tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the **RTRV - EPORT** request and if *vlantagmd* for the circuit pack is set to 802.1TAG mode, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "aid,modifier::spec_block"
  <one or more of the line above>
  "aid,modifier:vvlan,VLAN"
  <one or more of the line above, for another vvlan>
  <one or more of this entire block, for another aid>
;
```

Starting in Release 3.1, if the NE fully complies with the **RTRV - EPORT** request and if the *vlantagmd* for the circuit pack is in the TRANS mode, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "aid,modifier::spec_block"
  <one or more of the line above>
  "aid,modifier:cporttag,Port Tag"
  <one or more of the line above, for another cporttag>
  <one or more of this entire block, for another aid>
;
```

Beginning in Release 3.0 with the introduction of the LNW71, if the NE fully complies with the **RTRV-EPORT** request on a LNW71 circuit pack, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "aid,modifier::spec_block"
  <one or more of the line above>
  <one or more of this entire block, for another aid>
;
```

Beginning in Release 5.0 with the introduction of the LNW74, if the NE fully complies with the **RTRV-EPORT** request on a LNW74 circuit pack, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "aid,modifier::spec_block"
  <one or more of the line above>
  <one or more of this entire block, for another aid>
;
```

Beginning in Release 6.0 with the introduction of the LNW63, if the NE fully complies with the **RTRV-EPORT** request on a LNW63 circuit pack, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "aid,modifier::spec_block"
  <one or more of the line above>
  <one or more of this entire block, for another aid>
;
```

Beginning in Release 7.0 with the introduction of the LNW64, if the NE fully complies with the **RTRV-EPORT** request on a LNW64 circuit pack, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "aid,modifier::spec_block"
  <one or more of the line above>
  <one or more of this entire block, for another aid>
;
```

Beginning in Release 9.0 with the introduction of the LNW87, if the NE fully complies with the **RTRV-EPORT** request on a LNW87 circuit pack, the previous normal completion response is returned:

Beginning in Release 7.1 with the introduction of the LNW705 1GE Client Ports, if the NE fully complies with the **RTRV-EPORT** request on an LNW705 1GE Client Port, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "aid,modifier::spec_block"
  <one or more of the line above>
  <one or more of this entire block, for another aid>
;
```

Starting in Release 5.1, if the NE fully complies with the **RTRV-EPORT** request and if the **aid** points to one of the following circuit packs:

- LNW70

and if **vlantagmd** is set to the NOTAG mode, then the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "aid,modifier::spec_block"
  <one or more of the line above>
  <one or more of this entire block, for another aid>
;
```

Starting in Release 5.1, if the NE fully complies with the **RTRV-EPORT** request and if the **aid** points to one of the following circuit packs:

- LNW70

and if **vlantagmd** is set to the SWITCHED mode, then the following normal completion response is returned:


```
sid date time
M ctag COMPLD
  "aid,modifier::spec_block (parameters)"
  <one or more of the line above>
  ### if the port is part of a virtual switch with tagmd TRANS
  "aid,modifier:cporttag,Port Tag"
  <one or more of the line above, for another cporttag>
  ### if the port is part of a virtual switch with tagmd 802.1Q
  "aid,modifier:vvlan,VLAN"
  <one or more of the line above, for another vvlan>
  <one or more of this entire block, for another aid>
;
```

Starting in Release 6.0, if the NE fully complies with the **RTRV-EPORT** request and if the **aid** points to one of the following circuit packs:

- LNW70
- LNW78

and if **vlantagmd** is set to the SWITCHED mode, then the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "aid,modifier::spec_block (parameters)"
  <one or more of the line above>
  ### if the port is part of a virtual switch with tagmd TRANS
  "aid,modifier:cporttag,Port Tag"
  <one or more of the line above, for another cporttag>
  ### if the port is part of a virtual switch with tagmd 802.1Q
  "aid,modifier:vvlan,VLAN"
  <one or more of the line above, for another vvlan>
  <one or more of this entire block, for another aid>
;
```

Starting in Release 7.0, if the NE fully complies with the **RTRV-EPORT** request and if the **aid** points to one of the following circuit packs:

- LNW70

and if **vlantagmd** is set to the SWITCHED mode, then the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "aid,modifier::spec_block (parameters)"
  <one or more of the line above>
  ### if the port is part of a virtual switch with tagmd TRANS, but not
  a member of a LAG
  "aid,modifier:cporttag,Port Tag"
  <one or more of the line above, for another cporttag>
  ### if the port is part of a virtual switch with tagmd 802.1Q, but not
  a member of a LAG
  "aid,modifier:vvlan,VLAN"
  <one or more of the line above, for another vvlan>
  <one or more of this entire block, for another aid>
```

For “ALL” at the pack level, AIDs for LAGs on the pack are retrieved first, followed by all LAN ports on the pack. For “ALL” at the system level, the above is repeated for each pack.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-339. RTRV-EPORT Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access identifier. This is the address of an Ethernet port <i>aid</i> . Refer to the AID Table in Appendix A for valid <i>aids</i> . Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid.
<i>modifier</i>	Modifier. Values are as follows: 1GE FE
<i>vvlan</i>	Valid VLAN. Value: An integer value in the range 1-511. The initial value is an empty list, which results in that line being omitted; <i>vvlan</i> is reported one VLAN per line.

Table 2-339. RTRV-EPORT Output Parameters (cont 2 of 2)

Parameter Name	Description
	Note: This parameter only applies if the board is set to 802.1 VLAN tag mode. This parameter is also valid when <i>vlan tag md</i> is set to SWITCHED (see RTRV-EQPT) and the port belongs to a virtual switch with <i>tag md</i> set to 802.1TAG (see RTRV-VRTSW). Note: Starting with Release 2.0, this parameter is an integer in the range 1 to 4093. Note: <i>vlan</i> does not pertain to LNW71. Note: <i>vlan</i> does not pertain to LNW74. Note: <i>vlan</i> does not pertain to LNW63. Note: <i>vlan</i> does not pertain to LNW64. Note: <i>vlan</i> does not pertain to LNW87. Note: <i>vlan</i> does not pertain to LNW705.
<i>cporttag</i>	Valid Port Tag. This parameter is an integer in the range 1 to 4093. The initial value is an empty list, which results in that line being omitted; <i>cporttag</i> is reported one porttag per line. Note: This parameter only applies and reported if the board is set to Transparent tag mode. This parameter applies starting in Release 3.1. This parameter is also valid when <i>vlan tag md</i> is set to SWITCHED (see RTRV-EQPT) and the port belongs to a virtual switch with <i>tag md</i> set to TRANS (see RTRV-VRTSW). Note: <i>cporttag</i> does not pertain to LNW71. Note: <i>cporttag</i> does not pertain to LNW74. Note: <i>cporttag</i> does not pertain to LNW63. Note: <i>cporttag</i> does not pertain to LNW64. Note: <i>cporttag</i> does not pertain to LNW87. Note: <i>cporttag</i> does not pertain to LNW705.
<i>spec_block</i>	Specific parameter block: The <i>spec_block</i> parameters are defined in the following table.

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 1 of 22)

Parameter Name	Description
<i>dplxmd</i>	Duplex mode as provisioned. This parameter is only reported for an LNW66 Fast Ethernet (FE) port. Values are as follows: HALF FULL AUTO (Autonegotiate)
<i>dplxmdo</i>	Duplex mode operation. This parameter is only reported for an LNW66 FE (Fast Ethernet) port. Values are as follows: HALF FULL Note: If the circuit pack is not present, a "?" is reported.
<i>epmode</i>	Ethernet port monitoring mode. Values are as follows: AUTO IS NMON <i>epmode</i> also applies to a member port of a LAG.
<i>eppm</i>	Ethernet port PM enable. Values are as follows: ENABLE DISABLE <i>eppm</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>porttype</i>	Port Type indicates whether the port is at the boundary of the DiffServ domain or is a port interior to the DiffServ domain. It has the following values: BOUNDARY INTERIOR This parameter applies only if the port is part of a virtual switch when <i>vlntagmd</i> is SWITCHED (see RTRV-EQPT).

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 2 of 22)

Parameter Name	Description
	This parameter applies to the following packs: ■ LNW70 ■ LNW78 (the only allowed value is BOUNDARY)
<i>portrole</i>	Port Role controls how tags are added/removed/processed. In typical applications, "boundary" ports are "customer" ports and "interior" ports are "network" ports. Portrole has the following values: CUSTOMER NETWORK This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT). This parameter applies to the following packs: ■ LNW70 ■ LNW78 (the only allowed value is CUSTOMER)
<i>vrtswid</i>	Virtual Switch Id. Value: an integer in the range of 1 to 4095 For the LNW70 the virtual switch ID is an integer in the range 0 to 16. For the LNW78 the virtual switch ID is an integer in the range 0 to 8. 0 means that the port could be part of a virtual switch but is not. The <i>vrtswid</i> parameter is not shown if the port cannot be part of a virtual switch (for instance when in private line mode). Note: <i>vrtswid</i> does not pertain to LNW71. Note: <i>vrtswid</i> does not pertain to LNW74. Note: <i>vrtswid</i> does not pertain to LNW63. Note: <i>vrtswid</i> does not pertain to LNW64. Note: <i>vrtswid</i> does not pertain to LNW87. Note: <i>vrtswid</i> does not pertain to LNW705.
<i>dftvlan</i>	Default VLAN Id. Value: An integer in the range 1-511, or "0." A "0" means that no default value is set.

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 3 of 22)

Parameter Name	Description
	This parameter applies only if the board is set to 802.1 VLAN tag mode. This parameter is also valid when <i>vlantagmd</i> is set to SWITCHED (see RTRV-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to 802.1TAG (see RTRV-VRTSW). Starting with Release 2.0, this parameter is an integer in the range 1-4093, or "0" (default). A "0" means that the user does not want a default value to be set.
<i>dftporttag</i>	Default Port Tag Id. Value: An integer in the range 1 to 4093, or '0'. A '0' means that no default value is set. This parameter applies only if the board is set to port tag mode (i.e., transparent mode). This parameter is also valid when <i>vlantagmd</i> is set to SWITCHED (see RTRV-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to TRANS (see RTRV-VRTSW).
<i>dftpri</i>	Default Priority. Except for the circuit packs listed below, the allowed values are: NA HIGH LOW LNW70: <i>dftpri</i> is the provisioned default CoS on the LNW70. It only pertains to ports with <i>porttype</i> BOUNDARY. The allowed values for <i>dftpri</i> are integers in the range 0 to 3 and NA. <i>dftpri</i> value 3 is the highest priority and 0 the lowest. LNW71: <i>dftpri</i> does not pertain to LNW71. LNW74: <i>dftpri</i> does not pertain to LNW74. LNW63: <i>dftpri</i> does not pertain to LNW63. LNW64: <i>dftpri</i> does not pertain to LNW64. LNW87: <i>dftpri</i> does not pertain to LNW87.

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 4 of 22)

Parameter Name	Description
	LNW705: <i>dftpri</i> does not pertain to LNW705. LNW78: <i>dftpri</i> is the provisioned default CoS on the LNW78, having effect only if <i>trafmgmtmd</i> is PORT or COSPORT. The allowed values for <i>dftpri</i> are integers in the range 1 to 3. <i>dftpri</i> value 3 is the highest priority (Class A) and 1 (Class C) the lowest.
<i>almvl</i>	Alarm Level. This parameter shows the alarm level for an incoming signal failure and may have one of the following values: This parameter is removed beginning in Release 6.0. See RTRV-ASAP-ASGNMT. CR (Critical) MJ (Major Alarm) MN (Minor Alarm) NA (No Alarm)
<i>fcmd</i>	Flow Control Mode as provisioned. Values are as follows: ENABLE (Enable Transmit & Receive) DISABLE (Disable Transmit & Receive) AUTO (Autonegotiate) DROP (Disable Transmit & Receive, no end-to-end flow-control) <i>fcmd</i> does not apply to the LNW78. The value AUTO does not apply to FE electrical SFP ports. <i>fcmd</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>fcmdo</i>	Flow Control Mode Operation. Values are as follows: ENABLE (Enable Transmit & Receive) DISABLE (Disable Transmit & Receive) DROP (Disable Transmit & Receive, no end-to-end flow-control) If the circuit pack is not present or the auto-negotiation handshake protocol has not completed, then "?" is reported. <i>fcmdo</i> does not apply to the LNW78.

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 5 of 22)

Parameter Name	Description
	<i>fcmdo</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>Inrate</i>	Line Rate (as provisioned). This parameter is only reported for an electrical FE (Fast Ethernet) port. Beginning in Release 9.0, this parameter also reports the type of PTM (SFP) for multi-rate data packs that support per-port rate provisioning Per-port PTM rate provisioning is supported on the following packs: ■ LNW87 (Release 9.0) Values are as follows: 10M 100M AUTO (Autonegotiate) GX (Optical GbE SFP) GT (Electrical GbE SFP) FX (Optical FE SFP) FT (Electrical FE SFP) Note: The values 10M, 100M and AUTO do not apply to electrical SFP Ethernet ports. Note: The values GX, GT, FX, and FT only apply to sockets on per-port PTM provisionable packs.
<i>Inrateo</i>	Line Rate Operation. This parameter is only reported for an electrical FE (Fast Ethernet) port. Values are as follows: 10M 100M If the circuit pack is not present a "?" is reported. Note: This parameter does not apply to electrical SFP Ethernet ports. Note: This parameter does not apply to ports on the LNW87.
<i>macaddr</i>	MAC Address. If the MAC address is not available, this parameter will be reported as a "?". Value: 6 octets expressed as 12 hexadecimal characters.

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 6 of 22)

Parameter Name	Description
	Note: <i>macaddr</i> does not pertain to LNW71 Note: <i>macaddr</i> does not pertain to LNW74 Note: <i>macaddr</i> does not pertain to LNW70 Note: <i>macaddr</i> does not pertain to the LNW78. Starting in Release 7.0, <i>macaddr</i> does pertain to the LNW70 and LNW78. Note: <i>macaddr</i> does not pertain to the LNW63. Note: <i>macaddr</i> does not pertain to the LNW64. Note: <i>macaddr</i> does not pertain to the LNW87. Note: <i>macaddr</i> does not pertain to the LNW705. Note: <i>macaddr</i> does not apply to a LAG; it does apply to all physical ports including member ports of a LAG.
<i>tagfilter</i>	Tag Filter. This parameter is used to enable/disable VLAN/port tag filtering. Values are as follows: ENABLE (Enable Tag Filtering) DISABLE (Disable Tag Filtering) LNW71: <i>tagfilter</i> does not pertain to LNW71. LNW74: <i>tagfilter</i> does not pertain to LNW74. LNW63: <i>tagfilter</i> does not pertain to LNW63. LNW64: <i>tagfilter</i> does not pertain to LNW64. LNW87: <i>tagfilter</i> does not pertain to LNW87. LNW705: <i>tagfilter</i> does not pertain to LNW705. LNW78: The only value is ENABLE. Starting in Release 7.0, DISABLE is also valid.

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 7 of 22)

Parameter Name	Description
<i>rcf</i>	Remote Client Fail. This parameter is used to enable/disable Remote Client Fail message detection and generation, and may have one of the following values: ENABLE - Remote Client Fail message enabled DISABLE - Remote Client Fail message disabled This parameter applies only to LNW70 and LNW74. This parameter is significant when <i>vlangmd</i> is set to NOTAG (see RTRV-EQPT), i.e., Private Line mode. Starting in Release 6.0, this parameter applies to the LNW63. Starting in Release 7.0, this parameter applies to the LNW64. Starting in Release 7.1, this parameter applies to the LNW705. Starting in Release 9.0, this parameter applies to the LNW87.
<i>rcf_linkdown</i>	Remote Client Fail Link Shutdown. When <i>rcf</i> is enabled, this parameter is used to control link shut down by Remote Client Fail message reception, and may have one of the following values: ENABLE - Link shutdown enabled DISABLE - Link shutdown disabled This parameter applies only to LNW70 and LNW74. This parameter is significant when <i>vlangmd</i> is set to NOTAG (see RTRV-EQPT), i.e., Private Line mode. Starting in Release 6.0, this parameter applies to the LNW63. Starting in Release 7.0, this parameter applies to the LNW64. Starting in Release 7.1, this parameter applies to the LNW705. Starting in Release 9.0, this parameter applies to the LNW87.
<i>rcf_rdi</i>	Remote Client Fail Reverse Defect Indication This parameter is used to enable/disable the reverse direction of two-way Auto Link Shutdown (ALS) using GFP RDI control frames and may have one of the following values: ENABLE - Enable Two-way (ALS) Auto Link Shutdown DISABLE - Disable Two-way (ALS) Auto Link Shutdown

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 8 of 22)

Parameter Name	Description
	This parameter applies only to the LNW87 This parameter applies only to GE interfaces This parameter is significant when both rcf and rcf_linkdown are enabled.
<i>rcf_ldhotmr</i>	Link down hold-off Timer. When rcf_linkdown is enabled, and the link shutdown was due to VCG failure (inc. VCG failed), this parameter is used to specify the delay time between the declaration of sink client signal fail defect, and the link shutdown along with the generation of the ALS (auto link shutdown) alarm. The parameter may have one of the following values: ■ an integer 0 to 10000 milliseconds, in steps of 100 milliseconds ■ 99999 (representing infinity) The default value is 200 milliseconds This parameter applies to LNW70, LNW170, LNW74, LNW63, LNW64 and LNW87 This parameter is significant when vlantagmd is set to NOTAG (see RTRV-EQPT), i.e., Private Line mode.
<i>rcf_almlvl</i>	Remote Client Fail Alarm Level. This parameter shows the alarm level for Remote Client Fail, and may have one of the following values: This parameter is removed beginning in Release 6.0. See RTRV-ASAP-ASGNMT. CR (Critical) MJ (Major Alarm) MN (Minor Alarm) NA (No Alarm) This parameter applies only to LNW70 and LNW74. This parameter also applies to the LNW87 This parameter is significant when vlantagmd is set to NOTAG (see RTRV-EQPT), i.e., Private Line mode.
<i>fefi_det</i>	Far End Fault Indication Detection. Different responses to FEFI are available according to the following values:

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 9 of 22)

Parameter Name	Description
	LAN - The LAN component of FEFI detection behavior is enabled. LAN_RCF - Both the LAN and RCF components of FEFI detection behavior are enabled. RCF - The RCF component of FEFI detection behavior is enabled. DISABLE - FEFI detection disabled. For values that include the LAN component: When FEFI is detected at the receiver, a LAN FERF (FEFI) alarm may be generated and, if <i>link_good</i> = DISABLE, idle codes are sent by the transmitter. For values that include the RCF component: When FEFI is detected at the receiver, if <i>rcf</i> = ENABLE, a Remote Client Fail message, using the RTRV-EQPT <i>fefi_code</i>, is sent to the WAN. If <i>rcf</i> = ENABLE, and a Remote Client Fail message having the RTRV-EQPT <i>fefi_code</i> is received from the WAN, a GFP_RCF alarm may be generated for the associated VCG. This parameter applies to optical FE ports on the following pack: ■ LNW74 - Starting in Release 7.1. ■ LNW70 - Starting in Release 9.0. ■ LNW170 - Starting in Release 9.0. ■ LNW87 - Starting in Release 9.0. ~~This parameter is valid only when <i>vntagmd</i> is set to NOTAG (see RTRV-EQPT), i.e., Private Line mode.~~ When <i>vntagmd</i> is set to SWITCHED (see RTRV-EQPT), only values LAN and DISABLE are valid. <i>fefi_det</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>fefi_gen</i>	Far End Fault Indication Generation. Different FEFI generation modes are available according to the following values: LAN - The LAN component of FEFI generation behavior is enabled. LAN_RCF - Both the LAN and RCF components of FEFI generation behavior are enabled.

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 10 of 22)

Parameter Name	Description
	RCF - The RCF component of FEFI generation behavior is enabled. DISABLE - FEFI generation disabled. For values that include the LAN component: When a fault is detected at the receiver, FEFI is sent by the transmitter. For values that include the RCF component: If <i>rcf</i> = ENABLE and <i>rcf_linkdown</i> = ENABLE, and a Remote Client Fail message having the RTRV-EQPT <i>fefi_code</i> is received from the WAN, FEFI is sent by the transmitter. This parameter applies to optical FE ports on the following pack: ■ LNW74 - Starting in Release 7.1. ■ LNW70 - Starting in Release 9.0. ■ LNW170 - Starting in Release 9.0. ■ LNW87 - Starting in Release 9.0. ~~This parameter is valid only when <i>vlantagmd</i> is set to NOTAG (see RTRV-EQPT), i.e., Private Line mode.~~ When <i>vlantagmd</i> is set to SWITCHED (see RTRV-EQPT), only values LAN and DISABLE are valid. <i>fefi_gen</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>link_good</i>	Link Good. When <i>link_good</i> is enabled, the port transmitter does not insert idles in response to faults or FEFI detected at the receiver. Because FEFI may still be inserted in place of transmitted data when <i>fefi_gen</i> = LAN, LAN_RCF, or RCF, to assure that data can pass regardless of the state of the receiver, <i>fefi_gen</i> must be disabled. Values: ENABLE - Enable <i>link_good</i>. DISABLE - Disable <i>link_good</i>. This parameter applies to optical FE ports on the following pack: ■ LNW74 - Starting in Release 7.1.

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 11 of 22)

Parameter Name	Description
	■ LNW70 - Starting in Release 9.0. ■ LNW170 - Starting in Release 9.0. ■ LNW87 - Starting in Release 9.0. This parameter is valid only when <i>vlantagmd</i> is set to NOTAG (see ~~RTRV-EQPT~~), i.e., Private Line mode. <i>link_good</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>admin</i>	Port administration. This parameter is used to enable/disable a port; this will disable all frames to and from a port. ENABLE - Port enabled DISABLE - Port disabled <i>admin</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>tcamd</i>	TCA Monitoring Mode. This parameter specifies whether performance monitoring Threshold Crossing Alert reporting is enabled or disabled for the port, addressed by the <i>aid</i>. ENABLE - TCA reporting is enabled. DISABLE - TCA reporting is disabled <i>tcamd</i> does not apply to the LNW78. <i>tcamd</i> does not apply to a LAG. It does apply to a member port of a LAG. Starting in Release 8.0, <i>tcamd</i> applies to a LAG and to a member port of a LAG.
<i>jumbo</i>	Jumbo frame support. This parameter specifies whether jumbo frames are supported on the port addressed by the <i>aid</i>. Disabling jumbo support improves latency for sub-rate services. ENABLE - Jumbo frames are enabled. The maximum frame size (from DA to CRC, inclusive) is 10240 bytes. DISABLE - Jumbo frames are dropped. The maximum frame size (from DA to CRC, inclusive) is 1536 bytes. The <i>jumbo</i> parameter applies only to the LNW71.

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 12 of 22)

Parameter Name	Description
	Note: The LNW66, LNW67 and LNW68 do not have a setting for maximum frame size. For these packs, the maximum size of the frame is the same as for the LNW71 when <i>jumbo</i> is DISABLE (1536 bytes). Note: Other circuit packs do not use the <i>jumbo</i> parameter (see <i>mtu_size</i> instead).
<i>mtu_size</i>	MTU size (in bytes). This parameter specifies the MTU (Maximum Transmission Unit) size supported on the port, addressed by the <i>aid</i>. This is the size of the payload in the Ethernet frame, excluding Source and Destination Address, Type and CRC field, and standard VLAN tag, but including any nested VLAN tags. Starting in Release 6.0, this is the size of the payload in the Ethernet frame, excluding Source and Destination Address, Type and CRC field, but including all VLAN tags. Note: When upgrading from a previous release, the value is incremented by 4 to preserve the effect. No DBCHG message is generated. Value: For the LNW74 an integer in the range 1500 to 9614. For the LNW70 an integer in the range 42 to 10218. Starting in Release 6.0, for the following packs: ■ LNW70 ■ LNW78 ■ LNW63 and also for the following packs: ■ LNW64 (Release 7.0) ■ LNW87 (Release 9.0) ■ LNW705 (Release 7.1) Value: an integer in the range 46 to 10222.
<i>emsdt</i>	Exceeded MTU size drop threshold. This parameter specifies the point at which an alarm is generate when the ratio (Exceeded MTU size drop count / Total frame received count) surpasses the set threshold.

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 13 of 22)

Parameter Name	Description
	Value: an integer in the range 0 (feature disabled) to 1000 (100%), in steps of 1 (0.1%). The initial value is 0 (feature is disabled). Note: "feature disabled" indicates that the "exceeded MTU size drop" (emsd) alarm is NOT generated when the threshold is surpassed. Starting in Release 9.0, this parameter applies to the LNW70/170. Starting in Release 9.0, this parameter applies to the LNW74. Starting in Release 9.0, this parameter applies to the LNW64 and LNW87. Starting in Release 9.0, this parameter applies to a LAG.
<i>autoneg</i>	Auto-Negotiation. This parameter specifies whether auto-negotiation is enabled on a port. ENABLE - auto-negotiation enabled. DISABLE - auto-negotiation disabled. If any of <i>fcmd</i>, <i>lnrate</i>, <i>mdix</i> or <i>dplxmd</i> parameters are set to AUTO, the NE maintains previously resolved operational states. If a state is unresolved, the following settings take effect: <i>fcmd</i> = ENABLE <i>lnrate</i> = 100M <i>dplxmd</i> = FULL <i>mdix</i> = MDI <i>autoneg</i> does not apply to the LNW78. Starting in Release 7.0, <i>autoneg</i> applies to the LNW78 optical GbE ports. The <i>autoneg</i> parameter does not pertain to Electrical SFP (GbE/FE) ports. It is always enabled for GbE and disabled for FE. <i>autoneg</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>mdix</i>	Crossover. This parameter sets the crossover mode for the port. AUTO - automatic crossover is enabled. The system determines if crossover is needed, then sets the port to AUTOMDIX or AUTOMDI mode. MDIX RJ-45 TXP/TXN pins are transmit RJ-45 RXP/RXN pins are receive

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 14 of 22)

Parameter Name	Description
	MDI RJ-45 TXP/TXN pins are receive RJ-45 RXP/RXN pins are transmit Note: The <i>mdix</i> parameter does not pertain to LNW66/67/68 circuit packs. Note: The <i>mdix</i> parameter does not pertain to optical ports. Note: The <i>mdix</i> parameter applies to electrical SFP (GbE/FE) ports. <i>mdix</i> does not apply to a LAG. It does apply to a member port of a LAG.
<i>mdixo</i>	Crossover operational value. This parameter reports the current state of the crossover mode. AUTOMDIX - port resolved to MDIX RJ-45 TXP/TXN pins are transmit RJ-45 RXP/RXN pins are receive AUTOMDI - port resolved to MDI RJ-45 TXP/TXN pins are receive RJ-45 RXP/RXN pins are transmit MDIX - port was manually set to MDIX RJ-45 TXP/TXN pins are transmit RJ-45 RXP/RXN pins are receive MDI - port was manually set to MDI RJ-45 TXP/TXN pins are receive RJ-45 RXP/RXN pins are transmit Note: If the circuit pack is not present and <i>mdix</i>=AUTO, or parameter is not obtainable, a "?" is reported. Note: The <i>mdixo</i> parameter does not pertain to LNW66/67/68 circuit packs. Note: The <i>mdixo</i> parameter does not pertain to optical ports. Note: The <i>mdixo</i> parameter applies to electrical SFP (GbE/FE) ports. <i>mdixo</i> does not apply to a LAG. It does apply to a member port of a LAG.

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 15 of 22)

Parameter Name	Description
<i>ethertype</i>	Ethernet Type field (TPID). Used to interwork with other vendors' equipment using stacked VLAN. This parameter is valid only when <i>vlantagmd</i> is set to TRANS transparent mode (see RTRV-EQPT). Value: A string in the range 0601 to FFFF. The default value is FFFF (hexadecimal). This parameter is also valid when <i>vlantagmd</i> is set to SWITCHED mode (see RTRV-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to TRANS (see RTRV-VRTSW).
<i>qwt_ntwkAF</i>	This parameter is used to specify the weighting factor used by the queue service algorithm for the AF queue for packets coming from network ports. A port is a "network" port if it is a VCG port without a Default VLAN/Tag. Starting in Release 7.0, whether a port is a customer or network port is determined by the <i>portrole</i> parameter. <i>qwt_ntwkAF</i> must be an integer in the range of 1 to 100 with a value of 100 being the highest weight. The default value of <i>qwt_ntwkAF</i> is 64. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT). <i>qwt_ntwkAF</i> does not apply to the LNW78.
<i>qwt_custAF</i>	This parameter is used to specify the weighting factor used by the queue service algorithm for the AF queue for packets coming from customer ports. A port is a "customer" port if it is an Ethernet port, or if it is a VCG port with a Default VLAN/Tag. Starting in Release 7.0, whether a port is a customer or network port is determined by the <i>portrole</i> parameter. <i>qwt_custAF</i> must be an integer in the range of 1 to 100 with a value of 100 being the highest weight. The default value of <i>qwt_custAF</i> is 36. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT). <i>qwt_custAF</i> does not apply to the LNW78.
<i>qsz</i>	For the LNW70 this parameter is used to specify the total queue size for the port. This includes the EF and AF queues as well as the management queues.

Table 2-340. RTRV - EPORT Output *spec_block* Parameters (cont 16 of 22)

Parameter Name	Description
	For a LAG on the LNW70, it is the total queue size for each member port, applied individually. For the LNW78 this parameter specifies the size of individual queues for the port (the same size for each). <i>qsz</i> must be in the range 0 to 256. It represents the queue size in Kbytes. In order for <i>qsz</i> to be effective it needs to be greater than the maximum supported frame size (see also <i>mtu_size</i>). This parameter applies only if the port is part of a virtual switch when <i>vlntagmd</i> is SWITCHED (see RTRV - EQPT).
<i>qminthldy</i>	This parameter is used to specify the minimum dropping threshold for yellow packets used by the drop algorithm. It is expressed as a percentage of the queue size <i>qsz</i>. It is an integer value in the range 0 to 100. Starting in Release 7.0, <i>qminthldy</i> is an integer value in the range 0 to 99. The default value for <i>qminthldy</i> is 33. This parameter applies only if the port is part of a virtual switch when <i>vlntagmd</i> is SWITCHED (see RTRV - EQPT).
<i>qmaxthldy</i>	This parameter is used to specify the maximum dropping threshold for yellow packets used by the drop algorithm. It is expressed as a percentage of the queue size <i>qsz</i>. It is an integer value in the range 0 to 100. The default value for <i>qmaxthldy</i> is 50. This parameter applies only if the port is part of a virtual switch when <i>vlntagmd</i> is SWITCHED (see RTRV - EQPT).
<i>qminthldg</i>	This parameter is used to specify the minimum dropping threshold for green packets used by the drop algorithm. It is expressed as a percentage of the queue size <i>qsz</i>. It is an integer value in the range 0 to 100. The default value for <i>qminthldg</i> is 90. This parameter applies only if the port is part of a virtual switch when <i>vlntagmd</i> is SWITCHED (see RTRV - EQPT).
<i>qdropwt0</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 0 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100).

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 17 of 22)

Parameter Name	Description
	The default value for <i>qdropwt0</i> is 100. This parameter applies only if the port is part of a virtual switch when <i>vtagmd</i> is SWITCHED (see RTRV-EQPT). <i>qdropwt0</i> does not apply to the LNW78.
<i>qdropwt1</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 1 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). The default value for <i>qdropwt1</i> is 100. This parameter applies only if the port is part of a virtual switch when <i>vtagmd</i> is SWITCHED (see RTRV-EQPT).
<i>qdropwt2</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 2 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). The default value for <i>qdropwt2</i> is 100. This parameter applies only if the port is part of a virtual switch when <i>vtagmd</i> is SWITCHED (see RTRV-EQPT).
<i>qdropwt3</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 3 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). The default value for <i>qdropwt3</i> is 50. This parameter applies only if the port is part of a virtual switch when <i>vtagmd</i> is SWITCHED (see RTRV-EQPT).
<i>trafmgmtmd</i>	Traffic Management Mode. This specifies how the traffic will be divided into flows and the services that can be provided at the port. Values: NOTC - No traffic conditioning at port. PORT - One traffic conditioner for all traffic at port. Starting in Release 6.0, for the LNW70: — when RTRV-ERATE: <i>hlayercos</i> is set to NONE, one traffic conditioner for all traffic at the port. — when RTRV-ERATE: <i>hlayercos</i> is set to DSCP, one traffic conditioner for each CoS at the port.

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 18 of 22)

Parameter Name	Description
	TAGPORT - One traffic conditioner for traffic on each VLANid at the port. COSPORT - One traffic conditioner for each CoS at the port. COSTAGPORT - One traffic conditioner for each CoS on each VLAN at the port. This parameter is output only if the <i>aid</i> points to the following circuit pack equipment: — LNW70 — LNW78 (only values are PORT and COSPORT)
<i>hlayercos</i>	Higher layer Class of Service (CoS) This determines whether the packets will be classified by a higher layer protocol such as DiffServ Code Point (<i>DSCP</i>) in the IP header. Higher layer classification is only supported when <i>trafmgmtmd</i> in set to PORT. <i>hlayerqos</i> is ignored in other <i>trafmgmtmd</i> modes. Value: NONE - Higher layer not used for classification. DSCP - Use the <i>DSCP</i> bits in the IP header for classification. This parameter is printed only if the <i>aid</i> points to the following circuit pack equipment: — LNW70
<i>bcratelimit</i>	Broadcast and Multicast rate limit. This is the data rate limit for incoming packets whose destination address is the broadcast address (FF-FF-FF-FF-FF-FF). It also includes all multicast addresses (XO-XX-XX-XX-XX-XX where "O" is an odd hexadecimal digit) including Bridge Filtered MAC group addresses used by PAUSE frames, BPDUs, Link Aggregation, etc. It also includes incoming packets whose destination address has not been learned (and therefore are broadcasted). This limit applies to the aggregate of all traffic at a port. Value: an integer between 0 and 1000 and represents Mbps. A value of 0 filters all broadcast/multicast packets. Starting in Release 6.0 the previous paragraph is replaced by: Value: an integer between 0 and 1000000, representing Kbps. A value of 0 disables broadcast rate limiting. Starting in Release 7.0 the range is extended: Value: an integer between 0 and 4000000, representing Kbps For a LAG, the rate limit is applied to the aggregate rate.

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 19 of 22)

Parameter Name	Description
	This parameter applies to the following packs: ■ LNW70 only if the port is part of a virtual switch (when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT)). ■ LNW78
<i>stgrpid</i>	Spanning Tree Group ID. Values: An integer in the range 1 to 4095. Default value is NULL. This parameter is not valid if the Board Tag Mode (i.e., <i>vlantagmd</i> in RTRV-EQPT) is set to NOTAG. This parameter applies to the following packs: ■ LNW70 (starting in Release 6.0)
<i>stpp</i>	Spanning Tree Port Priority. Values: 0 to 255. Note: This parameter is not valid if the board tag mode (i.e., <i>vlantagmd</i> in RTRV-EQPT) is set to NOTAG. This parameter applies to the following packs: ■ LNW70 (starting in Release 6.0)
<i>stpcost</i>	Spanning Tree Path Cost. Values: An integer in the range 1 to 65535. This parameter is not valid if the Board Tag Mode is set to NOTAG. This parameter applies to the following packs: ■ LNW70 (starting in Release 6.0)
<i>sthellotm</i>	Spanning Tree Hello Timer. Values: 1 to 10 seconds. This parameter is not valid if the Board Tag Mode is set to NOTAG. This parameter applies to the following packs:

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 20 of 22)

Parameter Name	Description
	■ LNW70 (starting in Release 6.0)
<i>stvid</i>	Spanning Tree VLAN ID. Controls whether a VLAN tag added to BPDUs, and if so, the VLAN ID number. Values: An integer in the range 0 to 4095. The value 0 means no VLAN tag. This parameter is not valid if the Board Tag Mode is set to NOTAG. This parameter applies to the following packs: ■ LNW70 (starting in Release 6.0)
<i>stpmd</i>	Spanning Tree Port Mode. Values: 802.1D and 802.1W Note: This parameter is not valid if the board tag mode (i.e., <i>vlangmd</i> in RTRV-EQPT) is set to NOTAG. This parameter applies to the following packs: ■ LNW70 (starting in Release 6.0)
<i>stprole</i>	Spanning Tree Port Role. Values: ROOT, DESG and ALT Note: This parameter is not valid if the board tag mode (i.e., <i>vlangmd</i> in RTRV-EQPT) is set to NOTAG. This parameter applies to the following packs: ■ LNW70 (starting in Release 6.0)
<i>epss</i>	Ethernet Port Spanning Tree Status. Values are as follows: FWG: Forwarding LLG: Learning/Listening BLK: Blocked - 802.1d mode only DISA: Disabled - Administration DISF: Disabled - Failure DCD: Discarding - 802.1w mode only

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 21 of 22)

Parameter Name	Description
	Note: This parameter is not valid if the board tag mode (i.e., <i>vlantagmd</i> in RTRV-EQPT) is set to NOTAG. This parameter applies to the following packs: ■ LNW70 (starting in Release 6.0)
<i>mso</i>	Master/Slave operational mode. This parameter is only reported for an electrical GbE (Gigabit Ethernet) port. Values are as follows: MASTER SLAVE If the circuit pack is not present a "?" is reported.
<i>ethfcs</i>	Ethernet Frame Check Sequence (FCS) mode. Controls whether to drop errored frames due to FCS or let them pass. Regardless of this setting, errored frames are always counted in the EFCRC counter. Values: ENABLE - Drop errored frames DISABLE - Pass errored frames This parameter applies to the following packs: ■ LNW63 ■ LNW64 ■ LNW87 ■ LNW705
<i>locked_sa</i>	Locked Source Address. This parameter controls whether the virtual switch restricts admission of packets, with source addresses matching RTRV-MAC entries with <i>type</i>=PERSISTENT, to this port, and only this port; and discards all others on this port. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED (see RTRV-EQPT) and can be enabled only if there are no RTRV-MAC entries with <i>type</i>=FILTERED. Values: ENABLE (source addresses locked) DISABLE This parameter applies to the following packs: ■ LNW70
<i>aapslact</i>	Actor_Admin_Port_State_LACP_Activity. Values:

Table 2-340. RTRV-EPORT Output *spec_block* Parameters (cont 22 of 22)

Parameter Name	Description
	ACTIVE PASSIVE This parameter is valid only for a member of a LAG and RTRV-LAGRP <i>protocol</i> = LACP.
<i>aapsltimo</i>	Actor_Admin_Port_State_LACP_Timeout. Values: LONG SHORT This parameter is valid only for a member of a LAG and RTRV-LAGRP <i>protocol</i> = LACP.
<i>actppri</i>	Actor_Port_Priority. Specifies the port priority for the member of a LAG. Value: an integer in the range 0 to 65535 . This parameter is valid only for a member of a LAG.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number may be included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

The following example applies to Release 2.0 with *vlangmd*=TRANS (**RTRV-EQPT**):

```
RTRV-EPORT-FE:TID123:d-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d-1,FE::dplxmd=AUTO,dplxmdo=FULL,epmode=NMON,eppm=ENABLE"
"d-1,FE::vrtswid=1,dftporttag=0,dftpri=NA,almlvl=CR,fcmd=DISABLE"
"d-1,FE::fcmdo=DISABLE,lnrate=AUTO,lnrateo=100M"
"d-1,FE::macaddr=123456789ABC"
;
```

The following example applies to Release 3.1 listing ***cporttag*** with ***vlantagmd=TRANS (RTRV-EQPT)***:

```
RTRV-EPORT-FE:TID123:d-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d-1,FE::dplxmd=AUTO,dplxmdo=FULL,epmode=NMON,eppm=ENABLE"
"d-1,FE::vrtswid=1,dftporttag=0,dftpri=NA,almlvl=CR,fcmd=DISABLE"
"d-1,FE::fcmdo=DISABLE,lnrate=AUTO,lnrateo=100M"
"d-1,FE::macaddr=123456789ABC"
"d-1,FE:123,Port Tag"
"d-1,FE:124,Port Tag"
;
```

The following example applies to Release 3.1 with ***vlantagmd=TRANS (RTRV-EQPT)***:

```
RTRV-EPORT-FE:TID123:d-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d-1,FE::dplxmd=AUTO,dplxmdo=FULL,epmode=NMON,eppm=ENABLE"
"d-1,FE::vrtswid=1,dftporttag=0,dftpri=NA,almlvl=CR,fcmd=DISABLE"
"d-1,FE::fcmdo=DISABLE,lnrate=AUTO,lnrateo=100M"
"d-1,FE::macaddr=123456789ABC,tagfilter=enable"
"d-1,FE:123,Port Tag"
"d-1,FE:124,Port Tag"
;
```

Beginning in Release 3.0 for the LNW71 circuit pack, the following example applies:

```
RTRV-EPORT-FE:TID123:a-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"a-1,FE::epmode=NMON,eppm=ENABLE,almlvl=CR,fcmd=DISABLE"
"a-1,FE::fcmdo=DISABLE,lnrate=AUTO,lnrateo=100M"
;
```

The following example applies to Release 4.0 listing *admin*, *tcamd*, *autoneg*, *mdix*, and *mdix0*:

```
RTRV-EPORT-FE:TID123:d-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d-1,FE::epmode=NMON,eppm=ENABLE"
"d-1,FE::fcmd=ENABLE",admin=ENABLE",tcamd=ENABLE,autoneg=ENABLE"
"d-1,FE::fcmdo=ENABLE,lnrate=AUTO,lnrateo=100M,mdix=AUTO,mdix0=AUTOMDIX"
;
```

The following example shows *ethertype* in Release 4.0:

```
RTRV-EPORT-FE:TID123:d-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d-1,FE::dplxmd=AUTO,dplxmdo=FULL,epmode=NMON,eppm=ENABLE"
"d-1,FE::dftvlan=0,dftpri=NA,almlvl=CR,fcmd=DISABLE"
"d-1,FE::fcmdo=DISABLE,lnrate=AUTO,lnrateo=100M"
"d-1,FE::admin=ENABLE,tcamd=ENABLE,autoneg=ENABLE,ethertype=8100"
"d-1,FE::macaddr=123456789ABC,tagfilter=enable"
;
```

For the LN74 circuit pack, the following example applies:

```
RTRV-EPORT-FE:TID123:d-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d-1,FE::epmode=NMON,eppm=ENABLE,almlvl=CR,fcmd=DISABLE"
"d-1,FE::fcmdo=DISABLE,lnrate=AUTO,lnrateo=100M"
;
```

Starting in Release 5.1, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an Ethernet port of type BOUNDARY, when the port belongs to a virtual switch with *tagmd*=TRANS (**RTRV-VRTSW**) on any of the following circuit packs:

■ LNW70

```
RTRV-EPORT-1GE:TID123:d-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d-1,1GE::porttype=BOUNDARY,epmode=NMON,eppm=ENABLE"
"d-1,1GE::vrtswid=1,dftporttag=3,tagfilter=enable"
"d-1,1GE::dftpri=1,almlvl=CR,fcmd=DISABLE,fcmdo=DISABLE"
"d-1,1GE::mtu_size=1500,tcamd=DISABLE,autoneg=ENABLE,ethertype=FFFF"
"d-1,1GE::trafmgmtmd=PORT,bcratelimit=10"
"d-1,1GE::qwt_ntwAF=80,qwt_custAF=20,qs=256"
"d-1,1GE::qmaxthldy=60,qminthldy=40,qminthldg=90"
"d-1,1GE::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d-1,1GE:123,Port Tag"
;
```

Starting in Release 6.0, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an Ethernet port of type BOUNDARY, when the port belongs to a virtual switch with *tagmd*=TRANS (**RTRV-VRTSW**) on any of the following circuit packs:

■ LNW78

```
RTRV-EPORT-1GE:TID123:d1-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d1-1,1GE::porttype=BOUNDARY,epmode=NMON,eppm=ENABLE"
"d1-1,1GE::vrtswid=1,dftporttag=3,tagfilter=enable"
"d1-1,1GE::dftpri=1,mtu_size=1500"
"d1-1,1GE::ethertype=FFFF,trafmgmtmd=PORT,bcratelimit=10"
"d1-1,1GE::qs=256,qmaxthldy=60,qminthldy=40,qminthldg=90"
"d1-1,1GE::qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d1-1,1GE:123,Port Tag"
;
```

Starting in Release 7.0, for the LNW78, the following example shows the addition of the *autoneg* and *macaddr* parameters:

```
RTRV-EPORT-1GE:TID123:d1-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d1-1,1GE::porttype=BOUNDARY,epmode=NMON,eppm=ENABLE"
"d1-1,1GE::vrtswid=1,dftporttag=3,tagfilter=enable"
"d1-1,1GE::dftpri=1,mtu_size=1500,autoneg=ENABLE,macaddr=001A2B3C4D5E"
"d1-1,1GE::ethertype=FFFF,trafmgmtmd=PORT,bcratelimit=10"
"d1-1,1GE::qsz=256,qmaxthldy=60,qminthldy=40,qminthldg=90"
"d1-1,1GE::qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d1-1,1GE:123,Port Tag"
;
```

Starting in Release 6.0, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an Ethernet port of type BOUNDARY, when the port belongs to a virtual switch with *tagmd*=TRANS (**RTRV-VRTSW**) on any of the following circuit packs:

- LNW70

```
RTRV-EPORT-1GE:TID123:d1-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d1-1,1GE::porttype=BOUNDARY,epmode=NMON,eppm=ENABLE"
"d1-1,1GE::stgrpId=111,epss=FWG,stpp=122,stpcost=10,stpmd=802.1d"
"d1-1,1GE::sthellotm=2,stvid=0,stprole=alternate"
"d1-1,1GE::vrtswid=1,dftporttag=3,tagfilter=enable"
"d1-1,1GE::dftpri=1,fcmd=DISABLE,fcmdo=DISABLE"
"d1-1,1GE::mtu_size=1500,tcamd=DISABLE,autoneg=ENABLE,ethertype=FFFF"
"d1-1,1GE::trafmgmtmd=PORT,bcratelimit=10"
"d1-1,1GE::qwt_ntwkAF=80,qwt_custAF=20,qsz=256"
"d1-1,1GE::qmaxthldy=60,qminthldy=40,qminthldg=90"
"d1-1,1GE::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d1-1,1GE:123,Port Tag"
;
```

Starting in Release 5.1, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an Ethernet port of type BOUNDARY, when the port belongs to a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**) on any of the following circuit packs:

■ LNW70

```
RTRV-EPORT-1GE:TID123:d-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d-1,1GE::porttype=BOUNDARY,epmode=NMON,eppm=ENABLE"
"d-1,1GE::vrtswid=1,dftvlan=7,tagfilter=enable"
"d-1,1GE::dftpri=1,almlvl=CR,fcmd=DISABLE,fcmdo=DISABLE"
"d-1,1GE::mtu_size=1500,tcamd=DISABLE,autoneg=ENABLE"
"d-1,1GE::trafmgmtmd=TAGPORT,bcratelimit=10"
"d-1,1GE::qwt_ntwkAF=80,qwt_custAF=20,qs=256"
"d-1,1GE::qmaxthldy=60,qminthldy=40,qminthldg=90"
"d-1,1GE::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d-1,1GE:123,VLAN"
"d-1,1GE:456,VLAN"
;
```

Starting in Release 6.0, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an Ethernet port of type BOUNDARY, when the port belongs to a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**) on any of the following circuit packs:

■ LNW78

```
RTRV-EPORT-1GE:TID123:d1-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD

"d1-1,1GE::porttype=BOUNDARY,epmode=NMON,eppm=ENABLE"
"d1-1,1GE::vrtswid=1,dftvlan=7,tagfilter=enable"
"d1-1,1GE::dftpri=1,mtu_size=1500"
"d1-1,1GE::trafmgmtmd=PORT,bcratelimit=10"
"d1-1,1GE::qsz=256,qmaxthldy=60,qminthldy=40,qminthldg=90"
"d1-1,1GE::qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d1-1,1GE:123,VLAN"
"d1-1,1GE:456,VLAN"
;
```

Starting in Release 6.0, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an Ethernet port of type BOUNDARY, when the port belongs to a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**) on any of the following circuit packs:

- LNW70

```
RTRV-EPORT-1GE:TID123:d1-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD

"d1-1,1GE::porttype=BOUNDARY,epmode=NMON,eppm=ENABLE"
"d1-1,1GE::stgrpId=111,epss=FWG,stpp=122,stpcost=10,stpmd=802.1d"
"d1-1,1GE::sthellotm=2,stvid=0,stprole=alternate"
"d1-1,1GE::vrtswid=1,dftvlan=7,tagfilter=enable"
"d1-1,1GE::dftpri=1,fcmd=DISABLE,fcmdo=DISABLE"
"d1-1,1GE::mtu_size=1500,tcamd=DISABLE,autoneg=ENABLE"
"d1-1,1GE::trafmgmtmd=TAGPORT,bcratelimit=10"
"d1-1,1GE::qwt_ntwkAF=80,qwt_custAF=20,qsz=256"
"d1-1,1GE::qmaxthldy=60,qminthldy=40,qminthldg=90"
"d1-1,1GE::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d1-1,1GE:123,VLAN"
"d1-1,1GE:456,VLAN"
;
```

Starting in Release 5.1, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an Ethernet

port of type INTERIOR, when the port belongs to a virtual switch with *tagmd*=TRANS (**RTRV-VRTSW**) on any of the following circuit packs:

- LNW70

```
RTRV-EPORT-1GE:TID123:d-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d-1,1GE::porttype=INTERIOR,epmode=NMON,eppm=ENABLE"
"d-1,1GE::vrtswid=1,dftporttag=0,tagfilter=enable"
"d-1,1GE::dftpri=0,almlvl=CR,fcmd=DISABLE,fcmdo=DISABLE"
"d-1,1GE::mtu_size=1500,tcamd=DISABLE,ethertype=FFFF"
"d-1,1GE::qwt_ntwkAF=80,qwt_custAF=20,qs=256"
"d-1,1GE::qmaxthldy=60,qminthldy=40,qminthldg=90"
"d-1,1GE::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d-1,1GE:123,Port Tag"
;
```

Starting in Release 6.0, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an Ethernet port of type INTERIOR, when the port belongs to a virtual switch with *tagmd*=TRANS (**RTRV-VRTSW**) on any of the following circuit packs:

- LNW70

```
RTRV-EPORT-1GE:TID123:d1-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d1-1,1GE::porttype=INTERIOR,epmode=NMON,eppm=ENABLE"
"d1-1,1GE::stgrp=111,epss=FWG,stpp=122,stpcost=10,stpmd=802.1d"
"d1-1,1GE::sthellotm=2,stvid=0,stprole=alternate"
"d1-1,1GE::vrtswid=1,dftporttag=0,tagfilter=enable"
"d1-1,1GE::dftpri=0,fcmd=DISABLE,fcmdo=DISABLE"
"d1-1,1GE::mtu_size=1500,tcamd=DISABLE,ethertype=FFFF"
"d1-1,1GE::qwt_ntwkAF=80,qwt_custAF=20,qs=256"
"d1-1,1GE::qmaxthldy=60,qminthldy=40,qminthldg=90"
"d1-1,1GE::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d1-1,1GE:123,Port Tag"
;
```


Starting in Release 5.1, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an Ethernet port of type INTERIOR, when the port belongs to a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**) on any of the following circuit packs:

- LNW70

RTRV-EPORT-1GE:TID123:d-1:123456;

```
IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d-1,1GE::porttype=INTERIOR,epmode=NMON,eppm=ENABLE"
"d-1,1GE::vrtswid=1,dftvlan=0,tagfilter=enable"
"d-1,1GE::dftpri=0,almlvl=CR,fcmd=DISABLE,fcmdo=DISABLE"
"d-1,1GE::mtu_size=1500,tcamd=DISABLE"
"d-1,1GE::qwt_ntwkAF=80,qwt_custAF=20,qsz=256"
"d-1,1GE::qmaxthldy=60,qminthldy=40,qminthldg=90"
"d-1,1GE::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d-1,1GE:123,VLAN"
"d-1,1GE:456,VLAN"
;
```

Starting in Release 6.0, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an Ethernet port of type INTERIOR, when the port belongs to a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**) on any of the following circuit packs:

- LNW70

```
RTRV-EPORT-1GE:TID123:d1-1:123456;

IP 123456
<

TID123 07-01-01 08:00:00
M 123456 COMPLD
"d1-1,1GE::porttype=INTERIOR,epmode=NMON,eppm=ENABLE"
"d1-1,1GE::stgrpid=111,epss=FWG,stpp=122,stpcost=10,stpmd=802.1d"
"d1-1,1GE::sthellotm=2,stvid=0,stprole=alternate"
"d1-1,1GE::vrtswid=1,dftvlan=0,tagfilter=enable"
"d1-1,1GE::dftpri=0,fcmd=DISABLE,fcmdo=DISABLE"
"d1-1,1GE::mtu_size=1500,tcamd=DISABLE"
"d1-1,1GE::qwt_ntwkAF=80,qwt_custAF=20,qs=256"
"d1-1,1GE::qmaxthldy=60,qminthldy=40,qminthldg=90"
"d1-1,1GE::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d1-1,1GE:123,VLAN"
"d1-1,1GE:456,VLAN"
;
```

Starting in Release 7.0, the following example shows the addition of the *portrole*, *locked_sa*, and *macaddr* parameters in a case when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an Ethernet port of type INTERIOR, when the port belongs to a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**), and does not belong to a LAG, on the LNW70.

```
RTRV-EPORT-1GE:TID123:d1-1:123456;

IP 123456
<

TID123 07-01-01 08:00:00
M 123456 COMPLD
"d1-1,1GE::porttype=INTERIOR,portrole=NETWORK,epmode=NMON,eppm=ENABLE"
"d1-1,1GE::stgrpid=111,epss=FWG,stpp=122,stpcost=10,stpmd=802.1d"
"d1-1,1GE::sthellotm=2,stvid=0,stprole=alternate"
"d1-1,1GE::vrtswid=1,dftvlan=0,tagfilter=enable"
"d1-1,1GE::dftpri=0,fcmd=DISABLE,fcmdo=DISABLE,macaddr=001A2B3C4D5E"
"d1-1,1GE::mtu_size=1500,tcamd=DISABLE,locked_sa=DISABLE"
"d1-1,1GE::qwt_ntwkAF=80,qwt_custAF=20,qs=256"
"d1-1,1GE::qmaxthldy=60,qminthldy=40,qminthldg=90"
"d1-1,1GE::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d1-1,1GE:123,VLAN"
"d1-1,1GE:456,VLAN"
;
```

Starting in Release 7.0, the following example shows the addition of the *portrole* and *locked_sa* parameters in a case when *vlantagmd*=SWITCHED (**RTRV-EQPT**)

and when the **aid** points to an Ethernet LAG of type BOUNDARY, when the LAG belongs to a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**) on the LNW70.

RTRV-EPORT-1GE:TID123:d-lag1:123456;

```
IP 123456
<

TID123 07-01-01 08:00:00
M 123456 COMPLD
"d-lag1,1GE::porttype=BOUNDARY,portrole=CUSTOMER,epmode=NMON"
"d-lag1,1GE::stgrpId=111,epss=FWG,stpp=122,stpcost=10,stpmd=802.1d"
"d-lag1,1GE::sthellotm=2,stvid=0,stprole=alternate"
"d-lag1,1GE::vrtswid=1,dftvlan=1,tagfilter=enable,dftpri=1"
"d-lag1,1GE::mtu_size=1500,locked_sa=DISABLE"
"d-lag1,1GE::trafmgmtmd=COSPORT,bcratelimit=0"
"d-lag1,1GE::qwt_ntwkAF=80,qwt_custAF=20,qsZ=256"
"d-lag1,1GE::qmaxthldy=60,qminthldy=40,qminthldg=90"
"d-lag1,1GE::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d-lag1,1GE:123,VLAN"
"d-lag1,1GE:456,VLAN"
;
```

Starting in Release 9.0, the following example shows the addition of the **emsdt** parameter in a case when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the **aid** points to an Ethernet LAG of type BOUNDARY, when the LAG belongs to a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**) on the LNW70.

RTRV-EPORT-1GE:TID123:d-lag1:123456;

```
IP 123456
<

TID123 07-01-01 08:00:00
M 123456 COMPLD
"d-lag1,1GE::porttype=BOUNDARY,portrole=CUSTOMER,epmode=NMON"
"d-lag1,1GE::stgrpId=111,epss=FWG,stpp=122,stpcost=10,stpmd=802.1d"
"d-lag1,1GE::sthellotm=2,stvid=0,stprole=alternate"
"d-lag1,1GE::vrtswid=1,dftvlan=1,tagfilter=enable,dftpri=1"
"d-lag1,1GE::mtu_size=1500,emsdt=0,locked_sa=DISABLE"
"d-lag1,1GE::trafmgmtmd=COSPORT,bcratelimit=0"
"d-lag1,1GE::qwt_ntwkAF=80,qwt_custAF=20,qsZ=256"
"d-lag1,1GE::qmaxthldy=60,qminthldy=40,qminthldg=90"
"d-lag1,1GE::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d-lag1,1GE:123,VLAN"
"d-lag1,1GE:456,VLAN"
;
```

Starting in Release 7.0, the following example shows the case when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an Ethernet port of type BOUNDARY, when the port belongs to a LAG and a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**) on the LNW70.

```
RTRV-EPORT-1GE:TID123:d1-1:123456;  
  
IP 123456  
<  
  
TID123 07-01-01 08:00:00  
M 123456 COMPLD  
"d1-1,1GE::epmode=NMON,eppm=ENABLE,fcmd=DISABLE,fcmdo=DISABLE"  
"d1-1,1GE::admin=ENABLE,tcamd=DISABLE,autoneg=ENABLE"  
"d1-1,1GE::macaddr=001A2B3C4D5E"  
"d1-1,1GE::aapslact=ACTIVE,aapsltimo=LONG"  
;
```

Starting in Release 9.0, the following example shows the case when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an Ethernet port of type BOUNDARY, when the port belongs to a LAG and a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**) on the LNW70.

```
RTRV-EPORT-1GE:TID123:d1-1:123456;  
  
IP 123456  
<  
  
TID123 07-01-01 08:00:00  
M 123456 COMPLD  
"d1-1,1GE::epmode=NMON,eppm=ENABLE,fcmd=DISABLE,fcmdo=DISABLE"  
"d1-1,1GE::admin=ENABLE,tcamd=DISABLE,autoneg=ENABLE"  
"d1-1,1GE::macaddr=001A2B3C4D5E"  
"d1-1,1GE::aapslact=ACTIVE,aapsltimo=LONG,actppri=32768"  
;
```

Starting in Release 5.0, the following example applies when *vlantagmd*=NOTAG and the *aid* points to an optical Fast Ethernet port on any of the following circuit packs:

- LNW70
- LNW74

```
RTRV-EPORT-FE:TID123:a-5:123456;  
  
IP 123456  
<  
  
TID123 06-01-01 08:00:00  
M 123456 COMPLD  
"a-5,FE::epmode=NMON,eppm=ENABLE,mtu_size=1500"  
"a-5,FE::almlvl=CR,fcmd=DISABLE,fcmdo=DISABLE,tcamd=ENABLE"  
;
```

Starting in Release 7.1, the following example applies when *vlantagmd*=NOTAG and the **aid** points to an optical Fast Ethernet port on any of the following circuit packs:

- LNW74 (Release 7.1)
- LNW87 (Release 9.0)

```
RTRV-EPORT-FE:TID123:d1-5:123456;  
  
IP 123456  
<  
  
TID123 80-01-01 08:00:00  
M 123456 COMPLD  
"d1-5,FE::epmode=NMON,eppm=ENABLE,mtu_size=1508"  
"d1-5,FE::fcmd=DISABLE,fcmdo=DISABLE,tcamd=ENABLE,admin=ENABLE"  
"d1-5,FE::rcf=ENABLE,rcf_linkdown=DISABLE,rcf_ldhotmr=200"  
"d1-5,FE::fefi_det=DISABLE,fefi_gen=DISABLE,link_good=DISABLE"  
;
```

Starting in Release 5.1, the following example applies when retrieving all ports of a certain type (FE or 1GE) on any of the following circuit packs:

- LNW70

Note that only ports of the type specified are shown. In this example the first two ports are BOUNDARY in TRANS mode, the second two are BOUNDARY port in 802.1TAG mode. Not all parameters are shown.

```
RTRV-EPORT-1GE:TID123:d-all:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d-1,1GE::porttype=BOUNDARY,epmode=NMON,eppm=ENABLE"
"d-1,1GE::vrtswid=1,dftpporttag=3,dftpri=1"
"d-1,1GE::macaddr=123456789ABC,tagfilter=enable"
"d-1,1GE::trafmgmtmd=PORT,bcratelimit=10"
"d-1,1GE:123,Port Tag"
"d-2,1GE::porttype=BOUNDARY,epmode=NMON,eppm=ENABLE"
"d-2,1GE::vrtswid=1,dftpporttag=3,dftpri=1"
"d-2,1GE::macaddr=123456789ABD,tagfilter=enable"
"d-2,1GE::trafmgmtmd=PORT,bcratelimit=10"
"d-2,1GE:123,Port Tag"
"d-3,1GE::porttype=BOUNDARY,epmode=NMON,eppm=ENABLE"
"d-3,1GE::vrtswid=2,dftvlan=7"
"d-3,1GE::dftpri=1,almlvl=CR,fcmd=DISABLE,fcmdo=DISABLE"
"d-3,1GE::macaddr=123456789ABE,tagfilter=enable"
"d-3,1GE::trafmgmtmd=TAGPORT,bcratelimit=10"
"d-3,1GE:123,VLAN"
"d-3,1GE:456,VLAN"
"d-4,1GE::porttype=BOUNDARY,epmode=NMON,eppm=ENABLE"
"d-4,1GE::vrtswid=2,dftvlan=8"
"d-4,1GE::dftpri=1,almlvl=CR,fcmd=DISABLE,fcmdo=DISABLE"
"d-4,1GE::macaddr=123456789DEF,tagfilter=enable"
"d-4,1GE::trafmgmtmd=TAGPORT,bcratelimit=10"
"d-4,1GE:789,VLAN"
"d-4,1GE:ABC,VLAN"
;
```

For the LNW63 circuit pack, the following example applies to an optical SFP GbE port:

```
RTRV-EPORT-GE:TID123:d1-1:123456;

IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d1-1,1GE::epmode=NMON,eppm=ENABLE,fcmd=AUTO,mtu_size=1500"
"d1-1,1GE::admin=ENABLE",tcamd=ENABLE,autoneg=ENABLE"
"d1-1,1GE::fcmdo=ENABLE,ethfcs=ENABLE"
"d1-1,GE::rcf=ENABLE,rcf_linkdown=ENABLE,rcf_ldhotmr=200"
;
```

Starting in Release 9.0, the following example applies when *vlantagmd*=NOTAG and the *aid* points to an Electrical SFP (FE) Ethernet port:

RTRV-EPORT-FE:TID123:d1-1:123456;

```
IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d1-1,FE::epmode=NMON,eppm=ENABLE,mtu_size=1500,"
"d1-1,FE::fcmd=DISABLE,fcmdo=DISABLE,tcamd=ENABLE,mso=MASTER"
"d1-1,FE::mdix=AUTO,mdixo=AUTOMDIX"
"d1-1,FE::rcf=ENABLE,rcf_linkdown=ENABLE,rcf_ldhotmr=200"
;
```

Starting in Release 9.0, the following example applies when *vlantagmd*=NOTAG and the *aid* points to an Electrical SFP (GE) Ethernet port:

RTRV-EPORT-1GE:TID123:d1-1:123456;

```
IP 123456
<

TID123 00-01-01 08:00:00
M 123456 COMPLD
"d1-1,1GE::epmode=NMON,eppm=ENABLE,mtu_size=1500,"
"d1-1,1GE::fcmd=AUTO,fcmdo=ENABLE,tcamd=ENABLE,mso=MASTER"
"d1-1,1GE::mdix=AUTO,mdixo=AUTOMDIX"
"d1-1,FE::rcf=ENABLE,rcf_linkdown=ENABLE,rcf_ldhotmr=200"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

Starting in Release 3.0, if the **ED-EQPT** was used to set *eccmode* to STS3c, ports 17-24 are not valid for the LNW71 circuit pack. If the user enters a LAN port number between 17 and 24, the following error response is returned.

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, aid not valid for STS3c ECCMODE mode */
;
```

If the user enters a **modifier** value FE and the Ethernet port (**aid**) does not correspond with a port 5 to 8 on the LNW70, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Ethernet Port is not FE */
;
```

If the user enters a **modifier** value 1GE and the Ethernet port (**aid**) does not correspond with a port 1 to 4 on the LNW70, the following IDNV error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, Ethernet Port is not 1GE */
;
```

Starting in Release 6.0, the previous two responses for the LNW70 are replaced by the following. On all Ethernet circuit packs, if the user enters an **aid** for a port whose rate is inconsistent with the **modifier**, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

RELATED TL1 MESSAGES

ED-EPORT

NAME

RTRV-EQPT: Retrieve Equipment

The **RTRV-EQPT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-EQPT: *tid:aid:ctag;*

DESCRIPTION

The **RTRV-EQPT** command is initiated to retrieve the circuit pack and version number information for one or more slots and shelf information.

Starting in Release 4.0, **RTRV-EQPT** also returns information about sockets and optical modules.

Starting in Release 6.0, **RTRV-EQPT** also returns information about pluggable electrical modules.

Starting in Release 6.0, **RTRV-EQPT** also returns information about non-volatile memory (NVM) sockets and modules on the system controller circuit pack.

When the network element (NE) receives a **RTRV-EQPT** command from the user, the NE will display the circuit pack and version number information for the requested slot(s).

Execution of this command will not be recorded in the Security log.

The **RTRV-EQPT** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-341. RTRV-EQPT Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. <i>aid</i> determines the slot address whose equipage is to be reported. If ALL is specified, all slots are reported. Refer to Appendix A for the valid AIDs. In a multi-shelf DCS system, ALL retrieves all information associated with that modifier for the main shelf only. To retrieve all information associated with that modifier for a subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number. Starting in Release 4.0, the value of <i>aid</i> can be a removable transceiver socket AID. Starting in Release 6.0, the value of <i>aid</i> can be a non-volatile memory (NVM) socket AID. Starting in Release 7.0, <i>aid</i> can have the value SHELF to report information about the shelf hardware but not about the equipage of the slots.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

In response to a valid **RTRV-EQPT** command, the following output report is returned:

```

sid date time
M ctag COMPLD
  "aid::spec_block"
    ...
    ...
  "aid::spec_block"
;

```

In response to a valid **RTRV-EQPT** command, the following output report is returned for a circuit pack with pluggable transmission modules. The data for the circuit pack slot is output first, followed by the data for each of the sockets on the circuit pack. Data for a socket is output only if the socket is provisioned to be equipped for a pluggable transmission module, and it is output even if the socket

is empty. In this output format example, "*socket_n_aid*" is the output parameter *aid*.

```
sid date time
M ctag COMPLD
  "aid::spec_block"
  "socket_1_aid::spec_block"
  "socket_2_aid::spec_block"
  "socket_3_aid::spec_block"
  "socket_4_aid::spec_block"
;
```

In response to a valid **RTRV-EQPT** command, with **aid=ALL**, the following output report is returned for a circuit pack with removable optical or electrical transceivers, the system controller with NVMs and the shelf. The data for the system controller is output first, followed by the data for each of the NVMs on the system controller.

```
sid date time
M ctag COMPLD
  "aid::spec_block"
  "socket_1_aid::spec_block"
  "socket_2_aid::spec_block"
  "socket_3_aid::spec_block"
  "socket_4_aid::spec_block"
  ...
  ...
  "ctl-1::spec_block"
  "ctl-1-nvm-1::spec_block"
  "ctl-1-nvm-2::spec_block"
  "shelf::spec_block"
;
```

The following output report is returned when the input **aid** for a **RTRV-EQPT** command is a valid socket AID. Data for a socket is output only if the socket is provisioned to be equipped for a pluggable transmission module, and it is output even if the socket is empty.

```
sid date time
M ctag COMPLD
  "aid::spec_block"
;
```

Starting in Release 6.0, if socket is not provisioned to be equipped for a pluggable transmission module, *name* has the value UNEQ and all other module parameters will have the value "-".

The NE returns the following error response if there is an illegal circuit pack for a slot:

```
sid date time
M ctag COMPLD
"aid::TYPE=?,CLEI=illegal_CP_type"
;
```

The NE returns the following response if there is a valid but unexpected circuit pack in a previously provisioned slot (e.g.:28DS1 in a 12DS3/EC1 provisioned slot):

```
sid date time
M ctag COMPLD
"aid::TYPE=12DS3/EC1,CLEI=installed_CP_(28DS1)_does_not_match_inventory"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to the **RTRV - EQPT** command. In addition, the following requirements pertaining to the output parameters also apply to **RTRV - EQPT**:

Table 2-342. RTRV - EQPT Output Parameters

Parameter Name	Description
<i>aid</i>	Access Identifier. <i>aid</i> determines slot address whose equipage is to be reported. If ALL is specified, all slots are reported. Refer to Appendix A for the valid AIDs. Starting in Release 4.0, the value of aid can be a socket AID. Starting in Release 6.0, the value of aid can be an NVM socket AID.
<i>spec_block</i>	The following are the <i>spec_block</i> parameters.

Table 2-343. RTRV -EQPT *spec_block* Output Parameters (cont 1 of 15)

Parameter Name	Description
<i>type</i>	This is the mnemonic name that identifies the circuit pack type. Refer to Appendix D for a valid list of Circuit pack Types. Starting in Release 4.0, <i>type</i> also identifies the mnemonic name of the shelf. Starting in Release 6.0, <i>type</i> also identifies the mnemonic name of the NVMs.
<i>app</i>	Apparatus code. It uniquely identifies the specific function provided by the circuit pack. Circuit packs with different APPs are not interchangeable, even if they have the same name. This parameter is an alphanumeric string of up to 10 characters. For shelves, this field contains the shelf comcode.
<i>brst</i>	Burst size. This parameter controls the size of the burst allowed by the basic peak information rate (PIR) policer. This parameter applies to the LNW66, LNW67, and LNW68 circuit packs starting in Release 3.0. If the aid points to an LNW74 circuit pack then this parameter is not output. Starting in Release 5.1, if the aid points to an LNW70 circuit pack then this parameter is not output. Starting in Release 6.0, if the aid points to an LNW78 circuit pack then this parameter is not output. Starting in Release 7.1, if the aid points to an LNW170 circuit pack then this parameter is not output.
<i>cint</i>	Credit interval for adding tokens to the token buckets used by the basic peak information rate (PIR) policer. This parameter affects policing for all VLANs (in 802.1Q mode) or all port tags (in transparent mode). This parameter applies to the LNW66, LNW67, and LNW68 circuit packs starting in Release 3.0. If the aid points to an LNW74 circuit pack then this parameter is not output. Starting in Release 5.1, if the aid points to an LNW70 circuit pack then this parameter is not output. Starting in Release 6.0, if the aid points to an LNW78 circuit pack then this parameter is not output.

Table 2-343. RTRV-EQPT *spec_block* Output Parameters (cont 2 of 15)

Parameter Name	Description
	Starting in Release 7.1, if the <i>aid</i> points to an LNW170 circuit pack then this parameter is not output.
<i>clei</i>	Common language equipment ID, as stored in the EEPROM on the circuit pack. This parameter is a 10-character alphanumeric code. Starting in Release 4.0, this parameter applies to both slot and socket AIDs. Starting in Release 4.0, the <i>clei</i> for the shelf will also be returned. Starting in Release 6.0, the <i>clei</i> for the NVMs will also be returned.
<i>ccode</i>	Pluggable transmission module commercial code & suffix. This parameter is a 12-digit code. Beginning in Release 9.0, for PTMs with a reported <i>ipn</i> value, this parameter is reported with a value of "-". This parameter applies only to socket AIDs.
<i>cpmode</i>	Circuit pack mode. This parameter is only applicable to the LNW26 and LNW26B circuit packs. It indicates the functional mode of the circuit pack. Values for the LNW26 family of circuit pack: ■ NORMAL Starting in Release 6.0, the LNW26 circuit pack is not supported Values for the LNW26B circuit pack family: ■ NORMAL ■ ENHANCED Starting in Release 6.0, NORMAL mode for the LNW26B circuit pack family is not supported.
<i>datecde</i>	Pluggable transmission module date code. This parameter is a 8-character alphanumeric code in the format yymmddss, where ss is a vendor specific lot code. If ss is blank, only the 6-character date, yymmdd is returned. This parameter applies only to socket AIDs.
<i>datatype</i>	Data Type. This parameter pertains only to the LNW73 circuit pack. Values for <i>datatype</i> are as follows:

Table 2-343. RTRV-EQPT *spec_block* Output Parameters (cont 3 of 15)

Parameter Name	Description
	■ FC-FICON Fibre Channel and FICON. In this mode, data ports can be configured individually for Fibre Channel or FICON. (see ED-DPORT). ■ ESCON In this mode, all ports on the circuit pack are set for ESCON.
<i>eccmode</i>	Ethernet Cross-connect Mode. This mode only pertains to the LNW71 Fast Ethernet circuit pack. This mode cannot be changed if there are any existing cross-connections. Values are as follow: ■ STS1 ■ STS3c Starting in release 5.1, this parameter is also used for the LNW70 Ethernet pack to select either the STS1 mode or the STS12c mode. Starting in release 7.1, this parameter is also used for the LNW170 Ethernet packs to select either the STS1 mode or the STS12c mode. Starting in release 6.0, this parameter is also used for the LNW78 Ethernet packs to select either the STS1 mode or the STS12c mode. Values are as follow: ■ STS1 ■ STS12c
<i>eci</i>	Equipment catalog Item, as stored in the EEPROM on the circuit pack. This parameter is a 6-digit numeric code identifying each circuit pack. This code corresponds to the bar-code label on the faceplate of the circuit pack and is uniquely equivalent to CLEI. Starting in Release 4.0, the <i>eci</i> for the shelf will also be returned. Starting in Release 6.0, the <i>eci</i> for the NVMs will also be returned.

Table 2-343. RTRV-EQPT *spec_block* Output Parameters (cont 4 of 15)

Parameter Name	Description
<i>efreq</i>	Expected DWDM Frequency. Values: integers in the range from 9200 to 9590, in increments of 10 or NA. The <i>efreq</i> values are equivalent to DWDM frequencies 192.0 to 195.9 THz. <i>efreq</i> only applies to sockets associated with OC-48 and OC-192 lines. Starting in Release 7.1.1, <i>efreq</i> also applies to sockets associated with OTU2 lines. Starting in Release 8.0, this parameter also applies to slots equipped with non-PTM based OC-48 and OC-192 OLIU DWDM circuit packs. Starting in Release 8.0, this parameter also applies to slots equipped with DWDM compatible LNW57 and LNW60 circuit packs. <i>efreq</i> is used to verify that the frequency of an installed DWDM PTM is the expected frequency. If the PTM frequency, <i>freq</i>, as determined by the frequency encoding on the PTM EEPROM, is not the same as <i>efreq</i>, then an "unexpected or failed Pluggable Transmission Module" alarm is issued. If the value of <i>efreq</i> is NA, then there is no PTM frequency verification. <i>efreq</i> is also used to verify that the expected frequency of the specified optical ports are the same when provisioning an optical cross-connect (see ENT - CRS - OCH). If the frequencies of the optical ports are different, or if <i>efreq</i> = NA, then provisioning the cross-connect is denied. Starting in Release 8.0, <i>efreq</i> is also used to verify that the expected frequency of a non-PTM based DWDM or DWDM compatible optical line matches the frequency of the other specified optical port when an optical cross-connect is provisioned (see ENT - CRS - OCH). When a PTM or non-PTM based circuit pack is removed and UPD - SYS is executed to transition the socket or slot to be unequipped, if an optical cross-connect exists to the port, the port or socket does not transition to be unequipped and the value of <i>efreq</i> is not changed.

Table 2-343. RTRV-EQPT *spec_block* Output Parameters (cont 5 of 15)

Parameter Name	Description
<i>enetmd</i>	Ethernet Port Mode. This parameter sets the Ethernet ports to operate with different type of SFPs for the circuit pack. Values for <i>enetmd</i> are as follows: ■ GX_FX For the LNW70: Port 1-4 are set to operate with optical GbE SFPs. Port 5-8 are set to operate with optical FE SFPs. For the LNW170: Port 1-4 are set to operate with optical GbE SFPs. Port 5-8 are set to operate with optical FE SFPs. For the LNW78: Port 1-2 are set to operate with optical GbE SFPs. Port 5-8 are set to operate with optical FE SFPs. ■ GT_FX For the LNW70: Port 1-4 are set to operate with electrical GbE SFPs. Port 5-8 are set to operate with optical FE SFPs. For the LNW170: Port 1-4 are set to operate with electrical GbE SFPs Port 5-8 are set to operate with optical FE SFPs. For the LNW78: Port 1-2 are set to operate with electrical GbE SFPs Port 5-8 are set to operate with optical FE SFPs. ■ FT_FX For the LNW70: Port 1-4 are set to operate with electrical FE SFPs. Port 5-8 are set to operate with optical FE SFPs. For the LNW170: Port 1-4 are set to operate with electrical FE SFPs. Port 5-8 are set to operate with optical FE SFPs. For the LNW74: Electrical FE backplane ports 1-16 are enabled. Port 17-24 are set to operate with optical FE SFPs.

Table 2-343. RTRV-EQPT *spec_block* Output Parameters (cont 6 of 15)

Parameter Name	Description
■ FX	For the LNW74: Electrical FE backplane ports 1-16 are disabled and operations on these ports are denied. Port 17-24 are set to operate with optical FE SFPs. FX is the only value for LNW74 packs equipped in the growth slots.
■ GX_FT	For the LNW70: Port 1-4 are set to operate with optical GbE SFPs. Port 5-8 are set to operate with electrical FE SFPs. For the LNW78: Port 1-2 are set to operate with optical GbE SFPs. Port 5-8 are set to operate with electrical FE SFPs. For the LNW170: Port 1-4 are set to operate with optical GbE SFPs. Port 5-8 are set to operate with electrical FE SFPs.
■ GT_FT	For the LNW70: Port 1-4 are set to operate with electrical GbE SFPs. Port 5-8 are set to operate with electrical FE SFPs. For the LNW78: Port 1-2 are set to operate with electrical GbE SFPs. Port 5-8 are set to operate with electrical FE SFPs. For the LNW170: Port 1-4 are set to operate with electrical GbE SFPs. Port 5-8 are set to operate with electrical FE SFPs.
■ FT	For the LNW70: Port 1-8 are set to operate with electrical FE SFPs.

Table 2-343. RTRV-EQPT *spec_block* Output Parameters (cont 7 of 15)

Parameter Name	Description
	For the LNW170: Port 1-8 are set to operate with electrical FE SFPs. ■ GX For the LNW63: Port 1-4 are set to operate with optical GbE SFPs. For the LNW64: Port 1-8 are set to operate with optical GbE SFPs. ■ GT For the LNW63: Port 1-4 are set to operate with electrical GbE SFPs. For the LNW64: Port 1-8 are set to operate with electrical GbE SFPs. ■ GT_GX For the LNW64: Port 1-4 are set to operate with electrical GbE SFPs. Port 5-8 are set to operate with optical GbE SFPs.
<i>feff_code</i>	Far End Fault Indication Code. <i>feff_code</i> is a 2 byte hexadecimal number in the range 03 to FE. <i>feff_code</i> is applicable only for LNW74 circuit packs.
<i>freq</i>	The DWDM PTM frequency. The range is 9200 to 9590, which is equivalent to 192.0 to 195.9 THz. <i>freq</i> applies to sockets associated with OC-48 and OC-192 lines. If the socket is currently empty or unreadable, the value of <i>freq</i> is "?". If the PTM is not a DWDM PTM, the value of <i>freq</i> is "NA". <i>freq</i> also applies to sockets associated with OTU2 lines. Starting in Release 8.0, this parameter also applies to slots equipped with non-PTM based OC-48 and OC-192 OLIU DWDM circuit packs.

Table 2-343. RTRV-EQPT *spec_block* Output Parameters (cont 8 of 15)

Parameter Name	Description
<i>intftype</i>	Interface Type. This parameter sets the electrical interface type of a group to T1 or E1. This parameter is returned when <i>type</i>=56DS1E1. Though the <i>aid</i> is that of a slot, the value of <i>intftype</i> applies to the slot group. Valid values are: ■ DS1 The group is provisioned to provide 56 DS1 ports in 2 STS1s. The first STS1 uses ports 1-28, and the second uses ports 29-56. ■ E1 The group is provisioned to provide 56 E1 ports: the first 2 STS1s contain 21 E1 ports, and the third STS1 contains 14 E1 ports. Either 3 STS1 or a single STS3c cross-connect are allowed. When STS1 cross-connected, each E1 is mapped to a VT2; when STS3c cross-connected, each E1 is mapped to a VC12. The first STS1 uses ports 1-21, the second uses ports 22-42, and the third uses ports 43-56.
<i>ipn</i>	Product Number. This parameter is a 12-character ASCII string. If <i>name</i> has the value UNEQ or a comcode is specified in <i>ccode</i>, the value of <i>ipn</i> is "-". If the socket is currently empty or unreadable, the value of <i>ipn</i> is "?". This parameter applies only to socket AIDs.
<i>lbc</i>	PTM Laser Bias Current, in milliamperes. The range is 0.0 to 131.0. Accuracy is at least +/-10% of nominal value. SFF-8472 calls this Measured TX bias current. <i>lbc</i> only applies to OLIU sockets. If <i>name</i> has the value UNEQ, the value of <i>lbc</i> is "-". If the socket is currently empty, the value of <i>lbc</i> is "?". If the PTM doesn't support monitoring, the value of <i>lbc</i> is "NA".
<i>mfgid</i>	Manufacture Identifier. This parameter is a 4-character alphanumeric code. Beginning in Release 9.0, for PTMs with a reported <i>ipn</i> value, this parameter is reported with a value of "-". This parameter applies only to socket AIDs.

Table 2-343. RTRV-EQPT *spec_block* Output Parameters (cont 9 of 15)

Parameter Name	Description
<i>mst</i>	Socket Maintenance State. This parameter applies only to pluggable transmission module sockets which are provisioned to be equipped (that is, only to sockets for which <i>name</i> is not reported as UNEQ). Values for <i>mst</i> are: ■ NORMAL When <i>mst</i>=NORMAL, a subsequent socket removal alarm is reported using the applicable assigned ASAP alarm severity level. See RTRV-ASAP-ASGNMT and RTRV-ASAP-PROF, <i>sa_sktrmv</i> or <i>nsa_sktrmv</i>. ■ MAINT When <i>mst</i>=MAINT, a subsequent socket removal alarm is either not reported, if the applicable assigned ASAP alarm severity level is NR, or reported as a standing condition (using the NA alarm severity level) regardless of the assigned ASAP alarm severity level. Also, when <i>mst</i>=MAINT, a standing condition, "PTM maintenance IP", is issued against the socket AID, along with an associated ABN (abnormal) indication.
<i>name</i>	Pluggable transmission module name, representing the rate supported by the pluggable transmission module. The values are: OM622 for OC-12 modules OM155 for OC3 modules OM2.5G for OC48 modules OM1G for Gigabit Ethernet modules OMFE for Fast Ethernet modules OMFC for Fibre Channel/FICON modules OMESCON for ESCON modules OM10G for OC-192/STM64 modules EM1G for electrical Gigabit Ethernet modules EMFE for electrical Fast Ethernet modules If a socket is not provisioned for a pluggable transmission module, <i>name</i> has the value UNEQ. When <i>name</i> has the value UNEQ, all other module parameters will have the value "-".

Table 2-343. RTRV-EQPT *spec_block* Output Parameters (cont 10 of 15)

Parameter Name	Description
	This parameter applies only to socket AIDs. Some pluggable transmission modules can support multiple rates. For modules supporting more than one rate, the <i>name</i> value will include each rate, separated by "/", for example, "OM1G//OMFC".
<i>opr</i>	PTM Optical Power—Receive, in dBm. The range is -40.0 to +8.2 or "LOS" and the accuracy is +-3dB. SFF-8472 calls this Measured RX received optical power. <i>opr</i> only applies to OLIU sockets. If <i>name</i> has the value UNEQ, the value of <i>opr</i> is "-". If the socket is currently empty, the value of <i>opr</i> is "?". if the PTM doesn't support monitoring, the value of <i>opr</i> is "NA".
<i>opr</i>	PTM Optical Power—Receive Type. This parameter indicates the type of monitoring of the reported value of <i>opr</i>. The values are: — OMA for Optical Modulation Amplitude — AVG for average power — NA if monitoring is not supported on the PTM <i>opr</i> only applies to OLIU sockets. If <i>name</i> has the value UNEQ, the value of <i>opr</i> is "-". If the socket is currently empty, the value of <i>opr</i> is "?".
<i>opt</i>	PTM Optical Power—Transmit, in dBm. Range is -40 to +8.2. Accuracy is +- 3dBm. If the laser is turned off, then NA is returned. SFF-8472 calls this Measured coupled TX output power. <i>opt</i> only applies to OLIU sockets. If <i>name</i> has the value UNEQ, the value of <i>opt</i> is "-". If the socket is currently empty, the value of <i>opt</i> is "?". if the PTM doesn't support monitoring, the value of <i>opt</i> is "NA".
<i>prodid</i>	Pluggable transmission module product identifier. This parameter is a 10-digit hexadecimal code. This parameter applies only to socket AIDs.
<i>prot_state</i>	Slot protection state. This parameter specifies if there are any provisioned protection groups for the slot. Values are PROT and UNPROT.

Table 2-343. RTRV-EQPT *spec_block* Output Parameters (cont 11 of 15)

Parameter Name	Description								
	<i>prot_state</i> is reported for all packs, except the system controller, regardless of which mains are equipped. — <i>prot_state</i> = UNPROT for all Ethernet/data packs — <i>prot_state</i> = PROT for all TDM electrical packs — <i>prot_state</i> = PROT for all packs in the MAIN slots — <i>prot_state</i> = UNPROT for OLIUs if and only if all ports are provisioned as 0x1 (see RTRV-rr : application). <i>prot_state</i> for an OLIU is also UNPROT if the <i>prot_state</i> for a pack in the companion slot is UNPROT For companion slots equipped with the same OLIUs circuit packs, <i>prot_state</i> is a function of the application provisioning. <i>prot_state</i> is reported for all slots with accepted packs. Starting in Release 7.1, for the LNW170, the value of <i>prot_state</i> may be either PROT or UNPROT. When a slot pair is equipped with LNW170 circuit packs and the value of <i>prot_state</i> is PROT, LNW170 circuit packs are equipment protected and certain corresponding ports on the companion circuit packs are assigned to the same fixed link aggregation groups (LAG) as follows: <table border="0"> <tr> <td>LAG1:</td><td>Slot 1 Port 1, Slot 2 Port 1</td></tr> <tr> <td>LAG2:</td><td>Slot 1 Port 2, Slot 2 Port 2</td></tr> <tr> <td>LAG3:</td><td>Slot 1 Port 5, Slot 2 Port 5</td></tr> <tr> <td>LAG4:</td><td>Slot 1 Port 6, Slot 2 Port 6</td></tr> </table> When the value of <i>prot_state</i> is UNPROT, if the NE is equipped with VLF MAINs, the LNW170 circuit packs are 0x1 protected and the corresponding ports on the companion packs operate independently. If the NE is equipped with non-VLF MAINs, the LNW170 in slot 1 is 0x1 protected and any circuit pack in slot 2 is alarmed.	LAG1:	Slot 1 Port 1, Slot 2 Port 1	LAG2:	Slot 1 Port 2, Slot 2 Port 2	LAG3:	Slot 1 Port 5, Slot 2 Port 5	LAG4:	Slot 1 Port 6, Slot 2 Port 6
LAG1:	Slot 1 Port 1, Slot 2 Port 1								
LAG2:	Slot 1 Port 2, Slot 2 Port 2								
LAG3:	Slot 1 Port 5, Slot 2 Port 5								
LAG4:	Slot 1 Port 6, Slot 2 Port 6								
<i>ptmmaxrate</i>	XFP Maximum Supported Bit Rate. This parameter applies only to 10G XFP PTMs. Values, in Gb/s are; 9.95, 10.3, 10.5, 10.7 and 11.1.								
<i>qual</i>	Pluggable transmission module qualifier. If the <i>name</i> value indicates that the Pluggable transmission module supports multiple rates, the <i>qual</i> parameter value will also indicate multiple rates, with qualifiers for each rate separated by '/'. The multiple rates specified by the <i>name</i> parameter and the multiple qualifiers specified by the <i>qual</i> parameter will be in the same order such that each qualifier is associated with the corresponding rate name.								

Table 2-343. RTRV-EQPT *spec_block* Output Parameters (cont 12 of 15)

Parameter Name	Description
	For OC-3 and OC-12, the values are: 1.5LR1, 1.3LR1, 1.3IR1 and 1.3SR1 Starting in Release 5.0, the values for OC-3 and OC-12 also include 1.3SR1, 1.3 IR1, 1.3LR1,1.5IR2, 1.5LR2 and 1.5LR3 For OC-48, possible values are: 1.3SR1, 1.3 IR1, 1.3LR1,1.5IR2, 1.5LR2 and 1.5LR3 For OC-192/STM64 XFPs, the values are: 1.3VSR(I-64.1r), 1.3SR1(I-64.1), -(I-64.2r), 1.5SR2(I-64.2), -(I-64.3), -(I-64.5), 1.3IR1(S-64.1), -(S-64.2a), 1.5IR2(S-64.2b), -(S-64.3a), 1.5IR3(S-64.3b), -(S-64.5a), -(S-64.5b), 1.3LR1(L-64.1r), 1.5LR2a/c(L-64.2a), 1.5LR2b(L-64.2b), -(L-64.2c), 1.5LR3(L-64.3), 1.5LR2a/c(P1L1-2D2), 1.5VR2a(V-64.2a), -(V-64.2b), 1.5VR3(V-64.3) These values are in the form "SONET value (SDH value)". If there is no SONET equivalent, the value is in the form "-(SDH value)". For OC-3/OC-12 CWDM SFPs, the value is CWDM-LR. For OC-48/STM-16 CWDM SFPs the values is SL-16.2 For OC-192/STM64 DWDM XFPs, the values are DWDM-LR(DW100U-2AxC(F)) and DWDM-VR(DW100C-2AxC(F)). For OC-192/STM64 CWDM XFPs, the values are CWDM-SH and CWDM-LH. For Gigabit Ethernet, the values are: 1000BASE-SX, 1000BASE-LX, 1000BASE-ZX, 1000BASE-CX and 1000BASE-T For Fast Ethernet, the values are: 100BASE-FX-SM and 100BASE-FX-MM Starting in Release 5.1, for Fast Ethernet, the values are: 100BASE-LX-SM and 100BASE-FX-MM For Fibre Channel the values returned are coded as a set of four fields separated by "-", e.g. "100-M5-SL-I". For each of these four fields, a Fibre Channel Pluggable transmission module may have one or more values. The multiple values for a field are separated by '/', for example, "100/200-M5/M6-SL-I". For ESCON, the values are: MMF and SMF. For electrical pluggable transmission modules, values are: 1000BASE-T and 100BASE-T.

Table 2-343. RTRV-EQPT *spec_block* Output Parameters (cont 13 of 15)

Parameter Name	Description
	Starting in Release 9.0, for Fast Ethernet SFPs, the values include 100BASE-FX, 100BASE-ZX.. This parameter applies only to socket AIDs.
<i>sn</i>	Serial number, as stored in the EEPROM on the circuit pack. This parameter is a 12- character alphanumeric code uniquely identifying each circuit pack and indicating the date and place of manufacture. Starting in Release 6.0, the <i>sn</i> for the NVMs will also be returned.
<i>ssbits</i>	SS bits. For low-speed OC-n lines, this parameter specifies the value of the outgoing SS bits in the H1 pointer byte of all outgoing STSn signals transported in the OC-n line overhead (incoming SS bits are ignored). <i>ssbits</i> is provisioned on a circuit pack basis and applies to all optical ports on the circuit pack. Values: ■ SS00 The outgoing SS bits are set to '00'. ■ SS10 The outgoing SS bits are set to '10'. This parameter will be output only if the <i>aid</i> points to a slot containing a low speed OC-n circuit pack. Starting in Release 7.1, <i>ssbits</i> also applies to LNW705 circuit pack client ports that are provisioned as OC-n ports (see RTRV-OTPE).
<i>ssn</i>	Series number, as stored in the EEPROM on the circuit pack and it is used to indicate interchangeability among the circuit packs with the same circuit pack type and apparatus code, but different manufacturing versions. This parameter is a code between 4 to 6 characters, with format Sn-n**, where n is a numeric digit and “**” means two optional suffix characters. For example, S1-1 or S1-1M. Note that the series number normally includes a colon (:). Since the colon is used as a TL1 field separator, a dash (-) is used instead by TL1. In general, a circuit pack can be replaced by another pack that has the same apparatus code and the same or later series number. Starting in Release 6.0, the <i>ssn</i> for the NVMs will also be returned.
<i>taudit</i>	LNW70 transmission audit. The transmission audit is a consistency check between counters on various hardware devices on the LNW70 circuit pack. A transmission audit failure will result in a LAN or VCG segment audit failed alarm or equipment NP audit failed alarm. The values are: ENABLED The transmission audit function is enabled.

Table 2-343. RTRV-EQPT *spec_block* Output Parameters (cont 14 of 15)

Parameter Name	Description
	DISABLED The transmission audit function is disabled. <i>taudit</i> is available in Release 5.1.5 and applies only to the LNW70 circuit pack. <i>taudit</i> is not available in Release 6.0. <i>taudit</i> is not available in Release 7.0. <i>taudit</i> is available again starting in Release 7.1 and applies only to the LNW70 and LNW170 circuit packs.
<i>ttemp</i>	PTM Transceiver Temperature in Celsius. For SFP PTMs, the range is -128.0 to +128.0. Accuracy is +-3. For XFP PTMs, the range is -40 to +125. Accuracy is +-3. <i>ttemp</i> only applies to OLIU sockets. If <i>name</i> has the value UNEQ, the value of <i>ttemp</i> is "-". If the socket is currently empty, the value of <i>ttemp</i> is "?". If the PTM doesn't support monitoring, the value of <i>ttemp</i> is "NA".
<i>vlantagmd</i>	Virtual LAN tagging mode. This parameter is an alphanumeric string of up to 8 characters. This parameter is ONLY reported for slots containing an Ethernet circuit pack. Starting in Release 7.1, <i>vlantagmd</i> also applies to LNW705 client ports that are provisioned as Ethernet ports (see RTRV-OTPE). Values: ■ 802.1TAG (IEEE 802.1Q mode) ■ TRANS (Transparent mode) ■ NOTAG (No Tag mode) Starting in release 5.0, the values TRANS and 802.1TAG are not supported for the LNW70. Instead a new value (SWITCHED) is defined in support of Switched Ethernet. Additional value: ■ SWITCHED Starting in release 7.1, the value SWITCHED is also supported for the LNW170 circuit pack. NOTAG mode is the only mode of operation for the LNW71 Fast Ethernet circuit pack.

Table 2-343. RTRV-EQPT *spec_block* Output Parameters (cont 15 of 15)

Parameter Name	Description
	NOTAG mode is the only mode of operation for the LNW74 Fast Ethernet circuit pack. No tag mode is the only mode of operation for the LNW63 private line Ethernet circuit pack. No tag mode is the only mode of operation for the LNW64 private line Ethernet circuit pack. No tag mode is the only mode of operation for the LNW87 private line Ethernet circuit pack. SWITCHED mode is the only mode of operation for the LNW78 circuit pack.
<i>vrsn</i>	Version of the program. The version of the software currently stored in the circuit pack. This parameter is an alphanumeric string of up to 12 characters. The software is stored on the system controller circuit pack. Starting in Release 6.0, the software is stored on the NVMs on the system controller circuit pack. This parameter also reports the generic number running on Smart Packs. Refer to Appendix D for a list of Smart Packs. The number is a series of 3 or more numbers between 0 and 255, separated by periods. If the Smart Pack generic is not available, a question mark "?" is printed. Beginning in Release 7.0, <i>vrsn</i> is a string containing up to 3 groups of characters separated by a period ".". Each group may contain a combination of alphanumeric characters and slashes "/".
<i>vt_vcat</i>	VT Virtual Concatenation. This parameter specifies the number of STS-1s dedicated to VT virtual concatenation. This parameter is valid only for Ethernet circuit packs. Values are as follows: The values are 0 and 12. Note: <i>vt_vcat</i> applies only to the LNW74 circuit pack.
<i>waveln</i>	The PTM wavelength. <i>waveln</i> is a decimal number in the format nnnn.nn. <i>waveln</i> is returned only for optical PTMs. If <i>name</i> has the value UNEQ, the value of <i>waveln</i> is "-". If the socket is currently empty or unreadable, the value of <i>waveln</i> is "?".

The NE will include in its response equipage information on only equipped slots.

The NE will successfully complete the **RTRV-EQPT** command and return a COMPLD, even if the **aid** in the command points to a slot(s) that is/are not equipped.

If the circuit pack in an equipped slot is removed, declared failed, or replaced with a pack of different type, the *type* of the provisioned (removed/failed) circuit pack is retained and reported in the normal fashion, except in some specific cases where it is reported as specified in other requirements in this document. The *clei* value is lost and reported as a dash ("-") indicating that data is unavailable. The *clei* is reported other than a dash in some specific cases where error conditions are reported by the NE as specified in other requirements in this document.

Starting in Release 5.0, the apparatus code of the removed, declared failed, or replaced circuit pack, *app*, is also retained and reported in the normal fashion.

Question marks (?) are used in the parameter value fields to indicate that the information is unknown (for example, unrecognized circuit pack or unable to read version information from a circuit pack inserted into an unequipped slot).

If an incorrect circuit pack is inserted in a slot, the response from the NE will show the expected circuit pack for that slot and indicate that the current pack does not match inventory. In this case the *clei* field will be set to `illegal_CP_type` for that slot.

If a faulty circuit pack with unreadable version recognition information is placed in the slot, the report indicates that the circuit pack is failed and version information is unrecognizable. In this case the *clei* field will be set to `CP_failed_version_information_unrecognizable`.

If the system cannot report complete correct version information for a circuit pack because of a field upgrade, then the information that may be incorrect is followed by a "?".

If the system cannot report the information for a slot that is equipped with the legal pack but the actual CP type and the database do not match, then the *type* will be set to the expected pack type and the *clei* will be set to `installed_CP_(act_name)_does_not_match_inventory`.

The program version information is reported whenever the report includes information on a circuit pack on which a downloadable program is stored.

Starting in Release 4.0, the NE will include in its response equipage information on only equipped sockets.

The NE will successfully complete the **RTRV-EQPT** command and return a COMPLD, even if the **aid** in the command points to a socket(s) that is/are not equipped.

If the optical transceiver in an equipped socket is removed, declared failed, or replaced with a pluggable transmission module of different type, the *type* of the provisioned (removed/failed) optical transceiver is retained and reported in the normal fashion, except in some specific cases where it is reported as specified elsewhere in this document. The *clei* value is lost and reported as a dash ("-") indicating that data is unavailable. The *clei* is reported other than a dash in some specific cases where error conditions are reported by the NE as specified in other requirements in this document.

Question marks (?) are used in the parameter value fields to indicate that the information is unknown (for example, unrecognized optical transceiver or unable to read version information from a pluggable transmission module inserted into an unequipped socket).

Starting in Release 6.0, if a socket is not provisioned for a pluggable transmission module, *name* will be reported as UNEQ, and all other module parameters will have the value "-".

EXAMPLE INPUT/OUTPUT

The following example requests all the equipage contained in the entire system:

```
rtrv-eqpt:LT-DMX:all:123456;

LT-DMX 93-10-26 16:42:11
M 123456 COMPLD
"main-1::TYPE=OC-48,APP=LNW26,CLEI=,ECI=,SLN=,SSN=S1-2"
"main-2::TYPE=OC-48,APP=LNW26,CLEI=,ECI=,SLN=,SSN=S1-2"
"fn-b-1::TYPE=28DS1,APP=LNW6,SSN=25Iss,CLEI=25CLEI,ECI=25CECI,
SLN=,VRSN=1.1.1"
"fn-c-1::TYPE=12DS3EC1,APP=LNW6,SSN=25Iss,CLEI=25CLEI,ECI=25CECI,
SLN=,VRSN=4.1.1"
"fn-d-2::TYPE=10/100-FE,APP=LNW66,SSN=25Iss,CLEI=25CLEI,ECI=
25CECI,SLN=,VRSN=4.1.1,VLANTAGMD=802.1TAG"
"fn-a-2::TYPE=1GbE-SX,APP=LNW67,SSN=25Iss,CLEI=25CLEI,ECI=25CECI,
SLN=,VRSN=4.1.1,VLANTAGMD=802.1TAG"
"sysctl::TYPE=SYSCTL,APP=LNW1,SSN=S2-2,CLEI=,ECI=,SLN=,VRSN=7.4.5"
"shelf::TYPE=,APP=848632956,SSN=G1,CLEI=,ECI=,SLN="
;
```

Starting in Release 4.0, when the equipage of the entire system is requested, the shelf information will include the type of shelf and the shelf CLEI and ECI, in addition to the shelf comcode. The following example shows the 30A high capacity shelf:

```
rtrv-eqpt:LT-DMX:all:123456;

LT-DMX 03-11-15 10:21:01
M 123456 COMPLD
"main-1::TYPE=OC-48,APP=LNW26,CLEI=,ECI=,SLN=,SSN=S1-2"
"main-2::TYPE=OC-48,APP=LNW26,CLEI=,ECI=,SLN=,SSN=S1-2"
"fn-b-1::TYPE=28DS1,APP=LNW6,SSN=25Iss,CLEI=25CLEI,ECI=25CECI,
SLN=,VRSN=1.1.1"
"fn-c-1::TYPE=12DS3EC1,APP=LNW6,SSN=25Iss,CLEI=25CLEI,ECI=25CECI,
SLN=,VRSN=4.1.1"
"fn-d-2::TYPE=10/100-FE,APP=LNW66,SSN=25Iss,CLEI=25CLEI,ECI=25CECI,
SLN=,VRSN=4.1.1,VLANTAGMD=802.1TAG"
"fn-a-2::TYPE=1GbE-SX,APP=LNW67,SSN=25Iss,CLEI=25CLEI,ECI=25CECI,
SLN=,VRSN=4.1.1,VLANTAGMD=802.1TAG"
"sysctl::TYPE=SYSCTL,APP=LNW1,SSN=S2-2,CLEI=,ECI=,SLN=,VRSN=4.4.5"
"shelf::TYPE=DMX-HC-
30A,APP=848793287,SSN=,CLEI=SOM1400HRB,ECI=441658,SLN="
;
```

If an LNWX26B pack is in main and the pack is functioning as an LNWX26, the following normal completion response is returned:

```
rtrv-eqpt:LT-DMX:all:123456;

LT-DMX 93-10-26 16:42:11
M 123456 COMPLD
"main-1::TYPE=OC-48,APP=LNWX26B,CPMODE=NORMAL,CLEI=SOI399XDAC,
ECI=115207,SLN=,SSN=S1-2"
"main-2::TYPE=OC-48,APP=LNWX26B,CPMODE=NORMAL,CLEI=SOI399XDAC,
ECI=115207,SLN=,SSN=S1-2"
"fn-b-1::TYPE=28DS1,APP=LNW6,SSN=25Iss,CLEI=25CLEI,ECI=25CECI,SLN
=,VRSN=1.1.1"
"fn-c-1::TYPE=12DS3EC1,APP=LNW6,SSN=25Iss,CLEI=25CLEI,ECI=25CECI,
SLN=,VRSN=4.1.1"
"fn-d-2::TYPE=10/100-FE,APP=LNW66,SSN=25Iss,CLEI=25CLEI,ECI=25CECI,
SLN=,VRSN=4.1.1,VLANTAGMD=802.1TAG"
"fn-a-2::TYPE=1GbE-SX,APP=LNW67,SSN=25Iss,CLEI=25CLEI,ECI=25CECI,
SLN=,VRSN=4.1.1,VLANTAGMD=802.1TAG"
"sysctl::TYPE=SYSCTL,APP=LNW1,SSN=S2-2,CLEI=,ECI=,SLN=,VRSN=7.4.5"
"shelf::TYPE=,APP=848632956,SSN=G1,CLEI=,ECI=,SLN="
;
```

Starting in Release 6.0, the previous example is obsolete.

The following shows an example of the output for a function slot that contains an LNW8 56DS1E1 circuit pack.

```
rtrv-eqpt:LT-D011:fn-d-1:123456;  
  
LT-D011 93-10-26 16:42:11  
M 123456 COMPLD  
"fn-d-1::TYPE=56DS1E1,APP=LNW8,SSN=S1-1,CLEI=SOCMB0NJAA,ECI=29728--  
9,INTFTYPE=DS1"  
;
```

Starting in Release 6.0, the previous example does not apply.

The following shows an example of the output for a function slot that contains an LNW49 quad OC-12 circuit pack with all sockets unequipped.

```
rtrv-eqpt:LT-D011:fn-b-1:123456;  
  
LT-D011 93-10-26 16:42:11  
M 123456 COMPLD  
"fn-b-1::TYPE=40C-12,APP=LNW49,SSN=S1-1,CLEI=SOI9T4UCAA,ECI=114948--  
0,SSBITS=SS00"  
;
```

The following shows an example of the output for a function slot that contains an LNW37 quad OC-3 circuit pack with pluggable transmission modules and with all

sockets provisioned and the transceivers installed. The values shown for some parameters may not be the actual values for the optical transceivers represented.

```
rtrv-eqpt:LT-D011:fn-d-1:123456;

LT-D011 93-12-03 10:21:32
M 123456 COMPLD
"fn-d-1::TYPE=40C-3,APP=LNW37,SSN=S1-1,CLEI=SOIFKPBCAA,ECI=284886--
7,SSBITS=SS00"
"fn-d-1-sc1::NAME=OM155,QUAL=1.3IR1,CLEI=SOIFKP0CAA,
CCODE=123456789098,DATECDE=05272003,PRODID=04FDC198A0,MFGID=ABCD"
"fn-d-1-sc2::NAME=OM155,QUAL=1.3IR1,CLEI=SOIFKP0CAA,
CCODE=123456789098,DATECDE=07042003,PRODID=04FDC198A0,MFGID=ABCD"
"fn-d-1-sc3::NAME=OM155,QUAL=1.3SR1,CLEI=SOIFKP0CAB,
CCODE=098123456789,DATECDE=05232003,PRODID=83204FDC19,MFGID=ABCD"
"fn-d-1-sc4::NAME=OM155,QUAL=1.3SR1,CLEI=SOIFKP0CAB,
CCODE=098123456789,DATECDE=10102003,PRODID=83204FDC19,MFGID=ABCD"
;
```

The following shows an example of the output for an equipped optical transceiver socket. The values shown for some parameters may not be the actual values for the optical transceivers represented.

```
rtrv-eqpt:LT-D011:fn-d-1-sc3:123456;

LT-D011 94-02-27 10:15:08
M 123456 COMPLD
"fn-d-1-sc3::NAME=OM155,QUAL=1.3SR1,CLEI=SOIFKP0CAB,
CCODE=098123456789,DATECDE=05232003,PRODID=832A004FD9,MFGID=ABCD"
;
```

The following shows an example of the output for a function slot that contains an LNWX quad OC-3 circuit pack with pluggable transmission modules and with only sockets sc1 and sc3 provisioned and a transceiver installed in only socket

sc3. The values shown for some parameters may not be the actual values for the optical transceivers represented.

```
rtrv-eqpt:LT-D011:fn-d-1:123456;  
  
LT-D011 93-12-03 10:21:32  
M 123456 COMPLD  
"fn-d-1::TYPE=40C-3,APP=LNW37,SSN=S1-1,CLEI=SOIFKPBCAA,ECI=284886--  
7,SSBITS=SS00"  
"fn-d-1-sc1::NAME=OM155,QUAL=1.3IR1,CLEI=?,  
CCODE=?,DATECDE=?,PRODID=?,MFGID=?"  
"fn-d-1-sc3::NAME=OM155,QUAL=1.3SR1,CLEI=SOIFKP0CAB,  
CCODE=098123456789,DATECDE=05232003,PRODID=832A004FD9,MFGID=ABCD"  
;
```

The following shows an example of the output for an LNW70 circuit pack for which none of the pluggable transmission module sockets are equipped. In this example, the specific values of the parameters shown may not be the actual values that will be returned by the NE.

```
rtrv-eqpt:LT-D011:fn-d-1:123456;  
  
LT-D011 93-10-26 16:42:11  
M 123456 COMPLD  
"fn-d-1::TYPE=100/1G-FXS,APP=LNW70,SSN=,CLEI=S02IMV0AAA,ECI=119505,  
ECCMODE=STS12c,VRSN=2.3.1,VLANTAGMD=SWITCHED"  
;
```

The following shows an example of the output for an LNW74 circuit pack. In this example, the specific values of the parameters shown may not be the actual values that will be returned by the NE.

```
rtrv-eqpt:LT-D011:fn-d-1:123456;

LT-D011 93-10-26 16:42:11
M 123456 COMPLD
"fn-d-1::TYPE=10/100-T/F,APP=LNW74,SSN=,CLEI=S02ILU0AAA,ECI=119501,
VRSN=2.3.1,VLANTAGMD=NOTAG,VT_VCAT=0"
"d-sc17::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAA,CCODE=
123456789098,DATECDE=05272003,PRODID=04FDC198A0,MFGID=ABCD"
"d-sc18::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAA,
CCODE=123456789098,DATECDE=07042003,PRODID=04FDC198A0,MFGID=ABCD"
"d-sc19::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAB,
CCODE=098123456789,DATECDE=05232003,PRODID=83204FDC19,MFGID=ABCD"
"d-sc20::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAB,
CCODE=098123456789,DATECDE=10102003,PRODID=83204FDC19,MFGID=ABCD"
"d-sc21::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAA,CCODE=
123456789098,DATECDE=05272003,PRODID=04FDC198A0,MFGID=ABCD"
"d-sc22::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAA,
CCODE=123456789098,DATECDE=07042003,PRODID=04FDC198A0,MFGID=ABCD"
"d-sc23::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAB,
CCODE=098123456789,DATECDE=05232003,PRODID=83204FDC19,MFGID=ABCD"
"d-sc24::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAB,
CCODE=098123456789,DATECDE=10102003,PRODID=83204FDC19,MFGID=ABCD"
;
```

The following shows an example of the output for an LNW73 Fibre Channel circuit pack. In this example, the specific values of the parameters shown may not be the actual values that will be returned by the NE.

```
rtrv-eqpt:LT-D011:fn-d-1:123456;

LT-D011 95-03-18 16:42:11
M 123456 COMPLD
"fn-d-1::TYPE=FC,APP=LNW73,SSN=,CLEI=SOI9Z9ZCAA,ECI=115410,
VRSN=2.3.1,DATATYPE=FC-FICON"
"d-sc1::NAME=OMFC,QUAL=100/200-SM-LL-I,CLEI=S00TACJDAA,CCODE=
123456789098,DATECDE=05272003,PRODID=04FDC198A0,MFGID=ABCD"
"d-sc2::NAME=OMFC,QUAL=100/200-SM-LL-I,CLEI=S00TACJDAA,
CCODE=123456789098,DATECDE=07042003,PRODID=04FDC198A0,MFGID=ABCD"
"d-sc3::NAME=OMFC,QUAL=100/200-SM-LL-I,CLEI=S00TACJDAA,CCODE=
123456789098,DATECDE=05272003,PRODID=04FDC198A0,MFGID=ABCD"
"d-sc4::NAME=OMFC,QUAL=100/200-SM-LL-I,CLEI=S00TACJDAA,
CCODE=123456789098,DATECDE=07042003,PRODID=04FDC198A0,MFGID=ABCD"
;
```

Starting in Release 6.0, the system controller slot AID "SYSCTL" is replaced by the slot AID "CTL-1". In this release, when the equipage of the entire system is requested, the shelf information will include the NVMs on the system controller, as

shown in the following example. In this example, the specific values of the parameters shown may not be the actual values that will be returned by the NE.

```
rtrv-eqpt:LT-DMX:all:123456;

LT-DMX 06-03-15 10:21:01
M 123456 COMPLD
"main-1::TYPE=OC-192,APP=LNW59,CLEI=SOUIAB4FAA,ECI=128788,SLN=,
SSN=S1-1"
"main-2::TYPE=OC-192,APP=LNW59,CLEI=SOUIAB4FAA,ECI=128788,SLN=,
SSN=S1-12"
"fn-a-1::TYPE=1GbE-SX,APP=LNW67,SSN=25Iss,CLEI=25CLEI,ECI=25CECI,
SLN=,VRSN=4.1.1,VLANTAGMD=802.1TAG"
"fn-b-1::TYPE=28DS1,APP=LNW6,SSN=25Iss,CLEI=25CLEI,ECI=25CECI,
SLN=,VRSN=1.1.1"
"fn-c-1::TYPE=12DS3EC1,APP=LNW6,SSN=25Iss,CLEI=25CLEI,ECI=25CECI,
SLN=,VRSN=4.1.1"
"fn-d-1::TYPE=10/100-FE,APP=LNW66,SSN=25Iss,CLEI=25CLEI,ECI=
25CECI,SLN=,VRSN=4.1.1,VLANTAGMD=802.1TAG"
"ctl-1::TYPE=SYCTL,APP=LNW2,SSN=S1-1,CLEI=SOCUH0MBAA,ECI=275336,
SLN=,VRSN=6.0.5"
"ctl-1-nvm-1::TYPE=NVM,APP=NVM,SSN=S1-1,CLEI=SOCUH0MBXX,ECI=275340,
SLN="
"ctl-1-nvm-2::TYPE=NVM,APP=NVM,SSN=S1-1,CLEI=SOCUH0MBXX,ECI=275340,
SLN="
"shelf::TYPE=DMX-HC-30A,APP=848793287,SSN=S1-1,CLEI=SOM1400HRB,
ECI=441658,SLN="
;
```

Starting in Release 6.0, the following shows an example of the output for an LNW70 circuit pack. In this example, socket d1-sc8 is not provisioned for a

pluggable transmission module. The specific values of the parameters shown may not be the actual values that will be returned by the NE.

```
rtrv-eqpt:LT-D011:fn-d-1:123456;

LT-D011 07-10-26 16:42:11
M 123456 COMPLD
  "fn-d-1::TYPE=100/1G-FXS,APP=LNW70,SSN=,CLEI=S02IMV0AAA,ECI=119505,
ECCMODE=STS12c,VRSN=2.3.1,VLANTAGMD=SWITCHED,ENETMD=GT_FX"
  "d1-sc1::NAME=OM1G//OMFC,QUAL=1000BASE-LX//100/200-SM-LL-L-I,
CLEI=S00TAETDAA,CCODE=123456789098,DATECDE=07182005,PRODID=04FDC281A0,
MFGID=ABCD,MST=NORMAL"
  "d1-sc2::NAME=OM1G//OMFC,QUAL=1000BASE-LX//100/200-SM-LL-L-I,
CLEI=S00TAETDAA,CCODE=123456789098,DATECDE=07182005,PRODID=04FDC281A0,
MFGID=ABCD,MST=NORMAL"
  "d1-sc3::NAME=OM1G//OMFC,QUAL=1000BASE-LX//100/200-SM-LL-L-I,
CLEI=S00TAETDAA,CCODE=123456789098,DATECDE=07182005,PRODID=04FDC281A0,
MFGID=ABCD,MST=NORMAL"
  "d1-sc4::NAME=OM1G//OMFC,QUAL=1000BASE-LX//100/200-SM-LL-L-I,
CLEI=S00TAETDAA,CCODE=123456789098,DATECDE=07182005,PRODID=04FDC281A0,
MFGID=ABCD,MST=NORMAL"
  "d1-sc5::NAME=OMFE,QUAL=100BASE-LX-SM,CLEI=S00TACKDAA,
CCODE=098123456789,DATECDE=05232003,PRODID=83204FDC19,MFGID=ABCD,
MST=NORMAL"
  "d1-sc6::NAME=OMFE,QUAL=100BASE-LX-SM,CLEI=S00TACKDAA,
CCODE=098123456789,DATECDE=10102003,PRODID=83204FDC19,MFGID=ABCD,
MST=NORMAL"
  "d1-sc7::NAME=OMFE,QUAL=100BASE-LX-SM,CLEI=S00TACKDAA,
CCODE=123456789098,DATECDE=05272003,PRODID=04FDC198A0,MFGID=ABCD,
MST=NORMAL"
  "d1-sc8::NAME=UNEQ,QUAL=-,CLEI=-,CCODE=-,DATECDE=-,PRODID=-,
MFGID=-,MST=-"
;
```

Starting in Release 6.0, the following shows an example of the output for an LN78 circuit pack. In this example, socket d1-sc8 is not provisioned for a

pluggable transmission module. The specific values of the parameters shown may not be the actual values that will be returned by the NE.

```
rtrv-eqpt:LT-D011:fn-d-1:123456;

LT-D011 93-10-26 16:42:11
M 123456 COMPLD
"fn-d-1::TYPE=100/1G-FSR,APP=LNW78,SSN=,CLEI=SOUIABKFAA,ECI=128391,
ECCMODE=STS12c,VRSN=2.3.1,VLANTAGMD=SWITCHED,ENETMD=GT_FX"
"d1-sc1::NAME=OM1G//OMFC,QUAL=1000BASE-LX//100/200-SM-LL-L-I,
CLEI=S00TAETDAA,CCODE=123456789098,DATECDE=07182005,PRODID=04FDC281A0,
MFGID=ABCD,MST=NORMAL"
"d1-sc2::NAME=OM1G//OMFC,QUAL=1000BASE-LX//100/200-SM-LL-L-I,
CLEI=S00TAETDAA,CCODE=123456789098,DATECDE=07182005,PRODID=04FDC281A0,
MFGID=ABCD,MST=NORMAL"
"d1-sc5::NAME=OMFE,QUAL=100BASE-LX-SM,CLEI=S00TACKDAA,
CCODE=098123456789,DATECDE=05232003,PRODID=83204FDC19,MFGID=ABCD,
MST=NORMAL"
"d1-sc6::NAME=OMFE,QUAL=100BASE-LX-SM,CLEI=S00TACKDAA,
CCODE=098123456789,DATECDE=10102003,PRODID=83204FDC19,MFGID=ABCD,
MST=NORMAL"
"d1-sc7::NAME=OMFE,QUAL=100BASE-LX-SM,CLEI=S00TACKDAA,
CCODE=123456789098,DATECDE=05272003,PRODID=04FDC198A0,MFGID=ABCD,
MST=NORMAL"
"d1-sc8::NAME=UNEQ,QUAL=-,CLEI=-,CCODE=-,DATECDE=-,PRODID=-,
MFGID=-,MST=-"
;
```

Starting in Release 6.0, the following shows an example of the output for an LNW63 circuit pack. In this example, the specific values of the parameters shown may not be the actual values that will be returned by the NE.

```
rtrv-eqpt:LT-D011:fn-d-1:123456;

LT-D011 93-10-26 16:42:11
M 123456 COMPLD
"fn-d-1::TYPE=GBE PL,APP=LNW63,SSN=,CLEI=SOUIAB6FAA,ECI=128791,
VRSN=2.3.1,VLANTAGMD=NOTAG,ENETMD=GX"
"d1-sc1::NAME=OM1G,QUAL=1000BASE-ZX,CLEI=S00TAC2DAA,
CCODE=123456789098,DATECDE=07182005,PRODID=04FDC281A0,MFGID=ABCD,
MST=NORMAL"
"d1-sc2::NAME=OM1G,QUAL=1000BASE-ZX,CLEI=S00TAC2DAA,
CCODE=123456789098,DATECDE=07182005,PRODID=04FDC281A0,MFGID=ABCD,
MST=NORMAL"
"d1-sc3::NAME=OM1G,QUAL=1000BASE-ZX,CLEI=S00TAC2DAA,
CCODE=123456789098,DATECDE=07182005,PRODID=04FDC281A0,MFGID=ABCD,
MST=NORMAL"
"d1-sc4::NAME=OM1G,QUAL=1000BASE-ZX,CLEI=S00TAC2DAA,
CCODE=123456789098,DATECDE=07182005,PRODID=04FDC281A0,MFGID=ABCD,
MST=NORMAL"
;
```

Starting in Release 6.0, the following shows an example of the output for a function slot that contains an LNW37 quad OC-3 circuit pack with pluggable transmission modules and with only sockets sc1 and sc3 provisioned and a transceiver installed in only socket sc3. The values shown for some parameters may not be the actual values for the optical transceivers represented.

```
rtrv-eqpt:LT-D011:fn-d-1:123456;

LT-D011 07-12-03 10:21:32
M 123456 COMPLD
"fn-d-1::TYPE=40C-3,APP=LNW37,SSN=S1-1,CLEI=SOIFKPBCAA,ECI=284886--
7,SSBITS=SS00"
"fn-d-1-sc1::NAME=OM155,QUAL=1.3IR1,CLEI=?,CCODE=?,DATECDE=?,
PRODID=?,MFGID=?,MST=NORMAL"
"fn-d-1-sc2::NAME=UNEQ,QUAL=,CLEI=,CCODE=,DATECDE=,PRODID=,MFGID="
"fn-d-1-sc3::NAME=OM155,QUAL=1.3SR1,CLEI=SOIFKP0CAB,
CCODE=098123456789,DATECDE=05232003,PRODID=832A004FD9,MFGID=ABCD,
MST=NORMAL"
"fn-d-1-sc4::NAME=UNEQ,QUAL=,CLEI=,CCODE=,DATECDE=,PRODID=,MFGID="
;
```

Starting in Release 7.0, the output for OC-3, OC-12 and OC-48 OLIU PTMs shown in the preceding examples will include the PTM monitoring parameters *lbc*, *opr*, *opr*, *opt* and *ttemp*. The following example shows these PTM parameters for an OC-3 OLIU PTM. In this example, function slot fn-d-1 contains an LNW37 quad OC-3 circuit pack with pluggable transmission modules and with only sockets sc1 and sc3 provisioned and with a transceiver installed in only socket sc3. The values shown for some parameters may not be the actual values for the optical transceivers represented.

```
rtrv-eqpt:LT-D011:fn-d-1:123456;

LT-D011 07-12-03 10:21:32
M 123456 COMPLD
"fn-d-1::TYPE=40C-3,APP=LNW37,SSN=S1-1,CLEI=SOIFKPBCAA,ECI=284886--
7,SSBITS=SS00"
"fn-d-1-sc1::NAME=OM155,QUAL=1.3IR1,CLEI=?,CCODE=?,DATECDE=?,
PRODID=?,MFGID=?,LBC=?,OPR=?,OPRT=?,AVG=?,OPT=?,TTEMP=?,MST=NORMAL"
"fn-d-1-sc2::NAME=UNEQ,QUAL=-,CLEI=-,CCODE=-,DATECDE=-,PRODID=-,
MFGID=-,LBC=-,OPR=-,OPRT=-,AVG=-,OPT=-,TTEMP=-,MST=NORMAL"
"fn-d-1-sc3::NAME=OM155,QUAL=1.3SR1,CLEI=SOIFKP0CAB,
CCODE=098123456789,DATECDE=05232003,PRODID=832A004FD9,MFGID=ABCD,
LBC=111.2,OPR=-28.1,OPRT=AVG,OPT=-7.3,TTEMP=31,MST=NORMAL"
"fn-d-1-sc4::NAME=UNEQ,QUAL=-,CLEI=-,CCODE=-,DATECDE=-,PRODID=-,
MFGID=-,LBC=-,OPR=-,OPRT=-,AVG=-,OPT=-,TTEMP=-,MST=NORMAL"
;
```

The following shows an example of the output for a MAIN slot that contains an LNWS9 OC-192 circuit pack with one XFP pluggable transmission module installed. The values shown for some parameters may not be the actual values for the optical transceivers represented.

```
rtrv-eqpt:LT-D011:main-1:123456;  
  
LT-D011 06-10-08 10:21:32  
M 123456 COMPLD  
"main-1::TYPE=OC192,APP=LNWS9,SSN=S1-1,CLEI=SOUIAB4FAA,ECI=128788,  
PROT_STATE=PROT"  
"main-1-sc1::NAME=OM10G,QUAL=1.5IR2(S-64.2b),CLEI=SOUIAB8FAA,  
CCODE=109537563,DATECDE=12072005,PRODID=04FDC198A0,MFGID=ABCD,  
LBC=111.2,OPR=-28.1,OPRT=AVG,OPT=-7.3,TTEMP=31,MST=NORMAL"  
;
```

The following shows an example of the output for an LNWS9 XM10G/8 circuit pack equipped with GbE SPF pluggable transmission modules installed in some of the client port sockets and with a DWDM XFP pluggable transmission module

installed in the OTU2 socket. The values shown for some parameters may not be the actual values for the circuit pack and optical transceivers represented.

```
rtrv-eqpt:LT-D011:g-1:123456;

LT-D011 08-10-08 10:21:32
M 123456 COMPLD
"growth-1::TYPE=XM10G/8,APP=LNW705,SSN=S1-1,CLEI=S00MAB3EAA,ECI=128788,
PROT_STATE=UNPROT,VLANTAGMD=NOTAG,SSBITS=-"
"g1-sc1::NAME=OM1G//OMFC,QUAL=1000BASE-LX//100/200-SM-LL-L-I,
CLEI=S00TAETDAA,CCODE=109568782,DATECDE=12072005,PRODID=04FDC198A0,
MFGID=ABCD,MST=NORMAL"
"g1-sc2::NAME=OM1G//OMFC,QUAL=1000BASE-LX//100/200-SM-LL-L-I,
CLEI=S00TAETDAA,CCODE=109568782,DATECDE=12072005,PRODID=04FDC198A0,
MFGID=ABCD,MST=NORMAL"
"g1-sc3::NAME=OM1G//OMFC,QUAL=1000BASE-LX//100/200-SM-LL-L-I,
CLEI=S00TAETDAA,CCODE=109568782,DATECDE=12072005,PRODID=04FDC198A0,
MFGID=ABCD,MST=NORMAL"
"g1-sc4::NAME=UNEQ,QUAL=-,CLEI=-,CCODE=-,DATECDE=-,PRODID=-,
MFGID=-,MST=-"
"g1-sc5::NAME=UNEQ,QUAL=-,CLEI=-,CCODE=-,DATECDE=-,PRODID=-,
MFGID=-,MST=-"
"g1-sc6::NAME=UNEQ,QUAL=-,CLEI=-,CCODE=-,DATECDE=-,PRODID=-,
MFGID=-,MST=-"
"g1-sc7::NAME=UNEQ,QUAL=-,CLEI=-,CCODE=-,DATECDE=-,PRODID=-,
MFGID=-,MST=-"
"g1-sc8::NAME=UNEQ,QUAL=-,CLEI=-,CCODE=-,DATECDE=-,PRODID=-,
MFGID=-,MST=-"
"g1-sc9::NAME=OM10G,QUAL=1.5LR2(P1L1-2D2),CLEI=W0TRAGHCAA,
CCODE=109615369,DATECDE=12072005,PRODID=04FDC198A0,MFGID=ABCD,
LBC=111.2,OPR=-28.1,OPRT=AVG,OPT=-7.3,TTEMP=31,MST=NORMAL,EFREQ=9570,
FREQ=9570"
;
```

Starting in Release 7.1, the following shows an example of the output for a MAIN slot that contains an LNW59 OC-192 circuit pack with two XFP pluggable transmission module installed, one of which is a DWDM XFP. The values shown

for some parameters may not be the actual values for the optical transceivers represented.

```
rtrv-eqpt:LT-D011:main-1:123456;
```

```
LT-D011 08-11-14 10:21:32
M 123456 COMPLD
"main-1::TYPE=OC192,APP=LNW59,SSN=S1-1,CLEI=SOUIAB4FAA,ECI=128788,
PROT_STATE=PROT"
"main-1-sc1::NAME=OM10G,QUAL=1.5IR2(S-64.2b),CLEI=SOUIAB8FAA,
CCODE=109537563,DATECDE=12072005,PRODID=04FDC198A0,MFGID=ABCD,
LBC=111.3,OPR=-29.0,OPRT=AVG,OPT=-7.1,TTEMP=30,MST=NORMAL,EFREQ=NA,
FREQ=NA"
"main-1-sc2::NAME=OM10G,QUAL=1.5LR2(P1L1-2D2),CLEI=WOTRAGHCAA,
CCODE=109615369,DATECDE=12072005,PRODID=04FDC198A0,MFGID=ABCD,
LBC=111.2,OPR=-28.1,OPRT=AVG,OPT=-7.3,TTEMP=31,MST=NORMAL,EFREQ=9570
FREQ=9570"
;
```

Starting in Release 7.1.1, the following shows an example of the output for a MAIN slot that contains an LNW59 OC-192 circuit pack with two XFP pluggable transmission module installed, one of which is a DWDM XFP. The values shown for some parameters may not be the actual values for the optical transceivers represented.

```
rtrv-eqpt:LT-D011:main-1:123456;
```

```
LT-D011 08-11-14 10:21:32
M 123456 COMPLD
"main-1::TYPE=OC192,APP=LNW59,SSN=S1-1,CLEI=SOUIAB4FAA,ECI=128788,
PROT_STATE=PROT"
"main-1-sc1::NAME=OM10G,QUAL=1.5IR2(S-64.2b),CLEI=SOUIAB8FAA,
CCODE=109537563,DATECDE=12072005,PRODID=04FDC198A0,MFGID=ABCD,
LBC=111.3,OPR=-29.0,OPRT=AVG,OPT=-7.1,TTEMP=30,PTMMAXRATE=9.95,FREQ=NA,
EFREQ=NA,MST=NORMAL"
"main-1-sc2::NAME=OM10G,QUAL=DWDM-LR(DW100U-2Ax(F)),CLEI=WOTRAGHCAA,
CCODE=109615369,DATECDE=12072005,PRODID=04FDC198A0,MFGID=ABCD,
LBC=111.2,OPR=-28.1,OPRT=AVG,OPT=-7.3,TTEMP=31,PTMMAXRATE=11.1,FREQ=9570,
EFREQ=9570,MST=NORMAL"
;
```

Starting in Release 8.0, the following shows an example of the output for a MAIN slot that contains a non-PTM based LNW554 DWDM OC-192 circuit pack. The

values shown for some parameters may not be the actual values for the optical transceivers represented.

```
rtrv-eqpt:LT-D011:main-1:123456;
```

```
LT-D011 08-11-14 10:21:32
M 123456 COMPLD
"main-1::TYPE=OC192,APP=LNW554,SSN=S1-1,CLEI=S0UIAB4FAA,ECI=128788,
PROT_STATE=PROT,FREQ=9540,EFREQ=9540"
;
```

Starting in Release 7.1, the following shows an example of the output for an LN74 circuit pack. In this example, the specific values of the parameters shown may not be the actual values that will be returned by the NE.

```
rtrv-eqpt:LT-D011:fn-d-1:123456;
```

```
LT-D011 08-10-26 16:42:11
M 123456 COMPLD
"fn-d-1::TYPE=10/100-T/F,APP=LNW74,SSN=,CLEI=S02ILU0AAA,ECI=119501,
VRSN=2.3.1,VLANTAGMD=NOTAG,VT_VCAT=0,FEFI_CODE=03"
"d-sc17::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAA,CCODE=
123456789098,DATECDE=05272003,PRODID=04FDC198A0,MFGID=ABCD"
"d-sc18::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAA,
CCODE=123456789098,DATECDE=07042003,PRODID=04FDC198A0,MFGID=ABCD"
"d-sc19::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAB,
CCODE=098123456789,DATECDE=05232003,PRODID=83204FDC19,MFGID=ABCD"
"d-sc20::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAB,
CCODE=098123456789,DATECDE=10102003,PRODID=83204FDC19,MFGID=ABCD"
"d-sc21::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAA,CCODE=
123456789098,DATECDE=05272003,PRODID=04FDC198A0,MFGID=ABCD"
"d-sc22::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAA,
CCODE=123456789098,DATECDE=07042003,PRODID=04FDC198A0,MFGID=ABCD"
"d-sc23::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAB,
CCODE=098123456789,DATECDE=05232003,PRODID=83204FDC19,MFGID=ABCD"
"d-sc24::NAME=OMFE,QUAL=100BASE-FX,CLEI=SOIFKP0CAB,
CCODE=098123456789,DATECDE=10102003,PRODID=83204FDC19,MFGID=ABCD"
;
```

Starting in Release 8.0, the following shows an example of the output for an LNW74 circuit pack. In this example, the specific values of the parameters shown may not be the actual values that will be returned by the NE.

```
rtrv-eqpt:ALU-D011:fn-d-1:123456;

LT-D011 08-11-12 16:42:11
M 123456 COMPLD
"fn-d-1: :TYPE=10/100-T/F,APP=LNW74,SSN=,CLEI=S02ILU0AAA,ECI=119501,
VRSN=2.3.1,VLANTAGMD=NOTAG,VT_VCAT=0,FEFI_CODE=03,ENETMD=FX"
"d-sc17: :NAME=OMFE,QUAL=100BASE-FX,CLEI=S0IFKP0CAA,CCODE=
123456789098,DATECDE=05272003,PRODID=04FDC198A0,MFGID=ABCD,
WAVELN=1310.00"
"d-sc18: :NAME=OMFE,QUAL=100BASE-FX,CLEI=S0IFKP0CAA,
CCODE=123456789098,DATECDE=07042003,PRODID=04FDC198A0,MFGID=ABCD,
WAVELN=1310.00"
"d-sc19: :NAME=OMFE,QUAL=100BASE-FX,CLEI=S0IFKP0CAB,
CCODE=098123456789,DATECDE=05232003,PRODID=83204FDC19,MFGID=ABCD,
WAVELN=1310.00"
"d-sc20: :NAME=OMFE,QUAL=100BASE-FX,CLEI=S0IFKP0CAB,
CCODE=098123456789,DATECDE=10102003,PRODID=83204FDC19,MFGID=ABCD,
WAVELN=1310.00"
"d-sc21: :NAME=OMFE,QUAL=100BASE-FX,CLEI=S0IFKP0CAA,CCODE=
123456789098,DATECDE=05272003,PRODID=04FDC198A0,MFGID=ABCD,
WAVELN=1310.00"
"d-sc22: :NAME=OMFE,QUAL=100BASE-FX,CLEI=S0IFKP0CAA,
CCODE=123456789098,DATECDE=07042003,PRODID=04FDC198A0,MFGID=ABCD,
WAVELN=1310.00"
"d-sc23: :NAME=OMFE,QUAL=100BASE-FX,CLEI=S0IFKP0CAB,
CCODE=098123456789,DATECDE=05232003,PRODID=83204FDC19,MFGID=ABCD,
WAVELN=1310.00"
"d-sc24: :NAME=OMFE,QUAL=100BASE-FX,CLEI=S0IFKP0CAB,
CCODE=098123456789,DATECDE=10102003,PRODID=83204FDC19,MFGID=ABCD,
WAVELN=1310.00"
;
```

Starting in Release 8.0, the following shows an example of the output for an LNW70 circuit pack. In this example, socket d1-sc8 is not provisioned for a

pluggable transmission module. The specific values of the parameters shown may not be the actual values that will be returned by the NE.

```
rtrv-eqpt:LT-D011:fn-d-1:123456;

LT-D011 08-10-26 16:42:11
M 123456 COMPLD
  "fn-d-1::TYPE=100/1G-FXS,APP=LNW70,SSN=,CLEI=S02IMV0AAA,ECI=119505,
ECCMODE=STS12c,VRSN=2.3.1,VLANTAGMD=SWITCHED,ENETMD=GT_FX,
TAUDIT=DISABLED"
  "d1-sc1::NAME=OM1G//OMFC,QUAL=1000BASE-LX//100/200-SM-LL-L-I,
CLEI=S00TAETDAA,CCODE=123456789098,DATECDE=07182005,PRODID=04FDC281A0,
MFGID=ABCD,WAVELN=1310.00,MST=NORMAL"
  "d1-sc2::NAME=OM1G//OMFC,QUAL=1000BASE-LX//100/200-SM-LL-L-I,
CLEI=S00TAETDAA,CCODE=123456789098,DATECDE=07182005,PRODID=04FDC281A0,
MFGID=ABCD,WAVELN=1310.00,MST=NORMAL"
  "d1-sc3::NAME=OM1G//OMFC,QUAL=1000BASE-LX//100/200-SM-LL-L-I,
CLEI=S00TAETDAA,CCODE=123456789098,DATECDE=07182005,PRODID=04FDC281A0,
MFGID=ABCD,WAVELN=1310.00,MST=NORMAL"
  "d1-sc4::NAME=OM1G//OMFC,QUAL=1000BASE-LX//100/200-SM-LL-L-I,
CLEI=S00TAETDAA,CCODE=123456789098,DATECDE=07182005,PRODID=04FDC281A0,
MFGID=ABCD,WAVELN=1310.00,MST=NORMAL"
  "d1-sc5::NAME=OMFE,QUAL=100BASE-LX-SM,CLEI=S00TACKDAA,
CCODE=098123456789,DATECDE=05232003,PRODID=83204FDC19,MFGID=ABCD,
MST=NORMAL"
  "d1-sc6::NAME=OMFE,QUAL=100BASE-LX-SM,CLEI=S00TACKDAA,
CCODE=098123456789,DATECDE=10102003,PRODID=83204FDC19,MFGID=ABCD,
WAVELN=1310.00,MST=NORMAL"
  "d1-sc7::NAME=OMFE,QUAL=100BASE-LX-SM,CLEI=S00TACKDAA,
CCODE=123456789098,DATECDE=05272003,PRODID=04FDC198A0,MFGID=ABCD,
WAVELN=1310.00,MST=NORMAL"
  "d1-sc8::NAME=UNEQ,QUAL=-,CLEI=-,CCODE=-,DATECDE=-,PRODID=-,
MFGID=-,WAVELN=-,MST=-"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there may also apply to the **RTRV-EQPT** command.

The NE returns the following error response if a single slot is empty:

```
sid date time
M ctag DENY
  ENEQ
  /* Equipage, Not EQuipped */
;
```

The NE returns the following error response if the **aid** is not valid:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess Identifier, AID is missing, wrong or inconsistent
with the modifier */
;
```

During the initial software download state, the **RTRV-EQPT** command can only take a system controller AID. If the **RTRV-EQPT** command is received with an AID other than the system controller, the system will reply with:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, only sysctl aid allowed during initial
software download state */
;
```

RELATED TL1 MESSAGES

ED-EQPT

NAME

RTRV-ERATE: Retrieve Ethernet Rate

The **RTRV-ERATE** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 3.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-ERATE: *tid:aid:ctag::[tagid];*

Starting in release 5.1, the optional **cos** parameter is supported.

RTRV-ERATE: *tid:aid:ctag::[tagid],[cos];*

DESCRIPTION

The **RTRV-ERATE** command retrieves the rate controls configured for services on an Ethernet pack.

Beginning in Release 5.1, the **RTRV-ERATE** command is used to retrieve the properties of the QoS services created on the following circuit packs using **ENT-ERATE**:

- LNW70

Beginning in Release 6.0, the **RTRV-ERATE** command applies to the LNW78 circuit pack.

Execution of this command will not be recorded in the Security log.

The **RTRV-ERATE** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-344. RTRV-ERATE Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access identifier. LNW66 - When specified, this is the <i>aid</i> of a single slot equipped with an LNW66 for which the <i>vlantagmd (ED-EQPT)</i> is either 802.1TAG or TRANS LNW67 - When specified, this is the <i>aid</i> of a single slot equipped with an LNW67 for which the <i>vlantagmd (ED-EQPT)</i> is either 802.1TAG or TRANS, or - This is the <i>aid</i> of a single Ethernet port on an LNW67 for which the <i>vlantagmd (ED-EQPT)</i> is NOTAG. LNW68 - When specified, this is the <i>aid</i> of a single slot equipped with an LNW68 for which the <i>vlantagmd (ED-EQPT)</i> is either 802.1TAG or TRANS, or - This is the <i>aid</i> of a single Ethernet port on an LNW68 port unit for which the <i>vlantagmd (ED-EQPT)</i> is NOTAG. LNW70 - When specified, this is the <i>aid</i> of a single Ethernet port. Starting in Release 7.0, this may also be the <i>aid</i> of a single VCG port, or a Link Aggregation Group (LAG). The <i>aid</i> cannot address a port that is a member of a LAG. References to a port also apply to a LAG. LNW78 - The <i>aid</i> may be the <i>aid</i> of an Ethernet port. Starting in Release 7.0, this may also be the <i>aid</i> of an EoS (i.e. non-RPR) VCG port. Default: "ALL" If the <i>aid</i> is the text string "ALL" then all <i>aids</i> at the level appropriate for the circuit pack and <i>vlantagmd</i> value will be output. Refer to the <i>aid</i> Table in Appendix A for valid <i>aids</i>.
<i>ctag</i>	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-344. RTRV-ERATE Input Parameters (cont 2 of 2)

Parameter Name	Description
tagid	Tag ID. Represents the VLAN ID in 802.1TAG mode and represents the Port Tag ID in TRANS mode. Value: An integer in the range of 1 to 4093, inclusive, + "ALL" Default: "ALL" For the packs listed below: This parameter is ignored if vlangmd (ED-EQPT) = NOTAG or if trafmgmtmd (ED-EPORT) is set to PORT or COSPORT. ■ LNW70 ■ LNW78
cos	Class of Service. This optional parameter specifies the class of service that the parameters in this command apply to. This parameter is ignored if vlangmd (ED-EQPT) = NOTAG or if trafmgmtmd (ED-EPORT) is set to PORT or TAGPORT. Starting in release 6.0, this parameter is valid for the LNW70 if trafmgmtmd is set to PORT and ED-EPORT:hlayercos is set to DSCP. Value: The allowed value is an integer between 0 and 3 and "ALL" ■ The value of 0 specifies CoS level 0. ■ The value of 1 specifies CoS level 1. ■ The value of 2 specifies CoS level 2. ■ The value of 3 specifies CoS level 3. For an RPR pack the allowed value is an integer between 1 and 3, (and "ALL"): ■ The value of 1 specifies CoS level 1 (Class C). ■ The value of 2 specifies CoS level 2 (Class B). ■ The value of 3 specifies CoS level 3 (Class A). Default: "ALL" This parameter applies only to the following circuit packs: ■ LNW70 ■ LNW78

OUTPUT FORMAT

The following output format is applicable when ***vlangmd*** is **802.1TAG** (802.1/
VLAN Tag Mode).

```
sid date time
M ctag COMPLD
  "aid:tagid:spec_block"
  <1 or more of the line above, for another vlan>
  <1 or more of this entire block, for another aid>
;
```

The following output format is applicable when ***vlangmd*** is **TRANS** (Transparent
Mode).

```
sid date time
M ctag COMPLD
  "aid:tagid:spec_block"
  <1 or more of the line above, for another port tag>
  <1 or more of this entire block, for another aid>
;
```

The following output format is applicable when ***vlangmd*** is **NOTAG**.

```
sid date time
M ctag COMPLD
  "aid::spec_block"
  <1 or more of this entire block, for another aid>
;
```

If the ***aid*** points to a port on one of the following circuit packs:

- LNW70

then the following normal completion response is returned instead of the responses given above.

```
sid date time
M ctag COMPLD
<for each port depending on the trafmgmtmd, one of the following blocks>
<if trafmgmtmd=PORT, the following:>
  "aid:NA,NA,PORT:spec_block"
<if trafmgmtmd=TAGPORT, the following:>
  "aid:tagid,NA,TAGPORT:spec_block"
  <1 or more of the line above,
  for each tagid service provisioned at the port>
<if trafmgmtmd=COSPORT, the following:>
  "aid:NA,cos,COSPORT:spec_block"
  <1 or more of the line above,
  for each cos service provisioned at the port>
<if trafmgmtmd=COSTAGPORT, the following:>
  "aid:tagid,cos,COSTAGPORT:spec_block"
  <1 or more of the line above, for each cos service with the same tagid
  provisioned at the port>
  <1 or more of the line above, for another service with a new tagid
  provisioned at the port>

  <1 or more of this entire block, for another aid>
;
```

If the **aid** points to a port on one of the following circuit packs:

- LNW78

then the following normal completion response is returned instead of the responses given above.

```
sid date time
M ctag COMPLD
<for each port depending on the trafmgmtmd, one of the following
blocks>
<if trafmgmtmd=PORT, the following:>
  "aid:NA,NA,PORT:spec_block"
<if trafmgmtmd=COSPORT, the following:>
  "aid:NA,cos,COSPORT:spec_block"
  <1 or more of the line above,
  for each cos service provisioned at the port>
<1 or more of this entire block, for another aid>
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-345. RTRV-ERATE Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access identifier. LNW66 — This is the <i>aid</i> of a single slot equipped with an LNW66 for which the <i>vlantagmd</i> is either 802.1TAG or TRANS. LNW67 — This is the <i>aid</i> of a single slot equipped with an LNW67 for which the <i>vlantagmd</i> is either 802.1TAG or TRANS, or — This is the <i>aid</i> of a single Ethernet port on an LNW67 for which the <i>vlantagmd</i> is NOTAG. LNW68 — This is the <i>aid</i> of a single slot equipped with an LNW68 for which the <i>vlantagmd</i> is either 802.1TAG or TRANS, or — This is the <i>aid</i> of a single Ethernet port on an LNW68 port unit for which the <i>vlantagmd</i> is NOTAG. LNW70 — This is the <i>aid</i> of an Ethernet port. Starting in release 7.0, this may also be the <i>aid</i> of a single VCG port, or a Link Aggregation Group (LAG). It cannot be the <i>aid</i> of a port that is a member of a LAG. References to a port also apply to a LAG. LNW78 — For the LNW78 the <i>aid</i> may be the <i>aid</i> of an Ethernet port. Starting in Release 7.0, this may be the <i>aid</i> of an EoS VCG port. Refer to the AID Table in Appendix A for valid AIDs.
<i>tagid</i>	Tag ID. Represents the VLAN ID in 802.1TAG mode and represents the Port Tag ID in TRANS mode. Value: An integer in the range of 1 to 4093.

Table 2-345. RTRV-ERATE Output Parameters (cont 2 of 2)

Parameter Name	Description
	LNW70: Starting in Release 5.1, the value "NA" is allowed. If there are no services provisioned at the port, then <i>tagid</i> is not output. LNW78: "NA" is the only value allowed. If there are no services provisioned at the port, then <i>tagid</i> is not output.
<i>cos</i>	Class of Service. Value: The value is an integer between 0 to 3 + "NA". — The value of 0 specifies CoS level 0. — The value of 1 specifies CoS level 1. — The value of 2 specifies CoS level 2. — The value of 3 specifies CoS level 3. — NA = not applicable for the <i>trafmgmtmd</i> If there are no services provisioned at the port, then <i>cos</i> is not output. For an RPR pack the value is an integer between 1 and 3 + "NA". — The value of 1 specifies CoS level 1 (Class C). — The value of 2 specifies CoS level 2 (Class B). — The value of 3 specifies CoS level 3 (Class A). If there are no services provisioned at the port, then <i>cos</i> is not output. This parameter applies only to the following circuit packs: ■ LNW70 ■ LNW78
<i>trafmgmtmd</i>	This parameter is set by ED-EPORT Starting in release 7.0, this parameter can also be set by ED-VCG. For the LNW70, values are PORT, COSPORT, TAGPORT and COSTAGPORT. For the LNW78, values are PORT and COSPORT.
<i>spec_block</i>	Specific Block. The <i>spec_block</i> parameters are defined in the following table.

Table 2-346. RTRV-ERATE Output *spec_block* Parameters (cont 1 of 4)

Parameter Name	Description
<i>cbs</i>	Committed Burst Size. This is the committed burst size in kilobytes (1024 bytes) that is provisioned at the traffic conditioner addressed by the port <i>aid</i>, <i>tagid</i>, and <i>cos</i>. Value: An integer in the range of 1 to 1024. For the LNW78 the range is 1 to 256. Starting in release 7.0, for the LNW70 and LNW78: Value: An integer in the range of 1 to 255. This parameter is output only if the <i>aid</i> points to any of the following circuit packs: ■ LNW70 ■ LNW78 <i>cbs</i> is not output for CoS level 1 on an RPR pack.
<i>cir</i>	Committed Information Rate. This is the committed information rate in Mbps that is provisioned at the traffic conditioner addressed by the port <i>aid</i>, <i>tagid</i>, and <i>cos</i>. Value: An integer in the range of 0 to 1000 A value of 0 means that there is no network commitment on incoming traffic. All traffic will be considered excess traffic. Starting in release 7.0, for the LNW70: Value: An integer in the range of 0 to 10000. A value of 0 means that there is no network commitment on incoming traffic. All traffic will be considered excess traffic. A value above the port rate (aggregate if a LAG) means that there is no policing of the traffic. i.e., traffic will flow unconditioned. This parameter is output only if the <i>aid</i> points to any of the following circuit packs: ■ LNW70 ■ LNW78 <i>cir</i> is not output for CoS level 1 on an RPR pack.
<i>pbs</i>	Peak Burst Size. This is the peak burst size in kilobytes (1024 bytes) that is provisioned at the traffic conditioner addressed by the port <i>aid</i>, <i>tagid</i>, and <i>cos</i>.

Table 2-346. RTRV-ERATE Output *spec_block* Parameters (cont 2 of 4)

Parameter Name	Description
	Value: An integer in the range of 1 to 1024. For the LNW78 the range is 1 to 256. Starting in release 7.0, for the LNW70 and LNW78: Value: An integer in the range of 1 to 255. This parameter is output only if the <i>aid</i> points to any of the following circuit packs: ■ LNW70 ■ LNW78 <i>pbs</i> is not output for CoS level 3 on an RPR pack.
<i>pir</i>	Peak Information Rate in Mbps. Value: An integer in the range of "1-1000" or "0". Except as listed below, a "0" means that policing is turned off i.e. data is flowing without any policing. Starting in release 7.0, for the LNW70: Value: An integer in the range of 0 to 10000. A value of 0 means that the traffic is halted. i.e., 0 Mbps. A value above the port rate (aggregate if a LAG) means that there is no policing of the traffic, i.e., traffic will flow unconditioned. The following applies if the <i>aid</i> points to any of the following circuit packs: ■ LNW70 ■ LNW78 This is the peak information rate in Mbps that is provisioned at the traffic conditioner addressed by the port <i>aid</i>, <i>tagid</i>, and <i>cos</i>. Value: An integer in the range of 0 to 1000 A value of "0" means that the data rate is 0 Mbps. <i>pir</i> is not output for CoS level 3 on an RPR pack.
<i>qospm</i>	Enable/Disable QoS Performance Monitoring. This parameter shows whether the collection of QoS performance monitoring data at the traffic conditioner addressed by the port <i>aid</i>, <i>tagid</i>, and <i>cos</i> is enabled or disabled.

Table 2-346. RTRV-ERATE Output *spec_block* Parameters (cont 3 of 4)

Parameter Name	Description
	Values allowed: ■ ENABLE - QoS performance monitoring is enabled ■ DISABLE - QoS performance monitoring disabled This parameter is output only if the <i>aid</i> points to any of the following circuit packs: ■ LNW70 ■ LNW78
<i>dftpri2cos</i>	This parameter is output only if <i>trafmgmtmd</i> is set to TAGPORT for the port that is pointed to by <i>aid</i>. This is the <i>cos</i> value that is used to process the packet in TAGPORT mode. Values allowed: Integers between 0-3, inclusive. This parameter is output only if the <i>aid</i> points to any of the following circuit packs: ■ LNW70
<i>userpri2cos</i>	This parameter shows the user priority bit values that map to the specified <i>cos</i> value. It is a map consisting of 8 elements left-to-right in increasing order of user priority, where each element specifies whether the user priority value maps to the CoS ("1") or not ("0"). This parameter is output only if <i>trafmgmtmd</i> is set to COSPORT or COSTAGPORT for the port that is pointed to by <i>aid</i>. Values: A string of 8 characters from the set ("0","1"). This parameter is output only if the <i>aid</i> points to any of the following circuit packs: ■ LNW70
<i>dscp2cos</i>	This parameter shows Differentiated Services Code Point (DSCP) to associated CoS Level (<i>cos</i>) map. This parameter lists the DSCP integer (six bits of the DS field) values that map to the specified cos value. This parameter is output only if <i>trafmgmtmd</i> is set to PORT and <i>hlayercos</i> is set to DSCP for the port that is pointed to by <i>aid</i>. Values: An ampersand-separated list of integers between 0 and 64. A dash "-" between 2 integers is allowed and represents a range. The value 64 is used to classify non DSCP traffic to a <i>cos</i>. A dash "-" without integers will remove all previously entered values. Any number can only be mapped to one service.

Table 2-346. RTRV-ERATE Output *spec_block* Parameters (cont 4 of 4)

Parameter Name	Description
	This parameter is output only if the <i>aid</i> points to any of the following circuit packs: ■ LNW70

EXAMPLE INPUT/OUTPUT

The following output example is applicable when ***vlantagmd*** is 802.1TAG (802.1Q/VLAN Tag Mode) or TRANS (Transparent Mode).

```
RTRV-ERATE:TID123:SlotAID:123456::111;

TID123 98-01-01 08:00:00
M 123456 COMPLD
  "SlotAID:111:pir=1000"
;
```

Beginning in Release 6.0, the slot number may be included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

The following output example is applicable when ***vlantagmd*** is 802.1TAG (802.1Q/VLAN Tag Mode) or TRANS (Transparent Mode) and no *tagid* is specified in the input command. Then all of the ***vlanid/pir*** pairs or the ***porttagid/pir*** pairs are listed, respectively, in the output for that circuit pack.

```
RTRV-ERATE:TID123:SlotAID:123456;

TID123 98-01-01 08:00:00
M 123456 COMPLD
  "SlotAID:111:pir=1000"
  "SlotAID:112:pir=700"
  "SlotAID:113:pir=9000"
;
```

The following example is applicable when *vlantagmd* is NOTAG.

```
RTRV-ERATE:TID123:PortAID:123456;  
  
TID123 98-01-01 08:00:00  
M 123456 COMPLD  
  "PortAID::pir=1000"  
;
```

The above examples do not apply to the following circuit packs:

- LNW70

Instead the following is an example of a normal completion response for the LNW70.

```
RTRV-ERATE:TID123:SlotAID:123456;  
  
TID123 98-01-01 08:00:00  
M 123456 COMPLD  
  "d-1-2:NA,NA,PORT:cbs=125,cir=500,pbs=125,pir=1000,qospm=ENABLED"  
  "d-1-3:12,NA,TAGPORT:cbs=125,cir=400,pbs=125,pir=500"  
  "d-1-3:12,NA,TAGPORT:qospm=ENABLED,dftpri2cos=0"  
  "d-1-3:113,NA,TAGPORT:cbs=125,cir=300,pbs=125,pir=400"  
  "d-1-3:113,NA,TAGPORT:qospm=ENABLED,dftpri2cos=1"  
  "d-1-3:115,NA,TAGPORT:cbs=125,cir=200,pbs=125,pir=300"  
  "d-1-3:115,NA,TAGPORT:qospm=ENABLED,dftpri2cos=3"  
  "d-1-4:11,0,COSTAGPORT:cbs=125,cir=100,pbs=125,pir=300"  
  "d-1-4:11,0,COSTAGPORT:qospm=ENABLED,userpri2cos=01100000"  
  "d-1-4:11,1,COSTAGPORT:cbs=125,cir=200,pbs=125,pir=400"  
  "d-1-4:11,1,COSTAGPORT:qospm=ENABLED,userpri2cos=10010000"  
  "d-1-4:11,2,COSTAGPORT:cbs=125,cir=1000,pbs=125,pir=1000"  
  "d-1-4:11,2,COSTAGPORT:qospm=DISABLED,userpri2cos=00001100"  
  "d-1-4:11,3,COSTAGPORT:cbs=125,cir=1000,pbs=125,pir=1000"  
  "d-1-4:11,3,COSTAGPORT:qospm=DISABLED,userpri2cos=00000011"  
;
```

The above examples do not apply to the following circuit packs:

- LNW78

Instead the following is an example of a normal completion response for the LNW78.

```
RTRV-ERATE:TID123:SlotAID:123456;  
  
TID123 98-01-01 08:00:00  
M 123456 COMPLD  
"d1-1-1:NA,NA,PORT:pbs=125,pir=800,qospm=DISABLED"  
"d1-1-2:NA,1,COSPORT:pbs=125,pir=800,qospm=ENABLED"  
"d1-1-2:NA,2,COSPORT:cbs=125,cir=100,pbs=125,pir=800,qospm=ENABLED"  
"d1-1-2:NA,3,COSPORT:cbs=125,cir=200,qospm=ENABLED"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there apply to this command.

If the specified *aid* does not contain an Ethernet board or contains an Ethernet board that does not support rate controls, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, board type does not support rate shaping  
*/  
;
```

Starting in release 5.1, the previous error message is replaced with a more generic message as follows: if the specified *aid* does not contain an Ethernet board or an Ethernet board that does not support QoS, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, QoS services are not supported on this  
pack */  
;
```

If the specified **aid** is not valid the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier */
;
```

If a port is a member of a Link Aggregation Group, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, one or more ports are members of a
LAG */
;
```

If the specified **tagid** doesn't exist, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, tagid does not exist */
;
```

If there are no QoS services that match the input parameter(s), the following error response is returned, unless one or more of the input parameters implicitly or explicitly specifies ALL:

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, QoS service does not exist */
;
```

If the user enters a **cos** value that is not an integer between 0 and 3, inclusive, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of COS is not valid */
;
```

If the user enters a value for **cos** on an RPR pack that is not an integer in the range of 1-3, then the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, the value of COS is not valid */
;
```

RELATED TL1 MESSAGES

DLT-ERATE, ED-ERATE, ENT-ERATE, ED-EPORT, ED-VCG, ED-EQPT,
ED-VRTSW

NAME

RTRV-ERP: Retrieve ERP instance(s)

The **RTRV-ERP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-ERP:*tid*:*[aid]*:*ctag*::*[ERPid]*[*,* *vrtswid*];

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

DESCRIPTION

The **RTRV-ERP** command retrieves the attributes of one or more ERP instances.

INPUT PARAMETERS

Table 2-347. RTRV-ERP Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of a slot (Slot AID). Refer to the AID Table for valid AIDs. This parameter is optional. Default value is "ALL."
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-347. RTRV-ERP Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>erpId</i>	ERP ID. An alphanumeric string of up to 32 characters If this parameter is omitted, information on all the ERP instances in the <i>vrtswid</i> is returned.
<i>vrtswid</i>	Virtual Switch ID. Value: An integer in the range 1 - 16. If <i>erpId</i> is specified, this parameter should be ignored. If <i>erpId</i> is not specified and this parameter is omitted, information on all the ERP instances in the slot aid is returned.

OUTPUT FORMAT

If the network element (NE) fully complies with the **RTRV-ERP** request, the following normal completion response is returned:

```

sid date time
M ctag COMPLD
  "aid:ERPid:spec_block"
  <1 or more of the line above, for another ERPid>
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-348. RTRV-ERP Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of a slot (Slot AID). Refer to the AID Table for valid AIDs.
<i>erpId</i>	ERP ID. An alphanumeric string of up to 32 characters.

Table 2-348. RTRV-ERP Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>spec_block</i>	Specific parameter Block. The <i>spec_block</i> parameters are defined in the following table.

Table 2-349. RTRV-ERP Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>vtswid</i>	Virtual Switch ID. Value: An integer in the range 1 to 16
<i>ERPport</i>	ERP port list. An ampersand-separated list of 2 port AIDs. port AIDs can be Ethernet port AIDs or VCG AIDs. The second parameter in the list instead of a port AID can also be an ERP ID. In case of a sub-ring ERP, this refers to the Main ERP this sub-ring is connected to.
<i>vlan</i>	VLAN identifier used for ERP signaling. It is an integer in the range 1-4093.
<i>protlink</i>	RPL (Ring Protection Link) identification. It is the aid (Ethernet port or VCG) of one of the 2 <i>ERPports</i> .
<i>wtr</i>	Wait-to-Restore timer. A value in the range 1-12 minutes.
<i>guard</i>	Guard timer. A value in the range 10-2000 milliseconds in steps of 10 milliseconds.
<i>mdlevel</i>	Maintenance Domain level. A value in the range 0-7.
<i>proptc</i>	Controls enabling propagation of Topology Change (TC) messages. Values : enable/disable.
<i>state</i>	Controls enabling the ERP instance. Values : enable/disable.
<i>pri</i>	R-APS PDU priority. Represents the encoding of the p-bits in the R-APS VLAN tag. A value in the range 0-7.
<i>eis</i>	ERP instance state. Values are as follows: ■ ESD: ERP shut down

Table 2-349. RTRV-ERP Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
	■ ELSF: Local SF ■ ERSF: Remote SF ■ EWTR: Wait to Restore ■ ENRB: No Request (RPL blocked) ■ ENRU: No Request (RPL state unknown) If the circuit pack is not present, a "?" is reported.

EXAMPLE INPUT/OUTPUT

RTRV-ERP:TID123:fn-d-1:123456::erp1;

```
TID123 00-01-01 08:00:00
M 123456 COMPLD
"fn-d-1:erp1:vrtswid=2,ERPport=d1-v1&d1-v2,vlan=1234,protlink=d1-v1,
wtr=1,gaurd=500,mdlevel=3,proptc=disable,stste=enable,pri=6,eis=EWTR"
;
```

RTRV-ERP:TID123:fn-d-1:123456::;

```
TID123 00-01-01 08:00:00
M 123456 COMPLD
"fn-d-1:erp1:vrtswid=2,ERPport=d1-v1&d1-v2,vlan=1234,protlink=d1-v1,
wtr=1,gaurd=500,mdlevel=3,proptc=disable,stste=enable,pri=6,eis=EWTR"
"fn-d-1:erp2:vrtswid=3,ERPport=d1-1&d1-2,vlan=1234,protlink=d1-1,
wtr=1,gaurd=500,mdlevel=3,proptc=disable,stste=enable,pri=6,eis=ELSF"
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the slot in the specified AID contains a circuit pack to which this command does not apply, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, circuit pack does not support ERP */
;
```

If the **vlantagmd (ED-EQPT)** for the board is set to NOTAG, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, ERP not supported in NOTAG mode */
;
```

When the command is executed with the AID value of "ALL", ERP information will not be returned for any slots that are not equipped with LNW(1)70 circuit packs in SWITCHED mode.

If the specified erpid is not an ASCII string up to 32 characters, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, erpid not valid */
;
```

If the entered **erpid** is not in use in the same Function or Growth Unit pair, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, ERPID does not exist */
;
```

If the specified virtual switch id (***vrtswid***) is not within the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, vrtswid out of range */
;
```

If the specified virtual switch doesn't have ERP instances, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, No ERP exists for the vrtswid */
;
```

RELATED TL1 MESSAGES

DLT - ERP

ENT - ERP

ED - ERP

NAME

RTRV-EXT-CONT: Retrieve External Control

The **RTRV-EXT-CONT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

Syntax of **RTRV-EXT-CONT**

RTRV-EXT-CONT: *tid:aid:ctag*;

DESCRIPTION

The **RTRV-EXT-CONT** command instructs an NE to retrieve the control state of (an) external control(s). The command can be used to audit the result of an **OPR-EXT-CONT** or a **RLS-EXT-CONT** command.

The **RTRV-EXT-CONT** command does not generate a **REPT DBCHG** message.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-350. RTRV-EXT-CONT Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> identifies the external miscellaneous discrete control for which the state is being retrieved. Refer to the AID Table for information on possible values. <i>aid</i> of CONT-ALL retrieves information for all discrete controls.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the network element (NE) fully complies with the **RTRV-EXT-CONT** request, the following normal completion response is returned:

```

sid date time
M ctag COMPLD
  "aid:,dur,contstate"
  ...
  "aid:,dur,contstate"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to the **RTRV-EXT-CONT** command.

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for the **RTRV-HDR** command. Parameters that specifically apply to the **RTRV-EXT-CONT** command are defined below.

Table 2-351. RTRV-EXT-CONT Output Parameters

Parameter Name	Description
<i>aid</i>	The <i>aid</i> identifies the external control for which the current control states are being retrieved. When the default <i>aid</i> is used, the output is sorted by <i>aid</i> , with output miscellaneous discrete control AID 1 and its description printed first and output miscellaneous discrete control AID 2 second, etc.
<i>dur</i>	The duration that the external control can be operated. The only allowed value is: ■ CONTS (continuous)
<i>contstate</i>	The control state of the external control. Valid values for <i>contstate</i> are as follows: ■ OPER Operated ■ RLS Released

EXAMPLE INPUT/OUTPUT

The following example shows a **RTRV-EXT-CONT** command that retrieves the control state of external

miscellaneous discrete control 3 on an NE:

```
RTRV-EXT-CONT:LT-TID1234:cont-3:123456;  
  
LT-TID1234 98-01-01 08:00:00  
M 123456 COMPLD  
"cont-3:,CONTS,RLS"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there also apply to the **RTRV-EXT-CONT** command.

RELATED TL1 MESSAGES

OPR-EXT-CONT

RLS-EXT-CONT

NAME

RTRV - FECOM: Retrieve Far End Communications

The **RTRV - FECOM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV - FECOM:*tid:[aid]:ctag[:[:]];*

DESCRIPTION

The **RTRV - FECOM** command retrieves the provisioned state of operations communications over the data communication channel (DCC) and IAO LAN, as set by the **ENT - FECOM** command.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-352. RTRV - FECOM Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The AID identifies the DCC and/or IAO LAN address for which the current provisioned values are requested. The default value is <i>dcc-all</i> and <i>lan-all</i> when the AID is null. See Appendix A for the AID format/rules.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the network element (NE) fully complies with a request for DCCs only, the following far-end OSI communication response is returned:

```
sid date time
M ctag COMPLD
"dcc-address:communications,side"
.      .      .
.      .      .
"dcc-address:communications,side"
;
```

If the NE fully complies with a request for all DCC and IAO LAN ports, the following far-end OSI communication response is returned:

```
sid date time
M ctag COMPLD
"dcc-address:communications,side"
.      .      .
.      .      .
"dcc-address:communications,side"
"lan-address:communications"
"lan-address:communications"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command. Additional parameters that specifically apply to this command response are defined below.

.

Table 2-353. RTRV - FECOM Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>dcc-address</i>	This parameter displays the address of the DCCs, if any, for which information was requested. DCCs for unequipped ports are not listed.
<i>lan-address</i>	This parameter displays the address of the IAO LAN ports, if any, for which information was requested.

Table 2-353. RTRV-FECOM Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>communication s</i>	This parameter shows whether OSI communication over the DCC is enabled or disabled and whether OSI communication over the IAO LAN port is enabled or disabled.
<i>side</i>	This parameter designates the NE's end of each DCC as either network-side or user-side. This designation is required for DCC communications and must be coordinated with the NE at the other end of each DCC span that is enabled. One end of each DCC span must be designated as the network-side and the other end of each DCC span must be designated as the user-side; otherwise, an alarm is reported.

EXAMPLE INPUT/OUTPUT

The following screen display is an example of DCC OSI communications enabled for a high-speed UPSR contained in the Main slots:

```
RTRV-FECOM:LT-TID123::123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
"dcc-m1-1:enabled,user-side"
```

```
"dcc-m2-1:enabled,network-side"
```

```
"dcc-c-1:enabled,network-side"
```

```
;
```

The following example illustrates OSI communications that are enabled for the rear IAO LAN port:

```
RTRV-FECOM:LT-TID123:lan-2:123456;
```

```
IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
  "lan-2:enabled"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

The NE returns the following error response if the Application mode is equal to either "0x1" or "upsr", and a linear DCC AID (for example, DCC-{m,a,b,c,d,g}-{1-x} where x is the number of ports available on the pack that is being addressed) was entered:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, parameter settings inconsistent with AID
*/
;
```

The NE returns the following error response if the Application mode is equal to "1+1", and a ring DCC AID (for example, DCC-{m,a,b,c,d,g}{1,2}-{1-x} where x is the number of ports available on the pack that is being addressed) was entered:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, parameter settings inconsistent with AID
*/
;
```

RELATED TL1 MESSAGES

ENT-FECOM

NAME

RTRV - FECOM - SCN: Retrieve Far End Communications for Signaling Communications Network (SCN)

The **RTRV - FECOM - SCN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV - FECOM - SCN:*tid*[:*aid*]:*ctag*;

DESCRIPTION

The **RTRV - FECOM - SCN** command retrieves IP communications over the DCC and/or LAN, and the related IP address and subnet mask of the LAN for the Signaling Communications Network (SCN), as set by the **ENT - FECOM - SCN** command. SCN is a data communications network for carrying optical control plane signaling and routing messages.

Execution of this command will not be recorded in the Security log.

The **RTRV - FECOM - SCN** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-354. RTRV - FECOM - SCN Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The AID identifies the DCC or LAN (LAN-3 only) address for which the current provisioned values are requested. When AID is null or <i>all</i> , the command returns the parameters for <i>dcc-all</i> and <i>lan-3</i> . Refer to the AID Table for valid AIDs.

Table 2-354. RTRV - FECOM - SCN Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the network element (NE) fully complies with a request for DCCs only, the following response is returned:

```

sid date time
M ctag COMPLD
  "dcc aid:ip_linedcc=x"
    .      .      .
    .      .      .
  "dcc aid:ip_linedcc=x"
;

```

If the NE fully complies with a request for LAN (LAN-3) only, the following response is returned:

```

sid date time
M ctag COMPLD
  "lan aid:ip_lan=x,ipaddr_lan=x.x.x.x,ipsnmk_lan=x.x.x.x"
;

```

If the NE fully complies with a request for all DCCs of the valid packs and LAN (LAN-3), the following response is returned:

```

sid date time
M ctag COMPLD
  "dcc aid:ip_linedcc=x"
    .      .      .
    .      .      .
  "dcc aid:ip_linedcc=x"
  "lan aid:ip_lan=x,ipaddr_lan=x.x.x.x,ipsnmk_lan=x.x.x.x"
;

```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-355. RTRV-FECOM-SCN Output Parameters

Parameter Name	Description of Output Parameters
<i>aid</i>	The AID identifies the specific DCC or LAN (LAN-3 only) address for which the current provisioned values are listed.
<i>ip_linedcc</i>	IP over line DCC. This parameter indicates whether the IP communications over the specified DCC (Line) interface is enabled or disabled. The values are ENABLED or DISABLED. The IP over line DCC only applies to VLF mains, LNW62 and LNW55 packs. Beginning in Release 9.0, it also applies to LNW603.
<i>ip_lan</i>	IP over LAN. This parameter indicates whether the IP communications over the specified LAN interface is enabled or disabled. The values are ENABLED or DISABLED.
<i>ipaddr_lan</i>	LAN IP Address. This is the 32-bit IP address for the specified LAN port. It consists of four dot-separated decimal numbers ranging from 0 to 255. A returning value of null indicates that the parameter does not have a configured value.
<i>ipsnmk_lan</i>	LAN IP Subnet Mask. This is the 32-bit IP subnet mask for the specified LAN port. It consists of four dot-separated decimal numbers ranging from 0 to 255. A returning value of null indicates that the parameter does not have a configured value.

EXAMPLE INPUT/OUTPUT

The following example shows output for DCCs in main slots:

```
RTRV-FECOM-SCN:LT-TID123:dcc-m-all:123456;
```

```
IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
  "dcc-m1-1:ip_linedcc=enabled"
  "dcc-m1-2:ip_linedcc=enabled"
  "dcc-m2-1:ip_linedcc=disabled"
  "dcc-m2-2:ip_linedcc=disabled"
;
```

The following example shows output for LAN (LAN-3):

```
RTRV-FECOM-SCN:LT-TID123:lan-3:123456;
```

```
IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
  "lan-3:ip_lan=enabled,ipaddr_lan=158.123.10.1,ipnmk_lan=255.255.255.0"
;
```

The following example shows output for all DCCs of the valid packs and LAN (LAN-3). The IP address and subnet mask for the LAN are not provisioned:

```
RTRV-FECOM-SCN:LT-TID123::123456;
```

```
IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
  "dcc-m1-1:ip_linedcc=enabled"
  "dcc-m1-2:ip_linedcc=enabled"
  "dcc-m2-1:ip_linedcc=disabled"
  "dcc-m2-2:ip_linedcc=disabled"
  "lan-3:ip_lan=disabled,ipaddr_lan=,ipnmk_lan="
;
```


ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the **aid** value is invalid:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID is wrong or missing */
;
```

The NE returns the following error response if the application mode is 1+1, a non 1+1 DCC **aid** was entered, or vice versa:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID inconsistent with
application */
;
```

The NE returns the following error response if user attempts to retrieve line DCC for a slot in which the equipped pack type does not support line DCC:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, line DCC does not apply to this pack type
*/
;
```

RELATED TL1 MESSAGES

ENT-FECOM-SCN

NAME

RTRV-GENERIC: Retrieve software and database information.

The **RTRV-GENERIC** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-GENERIC: *tid::ctag;*

DESCRIPTION

The **RTRV-GENERIC** command retrieves attributes associated with the software release and database that is stored on the non-volatile removable memory (NVM) on the system controller. Each NVM may contain up to three different software releases and three different databases: the currently active release and database running on the system controller, the previous release and database, a dormant release and a backup database.

If the NE is in the normal operating mode, all NVMs will contain the same active, previous and dormant software releases and active and previous databases. If the NE is in Maintenance Mode, the active software releases and databases on different NVMs may be different. In Maintenance Mode, the previous release and its associated database and the dormant release and the backup database may be the same or different respectively on different NVMs.

Each system controller may be equipped with one or two NVMs. All NVM slots must be equipped for normal operation. The NE will operate when all NVM slots are not equipped as long as there is at least one NVM. **RTRV-GENERIC** will report NVM release and database information only for equipped NVM sockets.

Beginning in Release 9.0, **RTRV-GENERIC** may be executed directly on a subshelf in a multi-shelf DCS system utilizing a single TID, by a user logged into the subshelf.

When the NE is in Maintenance Mode, **RTRV-GENERIC** reports the active, previous and dormant software releases and active, previous and backup databases separately for each NVM. "?" is displayed for invalid or unavailable software releases and databases. When the NE is not in Maintenance Mode, the active, previous and dormant software releases and active and previous

databases are identical on all NVMs and thus **RTRV-GENERIC** reports these for the NE, not for the individual NVMs.

Execution of this command will not be recorded in the Security log.

The **RTRV-GENERIC** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Parameter Name	Description
<i>tid</i>	Target Identifier. This is the name of the NE to which the command is addressed.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.

Table 2-356. RTRV-GENERIC Input Parameters

OUTPUT FORMAT

In response to a valid **RTRV-GENERIC** command, the following output report is returned when the NE is not in Maintenance Mode:

```
IP ctag
<
  sid date time
M ctag COMPLD
  "shelf:active_rel=x"
  "shelf:active_db=x, active_db_date=00-00-00, active_db_time=00-00-00,
active_db_tid=x"
  "shelf:previous_rel=x"
  "shelf:previous_db=x, previous_db_date=00-00-00, previous_db_time=00-00-
00,
previous_db_tid=x"
  "shelf:dormant_rel=x, dormant_prodtype=x"
  "shelf:backup_db=x, backup_db_date=00-00-00, backup_db_time=00-00-00,
backup_db_tid=x"
;
```

Starting in Release 6.1, in response to a valid **RTRV-GENERIC** command, the following output report is returned when the NE is not in Maintenance Mode:

```
IP ctag
<
  sid date time
M  ctag COMPLD
  "shelf:active_rel=x"
  "shelf:active_db=x,active_db_date=00-00-00,active_db_time=00-00-00,
active_db_tid=x"
  "shelf:previous_rel=x"
  "shelf:previous_db=x,previous_db_date=00-00-00,previous_db_time=00-00-
00,
previous_db_tid=x"
  "shelf:dormant_rel=x,dormant_prodtype=x"
;
```

Starting in Release 9.0, in response to a valid **RTRV-GENERIC** command, the following output report is returned when the NE is not in Maintenance Mode. Note, the subshelf parameters reflect the values in the ssconfig file on the shelf on which the command was issued.

```
IP ctag
<
  sid date time
M  ctag COMPLD
  "shelf:active_rel=x"
  "shelf:active_db=x,active_db_date=00-00-00,active_db_time=00-00-00,
active_db_tid=x"
  "shelf:previous_rel=x"
  "shelf:previous_db=x,previous_db_date=00-00-00,previous_db_time=00-00-
00,
previous_db_tid=x"
  "shelf:dormant_rel=x,dormant_prodtype=x"
  "shelf:subshelfnum=x,subshelftype=x,mainintfc_aid=x,subshelfmac=x,main
_tid=x"
;
```

When the NE is in Maintenance Mode, in response to a valid **RTRV-GENERIC** command, the following output report is returned:

```
IP ctag
<
  sid date time
M ctag COMPLD
  "shelf:release_state=x,db_state=x,sw_nvm_sel=x,sw_rel_sel=x,db_nvm_sel=x,
database_sel=x"
  "ctl-1-nvm-1:active_rel=x"
  "ctl-1-nvm-1:active_db=x,active_db_date=00-00-00,active_db_time=00-00-00,
active_db_tid=x,act_db_MAC_match=x"
  "ctl-1-nvm-1:previous_rel=x"
  "ctl-1-nvm-1:previous_db=x,previous_db_date=00-00-00,
previous_db_time=00-00-00,previous_db_tid=x,pre_db_MAC_match=x"
  "ctl-1-nvm-1:dormant_rel=x,dormant_prodtype=x"
  "ctl-1-nvm-1:backup_db=x,backup_db_date=00-00-00,backup_db_time=00-00-00,
backup_db_tid=x,backup_db_MAC_match=x"
  "ctl-1-nvm-2:active_rel=x"
  "ctl-1-nvm-2:active_db=x,active_db_date=00-00-00,active_db_time=00-00-00,
active_db_tid=x,act_db_MAC_match=x"
  "ctl-1-nvm-2:previous_rel=x"
  "ctl-1-nvm-2:previous_db=x,previous_db_date=00-00-00,
previous_db_time=00-00-00,previous_db_tid=x,pre_db_MAC_match=x"
  "ctl-1-nvm-2:dormant_rel=x,dormant_prodtype=x"
  "ctl-1-nvm-2:backup_db=x,backup_db_date=00-00-00,backup_db_time=00-00-00,
backup_db_tid=x,backup_db_MAC_match=x"
;
```

Starting in Release 9.0, when an NE is in Maintenance Mode, in response to a valid **RTRV-GENERIC** command, the following output report is returned:

```
IP ctag
<
  sid date time
M ctag COMPLD
  "shelf:release_state=x,db_state=x,sw_nvm_sel=x,sw_rel_sel=x,db_nvm_sel=x,
  database_sel=x,ssconfig_state=x,ssconfig_nvm_sel=x,ssconfig_sel=x,
  sscomm_state=x"
  "ctl-1-nvm-1:active_rel=x"
  "ctl-1-nvm-1:active_db=x,active_db_date=00-00-00,active_db_time=00-00-00,
  active_db_tid=x,act_db_MAC_match=x"
  "ctl-1-nvm-1:previous_rel=x"
  "ctl-1-nvm-1:previous_db=x,previous_db_date=00-00-00,
  previous_db_time=00-00-00,previous_db_tid=x,pre_db_MAC_match=x"
  "ctl-1-nvm-1:dormant_rel=x,dormant_prodtype=x"
  "ctl-1-nvm-1:backup_db=x,backup_db_date=00-00-00,backup_db_time=00-00-00,
  backup_db_tid=x,backup_db_MAC_match=x"
  "ctl-1-nvm-1:subshelfnum=x,subshelftype=x,mainintfc_aid=x,subshelfmac=x,
  main_tid=x,ssconfig_state=x"
  "ctl-1-nvm-2:active_rel=x"
  "ctl-1-nvm-2:active_db=x,active_db_date=00-00-00,active_db_time=00-00-00,
  active_db_tid=x,act_db_MAC_match=x"
  "ctl-1-nvm-2:previous_rel=x"
  "ctl-1-nvm-2:previous_db=x,previous_db_date=00-00-00,
  previous_db_time=00-00-00,previous_db_tid=x,pre_db_MAC_match=x"
  "ctl-1-nvm-2:dormant_rel=x,dormant_prodtype=x"
  "ctl-1-nvm-2:backup_db=x,backup_db_date=00-00-00,backup_db_time=00-00-00,
  backup_db_tid=x,backup_db_MAC_match=x"
  "ctl-1-nvm-2:subshelfnum=x,subshelftype=x,mainintfc_aid=x,subshelfmac=x,
  main_tid=x"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The parameters listed there also apply to this command.

Parameter Name	Description
<i>aid</i>	Access Identifier. The access identifier assigned to shelf or the NVM socket. In normal mode (RTRV-SYS:nemode), <i>aid</i> is always "shelf". Refer to Appendix A for the valid AIDs.
<i>spec_block</i>	The following are the <i>spec_block</i> parameters.

Table 25. RTRV-GENERIC Output Parameters

Parameter Name	Description
<i>release_state</i>	State of the selection of the software release. Values are: VALID A valid release is selected. NOT_SELECTED No release is currently selected. This parameter is output only when the NE is in Maintenance Mode.

Table 26. RTRV-GENERIC spec_block Output Parameters (cont 1 of 10)

Parameter Name	Description
<i>db_state</i>	State of the database. Values are: VALID A database and release have been selected, and they are known to be compatible with each other. DEFAULT A database with all parameters set to their default values has been selected. NOT_SELECTED A database has not been selected. COMPATIBILITY_UNKNO WN A release and a database have been selected, but they are either known to be incompatible, or their compatibility with each other is unknown (the NE does not know the compatibility of later software generics and databases with different version numbers). RELEASE_MISMATCH The database and software are different versions MAC_MISMATCH The MAC in the database does not match the SYSCTL MAC. This parameter is output only when the NE is in Maintenance Mode.
<i>active_rel</i>	Software release that is stored as the active release on the NVM. This parameter reports the release number in the numeric format XX.XX.XX. Leading zeros are not shown. If the <i>active_rel</i> area doesn't contain a valid release, or the NVM is failed or removed, the value of this parameter is "?".

Table 26. **RTRV-GENERIC** spec_block Output Parameters (cont 2 of 10)

Parameter Name	Description
<i>previous_rel</i>	Software release that is stored as the previous release on the NVM. This parameter reports the release number in the numeric format XX.XX.XX. Leading zeros are not shown. When an APPLY command is executed on this NE specifying the <i>previous_rel</i>, the <i>active_rel</i> becomes the <i>previous_rel</i>, and the <i>previous_rel</i> becomes the <i>active_rel</i>. The <i>dormant_rel</i> is unchanged. (Refer to the APPLY command.) If the <i>previous_rel</i> area doesn't contain a valid release, the value of this parameter is "?". For a subshelf that is not in maintenance mode, the value of this parameter is "?".
<i>dormant_rel</i>	Software release that is stored as the dormant release on the NVM. This parameter reports the release number in the numeric format XX.XX.XX. Leading zeros are not shown. A software release downloaded to this NE is downloaded as the <i>dormant_rel</i> in the NVM. The <i>dormant_rel</i> may be a new release that has been downloaded to this NE but not yet installed, or it may be a release for a compatible product type stored by DMX. It may also be a DMX release prior to DMX R6.0, in which case it is treated as if it's a release for a different product type. (Refer to the CPY-MEM command.) When the <i>dormant_rel</i> contains a valid release for this NE and an APPLY command is executed on this NE specifying the <i>dormant_rel</i>, the <i>active_rel</i> becomes the <i>previous_rel</i> and the <i>dormant_rel</i> becomes the <i>active_rel</i>. The <i>dormant_rel</i> is not changed. (Refer to the APPLY command.) If the <i>dormant_rel</i> area doesn't contain a valid release, the value of this parameter is "?". For a subshelf that is not in maintenance mode, the value of this parameter is "?".

Table 26. **RTRV-GENERIC** spec_block Output Parameters (cont 3 of 10)

Parameter Name	Description																
<i>dormant_prodtype</i>	Other product type. This parameter is associated with the <i>dormant_rel</i> parameter. This parameter reports the product type of the dormant software release stored by the NE. This parameter value is NULL if there is no <i>dormant_rel</i>. <table> <tr> <td>DMXTEND</td><td>DMXtend</td></tr> <tr> <td>DMXPRESS</td><td>DMXpress</td></tr> <tr> <td>DMX</td><td>DMX</td></tr> <tr> <td>DMXPLORE</td><td>DMXplore</td></tr> <tr> <td>1850TSS-5</td><td>1850TSS-5</td></tr> <tr> <td>DDMOC3</td><td>DDM-2000 OC-3</td></tr> <tr> <td>DDMOC12</td><td>DDM-2000 OC-12</td></tr> <tr> <td>FBRRCH</td><td>FiberReach</td></tr> </table> For a subshelf that is not in maintenance mode, the value of this parameter is "?".	DMXTEND	DMXtend	DMXPRESS	DMXpress	DMX	DMX	DMXPLORE	DMXplore	1850TSS-5	1850TSS-5	DDMOC3	DDM-2000 OC-3	DDMOC12	DDM-2000 OC-12	FBRRCH	FiberReach
DMXTEND	DMXtend																
DMXPRESS	DMXpress																
DMX	DMX																
DMXPLORE	DMXplore																
1850TSS-5	1850TSS-5																
DDMOC3	DDM-2000 OC-3																
DDMOC12	DDM-2000 OC-12																
FBRRCH	FiberReach																
<i>active_db</i>	Active database release. This parameter reports the software release number of the active database. <i>active_db</i> is reported in the numeric format XX.XX.XX. Leading zeros are not shown. If the <i>active_db</i> area doesn't contain a valid database, the value of this parameter is "?". For a subshelf that is not in maintenance mode, the value of this parameter is "?".																
<i>previous_db</i>	Previous database release. This parameter reports the software release number of the previous database. <i>previous_db</i> is reported in the numeric format XX.XX.XX. Leading zeros are not shown. If the <i>previous_db</i> area doesn't contain a valid database, the value of this parameter is "?". For a subshelf that is not in maintenance mode, the value of this parameter is "?".																
<i>backup_db</i>	Backup database. This parameter reports the software release number of the database that is stored as the backup database.																

Table 26. RTRV-GENERIC spec_block Output Parameters (cont 4 of 10)

Parameter Name	Description
	Starting in Release 1.0, <i>backup_db</i> is returned only when the NE is in Maintenance Mode. <i>backup_db</i> is reported in the numeric format XX.XX.XX. Leading zeros are not shown. If the <i>backup_db</i> area doesn't contain a valid database, the value of this parameter is "?". When the NE is in Maintenance Mode, and only when the NE is in Maintenance Mode, executing CPY-MEM: class=RESTORE to restore a previously backed up database stores the downloaded database as the <i>backup_db</i>. When the NE is not in Maintenance Mode, the restored database replaces the <i>active_db</i>. (Refer to the CPY-MEM command.)
<i>active_db_date</i>	Active database date. This parameter specifies the timestamp date of the <i>active_db</i> file. The format is YY-MM-DD For a subshelf that is not in maintenance mode, the value of this parameter is "?".
<i>previous_db_date</i>	Previous database date. This parameter specifies the timestamp date of the <i>previous_db</i> file. The format is YY-MM-DD. For a subshelf that is not in maintenance mode, the value of this parameter is "?".
<i>backup_db_date</i>	Backup database date. This parameter specifies the timestamp date of the <i>backup_db</i> file. The format is YY-MM-DD. Starting in Release 1.0, <i>backup_db_date</i> is returned only when the NE is in Maintenance Mode.
<i>active_db_time</i>	Active database time. This parameter specifies the timestamp time of the <i>active_db</i> file. The format is HH-MM-SS. For a subshelf that is not in maintenance mode, the value of this parameter is "?".
<i>previous_db_time</i>	Previous database time. This parameter specifies the timestamp time of the <i>previous_db</i> file. The format is HH-MM-SS. For a subshelf that is not in maintenance mode, the value of this parameter is "?".
<i>backup_db_time</i>	Backup database time. This parameter specifies the timestamp time of the <i>backup_db</i> file. The format is HH-MM-SS. Starting in Release 1.0, <i>backup_db_time</i> is returned only when the NE is in Maintenance Mode.

Table 26. RTRV-GENERIC spec_block Output Parameters (cont 5 of 10)

Parameter Name	Description
<i>active_db_tid</i>	Active database Target Identifier. The Target Identifier of the NE that is associated with the active database. For a subshelf that is not in maintenance mode, the value of this parameter is "?".
<i>previous_db_tid</i>	Previous database Target Identifier. The Target Identifier of the NE that is associated with the previous database. For a subshelf that is not in maintenance mode, the value of this parameter is "?".
<i>backup_db_tid</i>	Backup database Target Identifier. The Target Identifier of the NE that is associated with the backup database. Starting in Release 1.0, <i>backup_db_tid</i> is returned only when the NE is in Maintenance Mode.
<i>act_db_MAC_match</i> <i>pre_db_MAC_match</i> <i>backup_db_MAC_match</i>	Active database NE MAC address match. Previous database NE MAC address match. Backup database NE MAC address match. These parameters are output only when the NE is in Maintenance Mode. The values are YES, NO and "?" These parameters specify if the NE MAC address stored in NVM in the same row of output matches the NE MAC address that is stored on the MAIN circuit pack EEPROMs. If the MAIN slots are not equipped, the value returned is "?". Starting in Release 1.0, for the duplex controller shelf, these parameters specify if the NE MAC address stored in the NVM specified in the same row of the output matches the NE MAC address that is stored on the RMEM. If the RMEM is missing or failed, these parameters specify if the NE MAC address stored in the NVM matches the NE MAC address that is stored on the LNW3 system controller EEPROMs .
<i>sw_nvm_sel</i>	NVM Access Identifier. This is the AID of the NVM that contains the software release to be used. A value of "?" is returned if a software release has not been selected. This parameter is output only when the NE is in Maintenance Mode.
<i>db_nvm_sel</i>	NVM Access Identifier. This is the AID of the NVM that contains the database to be used. A value of "?" is returned if a database has not been selected and a value of "-" is returned if the default database has been selected. This parameter is output only when the NE is in Maintenance Mode.

Table 26. **RTRV-GENERIC** spec_block Output Parameters (cont 6 of 10)

Parameter Name	Description
<i>sw_rel_sel</i>	Identifies the selected software release on the selected software release NVM. This parameter is output only when the NE is in Maintenance Mode. The values are: The values are : ■ ACTIVE The <i>active_rel</i> is selected ■ PREVIOUS The <i>previous_rel</i> is selected ■ DORMANT The <i>dormant_rel</i> is selected ■ ? A software release has not been selected.
<i>database_sel</i>	Identifies the selected database on the selected database NVM. This parameter is output only when the NE is in Maintenance Mode. The values are: The values are: ■ ACTIVE The <i>active_db</i> is selected ■ PREVIOUS The <i>previous_db</i> is selected ■ BACKUP The <i>backup_db</i> is selected ■ DEFAULT A database with all parameters set to their default values is selected ■ ? A database has not been selected.
Beginning in Release 9.0, the response contains the following additional parameters.	
<i>main_tid</i>	Main Shelf Target Identifier. <i>main_tid</i> specifies the <i>tid</i> of the main shelf in a multi-shelf configuration. Refer to the RTRV-HDR command a description of the <i>tid</i> parameter. ■ NA This value is returned if the shelf is a main shelf or a stand-alone shelf. ■ ? The value cannot be determined.

Table 26. **RTRV-GENERIC** spec_block Output Parameters (cont 7 of 10)

Parameter Name	Description
<i>mainintfc_aid</i>	Main Shelf Interface AID. <i>mainintfc_aid</i> specifies the AID of the optical interface on the main shelf to which the subshelf is connected. Values ■ 1+1 Protection Group AID ■ NA This value is returned if the shelf is a main shelf or a stand-alone shelf. ■ ? The value cannot be determined.
<i>sscomm_state</i>	Subshelf Communication State. This parameter is output only when the NE is in Maintenance Mode. Values ■ ACTIVE Subshelf communication link with main shelf is functioning. ■ FAIL Subshelf communication link with main shelf is failed. ■ NA This value is returned if the shelf entered maintenance mode as a main shelf
<i>ssconfig_nvm_sel</i>	Subshelf Configuration NVM Access Identifier. This is the AID of the NVM that contains the ssconfig to be used. A value of "?" is returned if a ssconfig has not been selected and a value of "-" is returned if the default ssconfig has been selected. This parameter is output only when the NE is in Maintenance Mode.
<i>ssconfig_sel</i>	Identifies the selected ssconfig on the selected database NVM. This parameter is output only when the NE is in Maintenance Mode. The values are: ■ ACTIVE The active ssconfig is selected ■ DEFAULT An ssconfig with all parameters set to their default values is selected ■ ? An ssconfig has not been selected.

Table 26. RTRV-GENERIC spec_block Output Parameters (cont 8 of 10)

Parameter Name	Description
<i>ssconfig_state</i>	Subshelf Configuration State. This parameter is output only when the NE is in Maintenance Mode. Values ■ VALID A valid ssconfig is selected. - If the shelf is a subshelf, the configuration matches the configuration provisioned on the main shelf. ■ DEFAULT A ssconfig with all parameters set to their default values is selected. ■ MISMATCH A valid ssconfig is selected (subshelf only). The configuration does not match the configuration provisioned on the main shelf. ■ NOT_SELECTED No subshelf configuration is currently selected.
<i>subshelfmac</i>	Subshelf MAC Address. <i>subshelfmac</i> is the MAC address that is stored (burned) on the subshelf SYSCTL's EEPROM by the factory and it is unique. This is the MAC address that is always used as the NE's unique system ID field within the NE's OSI NSAP address (see ENT-ULSDCC-L3:l3sys). The 6 bytes of the MAC address are formatted as 12 hexadecimal digits. ■ NA This value is returned if the shelf is a main shelf or a stand-alone shelf. ■ ? The value cannot be determined.
<i>subshelfnum</i>	Subshelf Number. Values ■ [2-14] (integer values only) ■ NA This value is returned if the shelf is as a main shelf or a stand-alone shelf. ■ ? The value cannot be determined.

Table 26. RTRV-GENERIC spec_block Output Parameters (cont 9 of 10)

Parameter Name	Description
<i>subshelftype</i>	Subshelf Type. Values ■ <i>DS1</i> ■ <i>DS3</i> ■ <i>MAIN</i> ■ <i>?</i> This value is returned if the value cannot be determined.

Table 26. **RTRV-GENERIC** spec_block Output Parameters (cont 10 of 10)

EXAMPLE INPUT/OUTPUT

The following example shows a **RTRV-GENERIC** command/response when the NE is not in Maintenance Mode:

```

RTRV-GENERIC:LT-DMX::123456;

IP 123456
<

    LT-DMX 05-07-12 01:10:00
M 123456 COMPLD
  "shelf:active_rel=6.0.3"
  "shelf:active_db=6.0.3,active_db_date=05-07-11,active_db_time=18-13-58,
active_db_tid=LT-D011"
  "shelf:previous_rel=6.0.1"
  "shelf:previous_db=6.0.1,previous_db_date=05-01-30,previous_db_time=09-43-12,
previous_db_tid=LT-D011"
  "shelf:dormant_rel=15.0.4,dormant_prodtype=ddmoc3"
  "shelf:backup_db=6.0.2,backup_db_date=05-07-02,backup_db_time=07-15-22,
backup_db_tid=LT-D011"
;

```

Starting in Release 6.1, the following example shows a **RTRV-GENERIC** command/response when the NE is not in Maintenance Mode:

RTRV-GENERIC:LT-DMX::123456;

IP 123456
<

LT-DMX 06-07-12 01:10:00
M 123456 COMPLD
"shelf:active_rel=6.1.0"
"shelf:active_db=6.1.0,active_db_date=06-07-11,active_db_time=18-13-58,
active_db_tid=LT-D011"
"shelf:previous_rel=6.0.1"
"shelf:previous_db=6.0.1,previous_db_date=06-01-30,previous_db_time=09-43-12,
previous_db_tid=LT-D011"
"shelf:dormant_rel=15.0.4,dormant_prodtype=ddmoc3"
;

Beginning in Release R9.0, the following example shows the normal **RTRV-GENERIC** command/response from a stand-alone shelf or a main shelf when the NE is not in Maintenance Mode:

RTRV-GENERIC:TID123::123456;

IP 123456
<

TID123 09-11-12 01:10:00
M 123456 COMPLD
"shelf:active_rel=9.0.0"
"shelf:active_db=9.0.0,active_db_date=09-10-30,active_db_time=18-13-58,
active_db_tid=LT-D011"
"shelf:previous_rel=8.0.1"
"shelf:previous_db=8.0.1,previous_db_date=09-01-30,previous_db_time=09-43-12,
previous_db_tid=TID123"
"shelf:dormant_rel=15.0.4,dormant_prodtype=ddmoc3"
"shelf:subshelfnum=NA,subshelftype=main,mainintfc_aid=NA,subshelfmac=NA,main_
tid=NA"
;

Beginning in Release R9.0, the following example shows the normal **RTRV-GENERIC** command/response from a subshelf when the NE is not in Maintenance Mode:

```
RTRV-GENERIC:TID123::123456;

IP 123456
<

    TID123 09-11-12 01:10:00
M 123456 COMPLD
    "shelf:active_rel=9.0.0"
    "shelf:active_db=?,active_db_date=?,active_db_time=?,
active_db_tid=?"
    "shelf:previous_rel=?"
    "shelf:previous_db=?,previous_db_date=?,previous_db_time=?,
previous_db_tid=?"
    "shelf:dormant_rel=?,dormant_prodtype=?"
    "shelf:subshelfnum=2,subshelftype=DS1,mainintfc_aid=growth-1-1,
subshelfmac=08006A112347,main_tid=TID123"
;
```

The following example shows a **RTRV-GENERIC** command/response when the NE is in Maintenance Mode. In this example, the active database on the first NVM is not readable and the MAC address in the active database on the second NVM does not match the NE's MAC address. The active release on the second NVM and a default database have been selected.

```
RTRV-GENERIC:LT-DMX::123456;
```

```
IP 123456
```

```
<
```

```
LT-DMX 05-07-12 01:10:00
```

```
M 123456 COMPLD
```

```
"shelf:release_state=valid,db_state=default,sw_nvm_sel=ctl-1-nvm-2,  
sw_rel_sel=active,db_nvm_sel=-,database_sel=default"
```

```
"ctl-1-nvm-1:active_rel=6.0.2"
```

```
"ctl-1-nvm-1:active_db=?,active_db_date=?;active_db_time=?,active_db_tid=?,  
act_db_MAC_match=?"
```

```
"ctl-1-nvm-1:previous_rel=6.0.1"
```

```
"ctl-1-nvm-1:previous_db=6.0.1,previous_db_date=05-04-30,  
previous_db_time=09-43-12,previous_db_tid=LT-DMX123,pre_db_MAC_match=no"
```

```
"ctl-1-nvm-1:dormant_rel=15.0.4,dormant_prodtype=ddmcc3"
```

```
"ctl-1-nvm-1:backup_db=6.0.2,backup_db_date=05-07-10,  
backup_db_time=12-23-18,backup_db_tid=LT-D011,backup_db_MAC_match=yes"
```

```
"ctl-1-nvm-2:active_rel=6.0.2"
```

```
"ctl-1-nvm-2:active_db=6.0.2,active_db_date=05-05-11,  
active_db_time=18-13-58,active_db_tid=LT-DMX123,act_db_MAC_match=yes"
```

```
"ctl-1-nvm-2:previous_rel=6.0.1"
```

```
"ctl-1-nvm-2:previous_db=6.0.1,previous_db_date=05-04-30,  
previous_db_time=08-47-32,previous_db_tid=LT-DMX123,pre_db_MAC_match=no"
```

```
"ctl-1-nvm-2:dormant_rel=7.0.2,dormant_prodtype=ddmcc12"
```

```
"ctl-1-nvm-2:backup_db=?,backup_db_date=?,backup_db_time=?,backup_db_tid=?,  
backup_db_MAC_match=?"
```

```
;
```

The following example shows a **RTRV-GENERIC** command/response when the NE is in Maintenance Mode. In this example, the first NVM socket is not equipped. No release or database have been selected.

```
RTRV-GENERIC:LT-DMX::123456;

IP 123456
<

    LT-DMX 05-07-12 01:10:00
M 123456 COMPLD
"shelf:release_state=not_selected,db_state=not_selected,sw_nvm_sel=-,
sw_rel_sel=-,db_nvm_sel=-,database_sel=-"
"ctl-1-nvm-1:active_rel=?"
"ctl-1-nvm-1:active_db=?,active_db_date=?,active_db_time=?,active_db_tid=?,
act_db_MAC_match=?"
"ctl-1-nvm-1:previous_rel=?"
"ctl-1-nvm-1:previous_db=?,previous_db_date=?,previous_db_time=?,
previous_db_tid=?,pre_db_MAC_match=?"
"ctl-1-nvm-1:dormant_rel=?,dormant_prodtype=?"
"ctl-1-nvm-1:backup_db=?,backup_db_date=?,backup_db_time=?,backup_db_tid=?,
backup_db_MAC_match=?"
"ctl-1-nvm-2:active_rel=6.0.2"
"ctl-1-nvm-2:active_db=6.0.2,active_db_date=05-05-11,
active_db_time=18-13-58,active_db_tid=LT-DMX123,act_db_MAC_match=yes"
"ctl-1-nvm-2:previous_rel=6.0.1"
"ctl-1-nvm-2:previous_db=6.0.1,previous_db_date=05-04-30,
previous_db_time=08-47-32,previous_db_tid=LT-DMX123,pre_db_MAC_match=no"
"ctl-1-nvm-2:dormant_rel=7.0.2,dormant_prodtype=ddmoc12"
"ctl-1-nvm-2:backup_db=?,backup_db_date=?,backup_db_time=?,backup_db_tid=?,
backup_db_MAC_match=?"
;
```

Beginning in Release 9.0, the following example shows a **RTRV-GENERIC** command/response for an NE that entered Maintenance Mode as a main shelf or stand-alone shelf. In this example, the active database on the first NVM is not readable and the MAC address in the active database on the second NVM does

not match the NE's MAC address. The active release on the second NVM and a default database have been selected.

RTRV-GENERIC:TID123::123456;

IP 123456

<

TID123 09-11-12 01:10:00

M 123456 COMPLD

"shelf:release_state=valid,db_state=default,sw_nvm_sel=ctl-1-nvm-2,
sw_rel_sel=active,db_nvm_sel=-,database_sel=default,
ssconfig_state=valid,ssconfig_nvm_sel=ctl-1-nvm-2,ssconfig_sel=active,
sscomm_state=NA"

"ctl-1-nvm-1:active_rel=9.0.1"

"ctl-1-nvm-1:active_db=?,active_db_date=?;active_db_time=?,active_db_tid=?,
act_db_MAC_match=?"

"ctl-1-nvm-1:previous_rel=8.0.1"

"ctl-1-nvm-1:previous_db=8.0.1,previous_db_date=09-04-30,
previous_db_time=09-04-30,previous_db_tid=TID123,pre_db_MAC_match=no"

"ctl-1-nvm-1:dormant_rel=15.0.4,dormant_prodtype=ddmoc3"

"ctl-1-nvm-1:backup_db=8.0.1,backup_db_date=09-04-30,
backup_db_time=09-04-30,backup_db_tid=TID123,backup_db_MAC_match=yes"

"ctl-1-nvm-1:subshelfnum=NA,subshelftype=main,mainintfc_aid=NA,
subshelfmac=NA,main_tid=NA"

"ctl-1-nvm-2:active_rel=9.0.1"

"ctl-1-nvm-2:active_db=9.0.1,active_db_date=09-10-30,
active_db_time=09-10-30,active_db_tid=TID123,act_db_MAC_match=no"

"ctl-1-nvm-2:previous_rel=8.0.1"

"ctl-1-nvm-2:previous_db=8.0.1,previous_db_date=09-04-30,
previous_db_time=09-04-30,previous_db_tid=TID123,pre_db_MAC_match=no"

"ctl-1-nvm-2:dormant_rel=7.0.2,dormant_prodtype=ddmoc12"

"ctl-1-nvm-2:backup_db=?,backup_db_date=?,backup_db_time=?,backup_db_tid=?,
backup_db_MAC_match=?"

"ctl-1-nvm-2:subshelfnum=NA,subshelftype=main,mainintfc_aid=NA,
subshelfmac=NA,main_tid=NA"

;

The following example shows a **RTRV-GENERIC** command/response from an NE that entered maintenance mode, as subshelf in a multi-shelf DCS system, due to a mismatch between the subshelf configuration and the main shelf configuration.

RTRV-GENERIC:TID123::123456;

IP 123456

<

TID123 09-11-12 01:10:00

M 123456 COMPLD

```
"shelf:release_state=valid,db_state=default,sw_nvm_sel=ctl-1-nvm-2,
sw_rel_sel=active,db_nvm_sel=-,database_sel=default,
ssconfig_state=mismatch,ssconfig_nvm_sel=ctl-1-nvm-1,ssconfig_sel=active,
sscomm_state=active"
"ctl-1-nvm-1:active_rel=9.0.1"
"ctl-1-nvm-1:active_db=9.0.1,active_db_date=09-10-30,
active_db_time=09-10-30,active_db_tid=TID123,act_db_MAC_match=?"
"ctl-1-nvm-1:previous_rel=8.0.1"
"ctl-1-nvm-1:previous_db=8.0.1,previous_db_date=09-04-30,
previous_db_time=09-04-30,previous_db_tid=TID123,pre_db_MAC_match=?"
"ctl-1-nvm-1:dormant_rel=7.0.2,dormant_prodtype=ddmoc12"
"ctl-1-nvm-1:backup_db=?,backup_db_date=?,backup_db_time=?,backup_db_tid=?,
backup_db_MAC_match=?"
"ctl-1-nvm-1:subshelfnum=1,subshelftype=ds1,mainintfc_aid=growth-1-1,
subshelfmac=08006A112347,main_tid=TID123"
"ctl-1-nvm-2:active_rel=9.0.1"
"ctl-1-nvm-2:active_db=9.0.1,active_db_date=09-10-30,
active_db_time=09-10-30,active_db_tid=TID123,act_db_MAC_match=?"
"ctl-1-nvm-2:previous_rel=8.0.1"
"ctl-1-nvm-2:previous_db=8.0.1,previous_db_date=09-04-30,
previous_db_time=09-04-30,previous_db_tid=TID123,pre_db_MAC_match=?"
"ctl-1-nvm-2:dormant_rel=7.0.2,dormant_prodtype=ddmoc12"
"ctl-1-nvm-2:backup_db=?,backup_db_date=?,backup_db_time=?,backup_db_tid=?,
backup_db_MAC_match=?"
"ctl-1-nvm-2:subshelfnum=1,subshelftype=ds1,mainintfc_aid=growth-1-1,
subshelfmac=08006A112347,main_tid=TID123"
;
```

ERROR MESSAGES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

RTRV-GENERIC cannot return the release and database information while the NE is still validating the releases and databases on the NVMs. If **RTRV-GENERIC** is

executed while the NE is validating the releases and databases, the following error response is returned:

```
sid date time
M ctag DENY
SVNS
/* Status, Not in Valid State, command not allowed while generic
validation IP */
;
```

When the NE is not in Maintenance Mode (**RTRV-SYS:nemode**), a “generic validation IP” standing condition is issued while it validates the releases and databases on the NVMs.

RELATED TL1 MESSAGES

APPLY

CPY-MEM

RTRV-EQPT

SET-GENERIC

NAME

RTRV-HDR: Retrieve Header

The **RTRV-HDR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance, and Reports Only access.

Starting in Release 1.0, this command is available to users with Privileged, Administration, General, Maintenance, and Reports Only access.

INPUT FORMAT

RTRV-HDR: *tid::ctag;*

DESCRIPTION

RTRV-HDR commands can be initiated to request that the network element (NE) return a normal completion response.

The **RTRV-HDR** command may be used as a “keep-alive” signal.

In TL1 terminology, a **parameter block** always follows a colon ‘:’. Any trailing colons at the end of a command line may be omitted if they do not contain any parameters.

A parameter block can be either a block of position-defined parameters or it can be a **spec_block** (a block of name-defined parameters).

In a block of position-defined parameters, the parameter values are supplied at predefined positions within the parameter block. Two parameter values are separated by a comma. If the default value for a parameter is to be used, a null value is placed in the command line and the position of the parameter is maintained by keeping the comma. When default values are used for parameters at the end of the parameter block, it is not necessary to include all the trailing commas.

In all the TL1 command pages, for position-defined parameter blocks, simplified notation such as:

[d], [e], [f], [g]

is used to represent the following format:

[d][,][e][,][f][,][g]]]

The following notation is also equivalent:
[d], [e], [f][, g]

In a specification block (*spec_block*), every parameter name is followed by an equal sign and the parameter value. The command line does not have to use all of the *spec_block* parameters. Also, *spec_block* parameters can appear in any order.

The word **NULL** is used for some of the parameter values in TL1 messages. For both input and output parameters, **NULL** means that the parameter is omitted.

TL1 messages use YY-MM-DD for the format of a date, meaning that the year only has two digits. This is consistent with Telcordia requirements. Internally, however, the system does use a 4-digit year. When the year appears in a response, the internal 4-digit year is truncated to two digits. When the year appears as an input parameter, for example in the **ED-DAT** command, years in the range 90-99 will represent 1990-1999, and years in the range 00-37 will represent 2000-2037.

Execution of this command will not be recorded in the Security log.

The **RTRV-HDR** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-357. RTRV-HDR Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. This is the currently active name of the network element to which the command is addressed. The <i>tid</i> is a case-insensitive character string of up to 20 characters. The allowed ASCII characters are letters "A" through "Z" and "a" through "z", numbers "0" through "9", and special characters " #" (pound), "%" (percent), "+" (plus), "-" (hyphen), and "." (period). Starting in Release 5.1, the " #" (pound), "%" (percent) and "+" (plus) special characters are not allowed in <i>tid</i>. Thus, the allowed ASCII characters are letters "A" through "Z" and "a" through "z", numbers "0" through "9", and special characters: "-" (hyphen), and "." (period).
<i>ctag</i>	Correlation Tag. This is included in the command by the TL1 user and is repeated by the network element in the response to allow the TL1 user to associate the command and response messages. Valid values for <i>ctag</i> include strings of up to 6 alphanumeric characters or decimal numerals.

OUTPUT FORMAT

After receiving the **RTRV-HDR** command, the following normal completion response is returned:

```
IP^ctag<cr><lf>
<<cr><lf><lf>
^^^sid^date^time<cr><lf>
M^^ctag^COMPLD<cr><lf>
;
```

... and the notation conventions in the following table apply.

Table 2-358. Applicable Notation Conventions

Notation	Description
<cr>	A carriage return in ASCII.
<lf>	A line feed in ASCII.
<>	Brackets are used to enclose one or more information items, for example, <date>, <time>, <source identifier>, and so on. The brackets are not transmitted.
^	The character ^ indicates a "blank space" that must appear in the message.

For commands that generate output, if the output response is less than or equal to 487 bytes, the response will be terminated by the *semicolon* (;) character.

If the output response is greater than 487 bytes, the response lines will be partitioned into multiple responses. The continuation response will have another set of header lines with the same **ctag**, along with additional output response lines. Each response will be terminated with the *greater than* (>) character, except the last one which will be terminated by the *semicolon* (;) character.

If an output response is partitioned into multiple responses, an IP acknowledgment will be sent between the continuation responses if the delay between continuation responses is greater than 2 seconds.

If a **spec_block** in the output response is partitioned into multiple responses, the keywords may be continued on another line, but the AID will be repeated on the continuation line. There are no requirements as to how many parameters appear on a line.

Starting in Release 6.0, new commands or changes to commands that require that the **spec_block** output for a specified AID be continued on a new line because the line length will exceed the maximum allowed 487 characters, the new line will repeat the AID block and all positionally defined parameters at the

beginning of the line prior to the continued **spec_block** parameters. Each line will contain one or more complete **spec_block** parameters, that is, a single **spec_block** parameter will not be split across two output lines. TL1 commands that return only the AID at the beginning of a **spec_block** continuation line prior to Release 6.0 will continue to do so.

OUTPUT PARAMETERS

Table 2-359. RTRV-HDR Output Parameters

Parameter Name	Description
<i>IP</i>	In Progress. IP is sent in response to all commands with the exception of commands that result in error code output(s).
<i>sid</i>	Source Identifier (or Target identifier, tid). This is the currently active name of the NE to which the command is addressed.
<i>date</i>	Date the output message is generated. This has the format YY-MM-DD (year-month-day).
<i>time</i>	Time the output message is generated. This has the format HH:MM:SS (hours:minutes:seconds).
<i>M</i>	This indicates the output message is generated in response to a manual command.
<i>ctag</i>	Correlation Tag. This is included in the command by the TL1 user and is repeated by the network element in the response to allow the TL1 user to associate the command and response messages.
<i>COMPLD</i>	Completed or completion code. It indicates that the command has been completed successfully.
<i>RL</i>	Repeat Later. The requested command cannot be executed due to unavailable system resources. The command may be entered again later.

EXAMPLE INPUT/OUTPUT

```
RTRV-HDR:LT-TID123::123456;  
  
IP 123456  
<  
  
LT-TID123 94-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

The following error conditions are not unique to the **RTRV-HDR** command, but may apply to any TL1 command received by the NE.

If an error is detected in any of the command parameters, the entire command is denied; it is not possible to partially complete a command.

If there are errors in more than one command parameter, an error is detected and reported in only one of the parameters. The parameter for which the error is detected may not necessarily be the first parameter in the command that is in error.

A TL1-GNE only responds for another addressed NE if the user is logged into the GNE. However, a user does not have to be logged into the GNE to get an error response from a remote NE.

The general format for simple error responses is as follows:

```
<cr><lf><lf>  
sid date time<cr><lf>  
M ctag^DENY<cr><lf>  
<error code><cr><lf>  
/*<error text>*/<cr><lf>  
;
```

In the example above, the <error code> is a 4-character code and <error text> is a text string.

If a Gateway Network Element (GNE) receives a command, and instead of returning an In-Progress (IP) acknowledgement...

1. its buffer is full,
2. it is undergoing initialization, or

3. TL1 command processing is terminated *before any* of the command response is input into the TL1 command/response *output* buffer,

...the following repeat-later acknowledgment is returned:

:

```
RL ctag
<
```

If a GNE receives a command, but cannot parse the command for at least three colons (:), and no more than the maximum number of colons allowed for any supported TL1 command, before the TL1 end-of-message semicolon (;), instead of returning an in-progress (IP) acknowledgment, the following error response is returned, using the *sid* value of the GNE:

```
sid date time
M ctag DENY
IISP
/* Input, Invalid Syntax or Punctuation */
;
```

If a GNE receives a command with an invalid ***aid*** value, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier */
;
```

If a GNE receives a command for which a ***tid*** value (non-null) is *required* but no ***tid*** value is included, instead of returning an in-progress (IP) acknowledgment, the following error response is returned, using the *sid* value of the GNE:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, TID must be specified */
;
```

If a user issues a command before a session is initiated with **ACT-USER**, the following error response is returned:

```
sid date time
M ctag DENY
  PLNA
/* Privilege, Login Not Active */
;
```

If a GNE receives a command with a syntactically incorrect **tid** value, instead of returning an in-progress (IP) acknowledgment, the following error response is returned, using the **sid** value of the GNE:

```
sid date time
M ctag DENY
  IITA
/* Input, Invalid TArget identifier, unallowed characters or too
long */
;
```

If a GNE receives a command (other than **RTRV-HDR**) with valid **tid** value but the addressed remote NE is temporarily unable to communicate with the GNE due to exhaustion of allocated resources at either the GNE or remote NE (RNE), instead of returning an in-progress (IP) acknowledgment, the following error response is returned, using the **sid** value of the addressed NE:

```
sid date time
M ctag DENY
  SARB
/* Status, All Resources Busy */
;
```

If a GNE receives a command but cannot recognize a valid **ctag** value (including a missing end-of-message semicolon (;) when the **ctag** is the last supported input parameter, for example, **RTRV-HDR: tid::ctag**), instead of returning an in-progress (IP) acknowledgment, the following error response is returned, using the **sid** value of the addressed NE:

```
sid date time
M 0 DENY
  IICT
/* Input, Invalid Correlation Tag (CTAG) Invalid */
;
```

The **ctag** value "0" in the error response only applies if the input **ctag** is null or not discernible. If a non-null but invalid **ctag** is included in the command, the same **ctag** value is included in the error response.

If a GNE receives a command with an unknown **tid** value (a **tid** value that does not exist in the GNE's subnetwork), instead of returning an in-progress (IP) acknowledgment, the following error response is returned, using the **sid** value of the GNE:

```
sid date time
M ctag DENY
IITA
/* Input, Invalid TArget identifier, Unknown TID */
;
```

If a GNE receives a command with valid **tid** and **ctag** values but the addressed remote NE is temporarily unable to communicate with the GNE, instead of returning an in-progress (IP) acknowledgment, the following error response is returned, using the **sid** value of the addressed remote NE:

```
sid date time
M ctag DENY
IITA
/* Input, Invalid TArget identifier, Remote communication failure
*/
;
```

If the NE receives a TL1 command other than those supported, the following error response is returned, using the **sid** value of the addressed NE:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, Network Element does not
support Command = xxxxxxxxxxxxxxxx */
;
```

where xxxxxxxxxxxxxxxx is the first 16 characters, or up to the end-of-message semicolon (;) if less than 16 characters, of the command received.

When the TL1 security feature is enabled, if the NE receives a command requiring a privilege higher than that of the user issuing the command, the following error response is returned, using the *sid* value of the addressed NE:

```
sid date time
M ctag DENY
  PICC
/* Privilege, Illegal Command Code */
;
```

Starting in Release 6.0, if the NE receives a command requiring a privilege higher than that of the user issuing the command, the following error response is returned, using the *sid* value of the addressed NE:

```
sid date time
M ctag DENY
  PICC
/* Privilege, Illegal Command Code, insufficient login privilege
level */
;
```

If a GNE times out awaiting the response to a command addressed to another NE in the GNE's subnetwork, the following error response is returned, using the *sid* value of the addressed NE:

```
sid date time
M ctag DENY
  SDNR
/* Status, Data Not Ready, Command Timed Out */
;
```

If the NE receives any TL1 command (except **RTRV-PM**) for which it is unable to complete the request due to internal system processing problems, the following error response is returned, using the *sid* value of the addressed NE:

```
sid date time
M ctag DENY
  SROF
/* Status, Requested Operation Failed */
;
```

If the NE receives a command with a command code modifier other than those listed as allowable for the input parameter *modifier*, the following error response is returned, using the *sid* value of the addressed NE:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

If the NE receives a command with any extra (beyond the command-specific input format specification) null or non-null command parameter blocks (:), parameters (,), or termination characters (;), or if a command with a name-defined parameter block includes an invalid parameter name label, the following error response is returned:

```
sid date time
M ctag DENY
IISP
/* Input, Invalid Syntax or Punctuation */
;
```

If a command is received that is longer than 487 characters, the following error response is returned:

```
sid date time
M ctag DENY
IISP
/* Input, Invalid Syntax or Punctuation, command too long */
;
```

Typically the TL1-GNE will be the first to determine that a TL1 command is too long, thus will be responding for an RNE. In other cases, the TL1-GNE may support longer TL1 message lengths than the RNE, thus the RNE will determine a TL1 command is too long sometimes, too.

If a command that includes a specification block (***spec_block***) in the command-specific input format is received with the same parameter repeated in the ***spec_block***, the following error response is returned:

```
sid date time
M ctag DENY
IISP
/* Input, Invalid Syntax or Punctuation, parameter(s) multiply defined */
;
```

If a command that includes a specification block (***spec_block***) in the command-specific input format is received with an unsupported ***spec_block***, the following error response is returned:

```
sid date time
M ctag DENY
  ICNV
  /* Input, Command Not Valid, invalid spec_block parameter */
;
```

If an NE receives a TL1 command other than those allowed, the following error response is returned:

```
sid date time
M ctag DENY
  SROF
  /* Status, Requested Operation Failed, command not allowed */
;
```

During the initial software download state, only certain TL1 commands may be executed. See **INS-PRGM** for a list of the valid TL1 commands. If a TL1 command is received that is not supported during software download, the system will reply with:

```
sid date time
M ctag DENY
  ICNV
  /* Input, Command Not Valid, No software generic is installed */
;
```

Starting in Release 6.0, **INS-PRGM** is not supported, but the list of TL1 commands that are supported during the initial software state, as specified in **INS-PRGM** remains valid.

If a TL1 command is received that is not allowed in the current NE operating mode, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, command not allowed in current NE
operating mode */
;
```

If a subshelf in a multi-shelf DCS system utilizing a single TID, receives a TL1 command that is not supported on the subshelf, the NE returns the following error response:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, command not allowed on subshelf */
;
```

If a main shelf in a multi-shelf DCS system utilizing a single TID, receives a command and that cannot complete because all of the target subshelves are unavailable, the NE returns the following error response:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, subshelf unavailable */
;
```

If a subshelf in a multi-shelf DCS system receives a valid provisioning command executed directly on a subshelf, by a user logged into the subshelf, and there is a failed NVM on the subshelf system controller, the NE returns the following error response:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, failed NVM on subshelf */
;
```

In response to a request to provision a parameter that is not provisionable in a multi-shelf DCS system utilizing a single TID, the NE returns the following error response:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, provisioning not allowed in mutli-shelf DCS
system */
;
```

RELATED TL1 MESSAGES

None.

NAME

RTRV-IP-ROUTE: Retrieve IP Route

The **RTRV-IP-ROUTE** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-IP-ROUTE: *tid*: [*aid*]: *ctag*[:::*spec_block*];

DESCRIPTION

This command is used to retrieve entries in a network element's (NE's) IP routing table.

The related commands **ENT-IP-ROUTE**, **DLT-IP-ROUTE** and **ENT-ULS** can be used to add, modify and delete manual entries in the IP routing table.

Refer to the related command **ED-IP-TUNNEL** for more information about the TAP protocol.

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-360. RTRV - IP - ROUTE Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier (AID). This parameter can be used to retrieve IP routing table entries for the specified IAO LAN port address, i.e., front port LAN-1 , rear port LAN-2 , or both ports LAN-ALL , or for ALL (default) IP routing table entries.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-361. RTRV - IP - ROUTE Input *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>map</i>	Map: This parameter can be used to specify the type of IP routing table entries to retrieve and may have one of the following values: ■ LOCAL Local IP address entries per ENT - ULS. ■ MANUAL Manual entries per ENT - IP - ROUTE. ■ TAP Tunnel Auto Provisioning (TAP) entries. ■ ALL All of the above IP routing table entries. Default is ALL.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<

  sid date time
M  ctag COMPLD
["[aid]:DEST_IP=dest_ip,DEST_MASK=dest_mask,
NXTHOPPORT=nxthopport,NXTHOPADR=[nxthopadr],
OWNER=owner,TAPADVER=tapadver,TAPCOST=tapcost"]
.
.
.
.
.
.
["[aid]:DEST_IP=dest_ip,DEST_MASK=dest_mask,
NXTHOPPORT=nxthopport,[NXTHOPADR=nxthopadr],
OWNER=owner,TAPADVER=tapadver,TAPCOST=tapcost"]
;
```

The applicable output entries are sorted in ascending alphanumeric order by the *owner* value first, then by the AID values with non-null values before null AID values, then *dest_ip* by the value.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command. Additional parameters that specifically apply to this command response are defined below.

Table 2-362. RTRV-IP-ROUTE Output Parameters

Parameter Name	Description
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-363. RTRV - IP - ROUTE Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>aid</i>	Access Identifier (AID). If <i>nxthopport</i>=LAN, this parameter shows the IAO LAN port address, i.e., front port LAN-1 or rear port LAN-2, for a local or manual IP routing table entry or DCC-ALL for a local IP routing table entry for IP tunneling use only; otherwise, this parameter value is null. If <i>nxthopport</i>=DCC, this parameter shows a DCC port AID (not including DCC AIDs ending in “-ALL”).
<i>dest_ip</i>	Destination IP address. This is a 32-bit IP address consisting of four dot-separated decimal numbers 0 to 255. This parameter and the following <i>dest_mask</i> parameter combine to specify an IP subnet address.
<i>dest_mask</i>	Destination IP Subnet Mask. This parameter is output as a 32-bit IP subnet mask consisting of four dot-separated decimal numbers 0 to 255.
<i>nxthopport</i>	Next-hop Port type. This parameter specifies that the IAO LAN LAN or IP tunneling CLNP_TUNNEL is the port type through which the <i>dest_ip</i> can be reached. Starting in Release 5.1, this parameter can also have a value of DCC through which the <i>dest_ip</i> can be reached. <i>nxthopport</i>=LAN indicates a local or manual IP routing table entry for <i>external</i> IP routing via an IAO LAN port. <i>nxthopport</i>=CLNP_TUNNEL indicates a local, manual or TAP IP routing table entry for via tunneling. <i>nxthopport</i>=DCC indicates a manual entry for IP routing to use a DCC port specified in the aid of <i>spec_block</i> as the outgoing interface.

Table 2-363. RTRV - IP - ROUTE Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>nxthopadr</i>	Next-hop Address. This parameter specifies the IP address or the NSAP address of the next hop toward the specified <i>dest_ip</i> address. For manual IP routing table entries with <i>nxthopport</i>=LAN, this parameter is a 32-bit IP address, consisting of four dot-separated decimal numbers 0 to 255. For local IP routing table entries with <i>nxthopport</i>=LAN, this parameter value is null. If <i>nxthopport</i>=CLNP_TUNNEL, this parameter is an NSAP address, consisting of 40 hexadecimal characters. The last two characters indicating the NSAP Select field are displayed as "00" hex. If <i>nxthopport</i>=DCC, this parameter is null.
<i>owner</i>	Owner. This parameter specifies one of the following IP routing table entries: ■ LOCAL Local IP address entry per ENT - ULS. ■ MANUAL Manual entry per ENT - IP - ROUTE. ■ TAP Tunnel Auto Provisioning entry. If <i>owner</i>=TAP, <i>nxthopport</i>=CLNP_TUNNEL, <i>nxthopadr</i> is an NSAP address, and <i>tapadver</i> should be NO.
<i>tapadver</i>	Tunnel Auto Provisioning (TAP) Advertise. This parameter specifies if this IP routing table entry is shared with all other NEs in the same TAP group. Values: YES or NO. Note: This parameter value for individual entries in the IP routing table is superseded if the NE's TAP Advertise Status is disabled (per the RTRV - IP - TUNNEL parameter <i>tadverstat</i>). If <i>nxthopport</i>=DCC, this parameter value is null.
<i>tapcost</i>	Tunnel Auto Provisioning (TAP) Cost. This parameter specifies the cost metric assigned to the specified IP routing table entry. Possible values are 0 to 65535. If <i>nxthopport</i>=DCC, this parameter value is null.

EXAMPLE INPUT/OUTPUT

The following example retrieves an FTP-GNE's IP routing table in a small network. The IP routing table includes a local entry for the rear IAO LAN port, a manual entry for an FTP server in IP subnet 199.88.77.0 (accessed via a default IP router with IP address 198.78.46.1), and two TAP entries for FTP-RNEs in the same area, respectively. Each FTP-RNE has a unique IP subnet address of its own, but both FTP-RNEs are also in the same IP subnet, i.e., 198.78.46.0, as the FTP-GNE:

```
RTRV-IP-ROUTE:LT-TID123:all:123456:::MAP=all;
```

```
LT-TID123 01-10-30 22:25:30
M 123456 COMPLD
"lan-2:DEST_IP=198.78.46.2,DEST_MASK=255.255.255.0,NXTHOPPORT=
LAN,NXTHOPADR=,OWNER=LOCAL,TAPADVER=YES,TAPCOST=20"
"lan-2:DEST_IP=199.88.77.6,DEST_MASK=255.255.255.0,NXTHOPPORT=
LAN,NXTHOPADR=198.78.46.1,OWNER=MANUAL,TAPADVER=YES,TAPCOST=20"
":DEST_IP=198.78.46.3,DEST_MASK=255.255.255.255,NXTHOPPORT=CLN
P_TUNNEL,NXTHOPADR=39840F8000000000000000008006A11111100,OWNER=TAP,TAPADVER=
NO,TAPCOST=20"
":DEST_IP=198.78.46.50,DEST_MASK=255.255.255.255,NXTHOPPORT=CLNP_TUNNEL,
NXTHOPADR=39840F8000000000000000008006A11122200,OWNER=TAP,TAPADVER=NO,TAPCOS
T=20"
;
```

The following example retrieves an FTP-RNE's IP routing table in a small network. The IP routing table includes a local entry for IP tunneling, a TAP entry for the FTP-GNE's local entry, a TAP entry for another FTP-RNE in the same area, and a TAP entry for an FTP server in IP subnet 199.88.77.0 (accessed via the FTP-GNE), respectively. Each FTP-RNE has a unique IP subnet address of its own, but both FTP-RNEs are also in the same IP subnet, i.e., 198.78.46.0, as the FTP-GNE:

```
RTRV-IP-ROUTE:LT-TID123::123456;  
  
LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
"dcc-all:DEST_IP=198.78.46.3,DEST_MASK=255.255.255.255,NXTHOPPORT=  
CLNP_TUNNEL,NXTHOPADR=,OWNER=LOCAL,TAPADVER=YES,TAPCOST=20"  
":DEST_IP=198.78.46.2,DEST_MASK=255.255.255.0,NXTHOPPORT=CLNP_TUN  
NEL,NXTHOPADR=39840F80000000000000000008006A11234500,OWNER=TAP,TAPADVER  
=NO,TAPCOST=20"  
":DEST_IP=198.78.46.50,DEST_MASK=255.255.255.255,NXTHOPPORT=CLNP_T  
UNNEL,NXTHOPADR=39840F80000000000000000008006A11122200,OWNER=TAP,TAPADV  
ER=NO,TAPCOST=20"  
":DEST_IP=199.88.77.6,DEST_MASK=255.255.255.0,NXTHOPPORT=CLNP_TUNN  
EL,NXTHOPADR=39840F80000000000000000008006A11234500,OWNER=TAP,TAPADVER=  
NO,TAPCOST=20"  
;  
;
```

The following example displays the default router entry (i.e. through the output parameter: *dest_ip*) as next destination at an FTP-RNE which is also a TL1 GNE:

```
RTRV-IP-ROUTE:LT-TID123::123456;  
  
IP 123456  
<  
  
LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
"lan-[1/2]:DEST_IP=default_router_ip,DEST_MASK=255.255.255.255,NX  
THOPPORT=LAN,NXTHOPADR=,OWNER=LOCAL,TAPADVER=NO,TAPCOST="  
;  
;
```

Starting in Release 5.1, for ***aid ALL***, the output of this command will also include IP routing manual entries for the specified DCC ports if there is any. The following example retrieves IP routing table and shows a manual entry which uses 1+1 DCC port ***dcc-m-1*** as the outgoing interface to reach the destination IP address 198.78.46.2 with subnet mask 255.255.255.0:

```
RTRV-IP-ROUTE:LT-TID123:all:123456:::MAP>manual;  
  
IP 123456  
<  
  
LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
"dcc-m-1:DEST_IP=198.78.46.2,DEST_MASK=255.255.255.0,NXTHOPPORT=  
DCC,NXTHOPADR=,OWNER=MANUAL,TAPADVER=,TAPCOST="  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the *aid* value is invalid:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess Identifier */  
;
```

The NE returns the following error response if the *map* value is invalid:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid MAP value */  
;
```

The NE returns the following error response if the *map*= **TAP** and value for *aid* is other than **ALL** or null:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid combination of aid and MAP
value*/
;
```

RELATED TL1 MESSAGES

DLT-IP-ROUTE

ED-IP-TUNNEL

ENT-IP-ROUTE

ENT-ULS

NAME

RTRV-IP-TUNNEL : Retrieve IP Tunnel

The **RTRV-IP-TUNNEL** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-IP-TUNNEL : *tid* : [*aid*] : *ctag*;

DESCRIPTION

This command can be used to retrieve an network element's (NE's) IP Tunnel Auto Provisioning (TAP) protocol learning and advertising status, and its TAP group number. By default, IP tunneling routes are updated automatically among all NEs in the same OSI area using the TAP protocol.

The related command **ED-IP-TUNNEL** can be used to enable/disable TAP protocol learning and advertising, and to assign a TAP group number.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-364. RTRV-IP-TUNNEL Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier (AID). Because this command retrieves information about the TAP protocol that applies to all DCC and OSI LAN, this parameter can only have the value <i>all</i> or null (default = <i>all</i>).
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<
  sid date time
M ctag COMPLD
"::TLEARNSTAT=tlearnstat, TADVERSTAT=tadverstat, TAPGROUP=tapgro
up"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command also. Additional parameters that specifically apply to this command response are defined below.

Table 2-365. RTRV - IP - TUNNEL Output Parameters

Parameter Name	Description
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-366. RTRV - IP - TUNNEL Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tlearnstat</i>	TAP Learn Status. This parameter indicates whether the NE's use of the TAP protocol to automatically learn IP tunneling routes from other NEs in the same TAP group is enabled (ENABLE) or disabled (DISABLE).

Table 2-366. RTRV-IP-TUNNEL Output *spec_block* Parameters (cont
2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tadverstat</i>	TAP Advertise Status. If this parameter is enabled (ENABLE), the automatic or manual (per the ENT-IP-ROUTE parameter <i>TAPADVER</i>) TAP advertise setting for each <i>individual</i> entry in the NE's IP routing table prevails. If this parameter is disabled (DISABLE), the TAP advertise setting for each individual entry in the NE's IP routing table is superseded, and the use of the TAP protocol to automatically advertise <i>all</i> the NE's IP tunneling routes to other NEs in the same TAP group is disabled.
<i>tapgroup</i>	TAP Group number. This parameter specifies the NE's TAP group number. Possible values: 0 to 65535.

EXAMPLE INPUT/OUTPUT

The following example retrieve an NE's TAP protocol learning and advertising status, and TAP group number:

```
RTRV-IP-TUNNEL:LT-TID123::123456;  
  
IP 123456  
<  
  
LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
  "::TLEARNSTAT=ENABLE, TADVERSTAT=ENABLE, TAPGROUP=0"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the *aid* value is invalid:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access Identifier */
;
```

RELATED TL1 MESSAGES

ED-IP-TUNNEL

ENT-IP-ROUTE

NAME

RTRV - IPMAP : Retrieve IP to Application Context ID Map

The **RTRV - IPMAP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV - IPMAP : *tid::ctag*;

DESCRIPTION

The **RTRV - IPMAP** command retrieves the IP calling addresses that a TL1 TCP/IP Gateway Network Element (GNE) will accept, and the mapping of each IP calling address to an application context ID (ACID). The assigned **acid** is used by the TL1 TCP/IP GNE each time an OSI association is established to a TL1-RNE, i.e., in response to each TL1-RNE login request received from the IP calling address. The **acid** determines the TL1 autonomous messages, if any, to be output by the TL1 TCP/IP GNE and TL1-RNEs.

As a user convenience, the IP calling address can be associated with a host name that is meaningful to the user, e.g., SNMS. Any host names provisioned with the **ENT - IPMAP** command are output in response to **RTRV - IPMAP** commands, but host names are not otherwise used by the system.

In addition to the provisioning reported by the **RTRV - IPMAP** command, the **ENT - SYS** command is required to enable the TL1 TCP/IP GNE function and the **ENT - ULS** command is required to enable TCP/IP access to the GNE.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-367. RTRV - IPMAP Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "::TcpIpAddr=x,TcpIpHost=x,ACID=x"
  .      .      .
  .      .      .
  .      .      .
  "::TcpIpAddr=y,TcpIpHost=y,ACID=y"
;
```

The report is output in order by *tcpipaddr* value.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command. Additional parameters that specifically apply to this command response are defined below

Table 2-368. RTRV - IPMAP Output Parameters

Parameter Name	Description
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-369. RTRV - IPMAP Output *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tcpipaddr</i>	This is the Calling IP Address (e.g., of an OS). The IP address is a 32-bit address consisting of four dot-separated decimal numbers ranging from 0 to 255. For any user to access the system via TCP/IP, the user's IP calling address must have been pre-authorized using the ENT - IPMAP command.
<i>tcpiphost</i>	This is the Host Name, if any, associated with the IP address. The host name consists of 1 to 24 alphanumeric characters.
<i>acid</i>	Application Context ID. This is used by the OL1-GNE each time an OSI association is established to a TL1 RNE.

EXAMPLE INPUT/OUTPUT

The following example shows the successful completion of a command:

```
rtrv-ipmap:LT-TID123::123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-11-22 16:12:11
```

```
M 123456 COMPLD
```

```
"::IPAddress=198.78.46.8,IPHost=os1,ACID=tl1maintenance"
```

```
"::IPAddress=198.99.66.1,IPHost=os2,ACID=tl1memoryadministration"
```

```
;
```

The following example shows another successful command completion, but the NE is not enabled as a TL1 TCP/IP gateway network element (GNE). Note the Caution message in the output.

```
rtrv-ipmap:LT-TID123::123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-11-22 16:12:11
```

```
M 123456 COMPLD
```

```
"CAUTION: This IP Application Context Map report is not active.
```

```
Only the map at an active TL1 TCP/IP Gateway is active."
```

```
"::IPAddress=198.78.46.8,IPHost=os1,ACID=tl1maintenance"
```

```
"::IPAddress=198.99.66.1,IPHost=os2,ACID=tl1memoryadministration"
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

RELATED TL1 MESSAGES

DLT-IPMAP

ENT-IPMAP

ENT-SYS

ENT-TL1MSGMAP

ENT-ULS

RTRV-IPMAP
TL1 Message Details

RTRV-IPMAP
Alcatel-Lucent 1665 DMX, R9.0

RTRV - SYS

RTRV - TL1MSGMAP

RTRV - ULS

NAME

RTRV - L1ADR: Retrieve Level 1 Address Data Repository

The **RTRV - L1ADR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV - L1ADR:*tid::ctag::datatype[, componentid];*

DESCRIPTION

The **RTRV - L1ADR** command retrieves Traffic Engineering (TE) Transport Network Assigned (TNA) addresses advertised by E-NNI Level 1 Routing Controllers.

The **RTRV - L1ADR** command can only be executed on a node which is enabled as E-NNI Level 1 Routing Controller (see the *l1routing* parameter in **RTRV - NODE**).

Execution of this command will not be recorded in the Security log.

The **RTRV - L1ADR** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-370. RTRV - L1ADR Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>datatype</i>	Data Type. This parameter determines which part of the TNAs is to be retrieved. Valid values are:

Table 2-370. RTRV - L1ADR Input Parameters (cont 2 of 2)

Parameter Name	Description
	■ ALL This retrieves TNAs advertised by all Level 1 Routing Controllers. ■ LSAID This retrieves TNAs advertised by a specific Level 1 Routing Controller identified by <i>componentid</i>.
<i>componentid</i>	Component ID. This parameter identifies a Level 1 Routing Controller by its Routing Controller ID. It has an IPv4 address format which consists of four dot-separated integers ranging from 0 to 255. If <i>datatype</i> = ALL, this parameter must not be specified.

OUTPUT FORMAT

If the network element (NE) fully complies with the request, the following response is returned:

```

sid date time
M ctag COMPLD
  "datatype[,componentid]:LocalRCID=x,NumOfAdverRCs=x"
  < one occurrence of the following block for each advertising RC >
  "AdverRCID=x,NumOfTNAs=x"
  "<TNAREcord>"
  ...
  ...
  "<TNAREcord>"
;

```

Where "<TNAREcord>" is "AttachedNodeID=x, TNAType=x, TNA=x"

When the output includes multiple blocks, the first block shows records advertised by the local Routing Controller and the following blocks shows records advertised by other Routing Controllers sorted on the *AdverRCID* by increasing values. Within a block, the TNA records are sorted on the *AttachedNodeID*, then *TNAType* and then *TNA* by increasing values.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-371. RTRV - L1ADR Output Parameters

Parameter Name	Description of Output Parameters
<i>datatype</i>	Data Type. This parameter indicates which part of the TNAs is to be retrieved. Values are: ■ ALL This reports TNAs advertised by all Level 1 Routing Controllers. ■ LSAID This reports TNAs advertised by a specific Level 1 Routing Controller identified by <i>componentid</i>.
<i>componentid</i>	Component ID. This parameter identifies a Level 1 Routing Controller by its Routing Controller ID. It has an IPv4 address format which consists of four dot-separated integers ranging from 0 to 255. If <i>datatype</i> = ALL, this parameter must not be reported.
<i>LocalRCID</i>	Local Routing Controller (RC) ID. This is the Routing Controller ID of the local node. It has an IPv4 address format which consists of four dot-separated integers ranging from 0 to 255.
<i>NumOfAdverRCs</i>	Number of Advertising Routing Controllers. This shows the number of Routing Controllers which originate TE TNA Link State Advertisements (LSAs). It is an integer ranging from 1 to 255.
<i>AdverRCID</i>	Advertising Routing Controller ID. This shows the Routing Controller ID of the node that originates TE TNA LSAs. It has an IPv4 address format which consists of four dot-separated integers ranging from 0 to 255.
<i>NumOfTNAs</i>	Number Of TNAs. This shows the number of TE TNAs advertised by a Routing Controller. It is an integer ranging from 1 to 65535.
<i>AttachedNodeID</i>	Attached Node ID. This shows the Node ID of the node to which the TNA is attached. It has an IPv4 address format which consists of four dot-separated integers ranging from 0 to 255.
<i>TNAtype</i>	TNA Type. This shows the type of a TNA. It has values of IPv4, IPv6 and NSAP.
<i>TNA</i>	TNA Address. This shows the address of a TNA in the format specified by <i>TNAtype</i>. An IPv4 type TNA consists of four dot-separated integers ranging from 0 to 255. An IPv6 type TNA consists of 8 dash-separated numbers, and each number is represented by four hexadecimal digits. An NSAP type TNA consists of 40 hexadecimal digits string.

EXAMPLE INPUT/OUTPUT

The following output shows an example with *datatype* set to ALL:

```
RTRV-L1ADR:LT-TID123::123456::ALL;

IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
"ALL:LocalRCID=20.10.10.3,NumOfAdverRCs=3"
"AdverRCID=20.10.10.3,NumOfTNAs=2"
"AttachedNodeID=10.10.10.3,TNAType=IPv4,TNA=10.10.10.3"
"AttachedNodeID=10.10.10.3,TNAType=IPv6,TNA=fedc-0000-0000-76b4-417a-1080-
3210-1111"
"AdverRCID=20.10.10.1,NumOfTNAs=1"
"AttachedNodeID=10.10.10.1,TNAType=IPv4,TNA=10.10.10.1"
"AdverRCID=20.10.10.2,NumOfTNAs=3"
"AttachedNodeID=10.10.10.2,TNAType=IPv4,TNA=10.10.10.100"
"AttachedNodeID=10.10.10.2,TNAType=IPv4,TNA=10.10.10.101"
"AttachedNodeID=10.10.10.2,TNAType=NSAP,TNA=39840f8000000000000000000000800
6a067197aa"
;
```

The following output shows an example with *datatype* set to LSAID:

```
RTRV-L1ADR:LT-TID123::123456::LSAID,20.10.10.2;

IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
"LSAID,20.10.10.2:LocalRCID=20.10.10.3,NumOfAdverRCs=3"
"AdverRCID=20.10.10.2,NumOfTNAs=3"
"AttachedNodeID=10.10.10.2,TNAType=IPv4,TNA=10.10.10.100"
"AttachedNodeID=10.10.10.2,TNAType=IPv4,TNA=10.10.10.101"
"AttachedNodeID=10.10.10.2,TNAType=NSAP,TNA=39840f8000000000000000000000800
6a067197aa"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if an **aid** value is entered:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier */
;
```

The NE returns the following error response if the command is executed on a node which is not enabled as an E-NNI Level 1 Routing Controller (see the *l1routing* parameter in **RTRV-NODE**):

```
sid date time
M ctag DENY
  ICNV
  /* Input, Command Not Valid, local node is not an RC */
;
```

The NE returns the following error response if the **datatype** is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid DATATYPE value */
;
```

The NE returns the following error response if the **componentid** is invalid or specified when **datatype=ALL**:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid COMPONENTID value */
;
```

RELATED TL1 MESSAGES

ENT-NODE

RTRV-NODE

ENT-RC-NEIGHBOR

RTRV-RC-NEIGHBOR

ENT-CPORT-rr

RTRV-CPORT-rr

RTRV-L1TDR

NAME

RTRV - L1TDR: Retrieve Level 1 Topology Data Repository

The **RTRV - L1TDR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV - L1TDR:*tid::ctag::datatype[, componentid];*

DESCRIPTION

The **RTRV - L1TDR** command retrieves Traffic Engineering (TE) links advertised by E-NNI Level 1 Routing Controllers.

The **RTRV - L1TDR** command can only be executed on a node which is enabled as E-NNI Level 1 Routing Controller (see the *l1routing* parameter in **RTRV - NODE**).

Execution of this command will not be recorded in the Security log.

The **RTRV - L1TDR** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-372. RTRV - L1TDR Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>datatype</i>	Data Type. This parameter determines which part of the Level 1 topology is to be retrieved. Valid values are:

Table 2-372. RTRV-L1TDR Input Parameters (cont 2 of 2)

Parameter Name	Description
	■ ALL This retrieves TE links advertised by all Level 1 Routing Controllers. ■ LSAID This retrieves TE links advertised by a specific Level 1 Routing Controller identified by <i>componentid</i>.
<i>componentid</i>	Component ID. This parameter identifies a Level 1 Routing Controller by its Routing Controller ID. It has an IPv4 address format which consists of four dot-separated integers ranging from 0 to 255. If <i>datatype</i> = ALL, this parameter must not be specified.

OUTPUT FORMAT

If the network element (NE) fully complies with the request, the following response is returned:

```

sid date time
M ctag COMPLD
  "datatype[,componentid]:LocalRCID=x,NumOfAdverRCs=x"
  < one occurrence of the following block for each advertising RC >
  "AdverRCID=x,NumOfLinks=x"
  "<LinkRecord>"
  ...
  ...
  "<LinkRecord>"
;
```

Where "<LinkRecord>" is
 "LocalNodeID=x,RemoteNodeID=x,LocalPortID=x,RemotePortID=x,LinkType=x,LinkID=x,LinkMetric=x,LinkProtType=x,SwitchCapDesc=x"

When the output includes multiple blocks, the first block shows records advertised by the local Routing Controller and the following blocks show records advertised by other Routing Controllers sorted on the *AdverRCID* by increasing values. Within a block, the link records are sorted on the *LocalNodeID* and then *LocalPortID* by increasing values.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-373. RTRV - L1TDR Output Parameters (cont 1 of 2)

Parameter Name	Description of Output Parameters
<i>datatype</i>	Data Type. This parameter indicates which part of the Level 1 topology is reported. Values are: ■ ALL This reports TE links advertised by all Level 1 Routing Controllers. ■ LSAID This reports TE links advertised by a specific Level 1 Routing Controller identified by <i>componentid</i>.
<i>componentid</i>	Component ID. This parameter identifies a Level 1 Routing Controller by its Routing Controller ID. It has an IPv4 address format which consists of four dot-separated integers ranging from 0 to 255. If <i>datatype</i> = ALL, this parameter must not be reported.
<i>LocalRCID</i>	Local Routing Controller (RC) ID. This is the Routing Controller ID of the local node. It has an IPv4 address format which consists of four dot-separated integers ranging from 0 to 255.
<i>NumOfAdverRCs</i>	Number of Advertising Routing Controllers. This shows the number of Routing Controllers which originate TE link Link State Advertisements (LSAs). It is an integer ranging from 1 to 255.
<i>AdverRCID</i>	Advertising Routing Controller ID. This shows the Routing Controller ID of the node that originates TE link LSAs. It has an IPv4 address format which consists of four dot-separated integers ranging from 0 to 255.
<i>NumOfLinks</i>	Number Of Links. This shows the number of TE links advertised by a Routing Controller. It is an integer ranging from 1 to 65535.
<i>LocalNodeID</i>	Local Node ID. It has an IPv4 address format which consists of four dot-separated integers ranging from 0 to 255.
<i>RemoteNodeID</i>	Remote Node ID. It has an IPv4 address format which consists of four dot-separated integers ranging from 0 to 255.
<i>LocalPortID</i>	Local Logical Port Identifier. It is an integer ranging from 0 to 4294967295.
<i>RemotePortID</i>	Remote Logical Port Identifier. It is an integer ranging from 0 to 4294967295.

Table 2-373. RTRV - L1TDR Output Parameters (cont 2 of 2)

Parameter Name	Description of Output Parameters
<i>LinkType</i>	Link Type. It defines the type of link. It is an integer ranging from 0 to 255, with currently defined values of 1 indicating a point-to-point link and 2 indicating a multi-access link.
<i>LinkID</i>	Link ID. It has an IPv4 address format which consists of four dot-separated integers ranging from 0 to 255. For inter-domain links, this is the remote domain's Routing Controller ID. For intra-domain links in domains with a single routing controller, this is considered as "unknown" with a value of 0.0.0.0. For intra-domain links in domains with multiple routing controllers, this is a peering Routing Controller ID.
<i>LinkMetric</i>	Link Metric/Cost. It is an integer ranging from 1 to 65535.
<i>LinkProtType</i>	Link Protection Type. It has values of 0x1 and 1+1. It also has value 0x1&1+1 to indicate a link (e.g., an advertised abstract link) being both 0x1 and 1+1 capable.
<i>SwitchCapDesc</i>	Switch Capability Descriptor. It indicates the interface switching capability by the number of identical unallocated time slots per signal type. It is a string consisting five dash-separated 16-bit integers, representing unallocated STS1#, STS3c#, STS12c#, STS48c# and STS192c#.

EXAMPLE INPUT/OUTPUT

The following output shows an example with *datatype* set to ALL:

RTRV-L1TDR:LT-TID123::123456::ALL;

IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
"ALL:LocalRCID=20.10.10.3,NumOfAdverRCs=3"
"AdverRCID=20.10.10.3,NumOfLinks=1"
"LocalNodeID=10.10.10.3,RemoteNodeID=10.10.10.2,LocalPortID=1,RemotePortID=2,LinkType=1,LinkID=20.10.10.2,LinkMetric=1,LinkProtType=1+1,SwitchCapDesc=192-64-16-4-0"
"AdverRCID=20.10.10.1,NumOfLinks=1"
"LocalNodeID=10.10.10.1,RemoteNodeID=10.10.10.2,LocalPortID=1,RemotePortID=1,LinkType=1,LinkID=20.10.10.2,LinkMetric=1,LinkProtType=1+1,SwitchCapDesc=192-64-16-4-0"
"AdverRCID=20.10.10.2,NumOfLinks=2"
"LocalNodeID=10.10.10.2,RemoteNodeID=10.10.10.1,LocalPortID=1,RemotePortID=1,LinkType=1,LinkID=20.10.10.1,LinkMetric=1,LinkProtType=1+1,SwitchCapDesc=192-64-16-4-0"
"LocalNodeID=10.10.10.2,RemoteNodeID=10.10.10.3,LocalPortID=2,RemotePortID=1,LinkType=1,LinkID=20.10.10.3,LinkMetric=1,LinkProtType=1+1,SwitchCapDesc=192-64-16-4-0"
;

The following output shows an example with *datatype* set to LSAID:

RTRV-L1TDR:LT-TID123::123456::LSAID,20.10.10.2;

IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
"LSAID,20.10.10.2:LocalRCID=20.10.10.3,NumOfAdverRCs=3"
"AdverRCID=20.10.10.2,NumOfLinks=2"
"LocalNodeID=10.10.10.2,RemoteNodeID=10.10.10.1,LocalPortID=1,RemotePortID=1,LinkType=1,LinkID=20.10.10.1,LinkMetric=1,LinkProtType=1+1,SwitchCapDesc=192-64-16-4-0"
"LocalNodeID=10.10.10.2,RemoteNodeID=10.10.10.3,LocalPortID=2,RemotePortID=1,LinkType=1,LinkID=20.10.10.3,LinkMetric=1,LinkProtType=1+1,SwitchCapDesc=192-64-16-4-0"
;

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if an ***aid*** value is entered:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid ACcess identifier */
;
```

The NE returns the following error response if the command is executed on a node which is not enabled as an E-NNI Level 1 Routing Controller (see the *l1routing* parameter in **RTRV-NODE**):

```
sid date time
M ctag DENY
  ICNV
/* Input, Command Not Valid, local node is not an RC */
;
```

The NE returns the following error response if the ***datatype*** is invalid or missing:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid DATATYPE value */
;
```

The NE returns the following error response if the ***componentid*** is invalid or specified when ***datatype***=ALL:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid COMPONENTID value */
;
```

RELATED TL1 MESSAGES

ENT - NODE

RTRV - NODE

ENT - RC - NEIGHBOR

RTRV - RC - NEIGHBOR

ENT - CPORT - rr

RTRV - CPORT - rr

RTRV - L1ADR

NAME

RTRV - LAGRP : Retrieve Link Aggregation Group

The **RTRV - LAGRP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV - LAGRP : *tid:[aid]:ctag*;

DESCRIPTION

The **RTRV - LAGRP** command retrieves the attributes of one or more link aggregation groups.

Execution of this command will not be recorded in the Security log.

The **RTRV - LAGRP** command does not generate a **REPT DBCHG** message.

This command applies to the following packs:

- LNW70
- LNW170 (starting in Release 7.1)

INPUT PARAMETERS

Table 2-374. RTRV - LAGRP Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of a Link Aggregation Group (LAG). Refer to the AID Table for valid AIDs. An "ALL" AID range is supported at the group or system level. This parameter is optional. Default value is "ALL."

Table 2-374. RTRV - LAGRP Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

```

sid date time
M ctag COMPLD
  "aid::spec_block"
  "aid:epaid:spec_block"
  <1 or more of the line above, for another epaid>
  <1 or more of this entire block, for another aid>
;
```

The output is in the form of a nested list. The primary list is based on the LAG AID, which is sorted in ascending order. Parameters from the *spec_block*, output for each *aid*, are indicated in the table as applicable to the LAG AID. For each LAG AID, there is a nested list of member port AIDs, which is also sorted in ascending order. Parameters from the *spec_block*, output for each *epaid*, are indicated in the table as applicable to the Ethernet/LAN port AID.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-375. RTRV - LAGRP Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of a Link Aggregation Group (LAG). Refer to the AID Table for valid AIDs.
<i>epaid</i>	Ethernet/LAN Port AID of a member of a LAG. Values: Ethernet/LAN port AID.

Table 2-375. RTRV - LAGRP Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>spec_block</i>	The <i>spec_block</i> parameters are shown in the following table.

Table 2-376. RTRV - LAGRP Output *spec_block* Parameters (cont 1 of 4)

Parameter Name	Description
The following parameters apply only to the LAG AID.	
<i>hashtype</i>	The basis for assigning a conversation to a link. Values: ■ MAC: use SA/DA. ■ IP: use SIP/DIP. This may allow better load distribution when connected to a router where the MAC SA/DA are constant or nearly constant and the traffic is IP.
<i>protocol</i>	The protocol used for Link Aggregation. Values: ■ LACP IEEE Std 802.3™-2002 Link Aggregation Control Protocol ■ NONE Aggregation among members is forced. Any Link Aggregation protocol messages received are ignored and none are sent.
<i>actsysid</i>	Actor System ID. Value: A string of 12 hexadecimal characters.
<i>actsyspri</i>	Actor System Priority. Value: an integer in the range 0 to 65535 .
<i>aggmac</i>	Aggregator MAC Address. Value: A string of 12 hexadecimal characters.
<i>aggid</i>	Aggregator Identifier. Value: A string of 4 hexadecimal characters.
<i>actoakey</i>	Actor Oper Aggregator Key. Value: A string of 4 hexadecimal characters.
<i>parsysid</i>	Partner System ID. Value: A string of 12 hexadecimal characters.
<i>parsyspri</i>	Partner System Priority. Value: an integer in the range 0 to 65535 .

Table 2-376. RTRV-LAGRP Output *spec_block* Parameters (cont 2 of 4)

Parameter Name	Description
<i>paroakey</i>	Partner Oper Aggregator Key. Value: A string of 4 hexadecimal characters.
<i>colmaxdly</i>	Collector Max Delay. Value: A string of 4 hexadecimal characters.
<i>asmode</i>	Active/standby mode. Value: ENABLE, DISABLE.
The following parameters apply only to the Ethernet/LAN port AID.	
<i>actpnum</i>	Actor Port Number. Value: A string of 4 hexadecimal characters.
<i>actppri</i>	Actor Port Priority. Value: an integer in the range 0 to 65535 .
<i>actopk</i>	Actor Oper Port Key. Value: A string of 4 hexadecimal characters.
<i>aapslact</i>	Actor Admin Port State LACP Activity. Values: ■ ACTIVE ■ PASSIVE
<i>aapsltimo</i>	Actor Admin Port State LACP Timeout. Values: ■ LONG ■ SHORT
<i>aopslact</i>	Actor Oper Port State LACP Activity. Values: ■ ACTIVE ■ PASSIVE
<i>aopsltimo</i>	Actor Oper Port State LACP Timeout. Values: ■ LONG ■ SHORT
<i>aopsagg</i>	Actor Oper Port State Aggregation. Values: ■ TRUE ■ FALSE
<i>aopssyn</i>	Actor Oper Port State Synchronization. Values: ■ TRUE ■ FALSE
<i>aopscol</i>	Actor Oper Port State Collecting. Values:

Table 2-376. RTRV-LAGRP Output *spec_block* Parameters (cont 3 of 4)

Parameter Name	Description
	■ TRUE ■ FALSE
<i>aopsdis</i>	Actor Oper Port State Distributing. Values: ■ TRUE ■ FALSE
<i>aopsdef</i>	Actor Oper Port State Defaulted. Values: ■ TRUE ■ FALSE
<i>aopsexp</i>	Actor Oper Port State Expired. Values: ■ TRUE ■ FALSE
<i>parosysid</i>	Port Partner Oper System ID. Value: A string of 12 hexadecimal characters.
<i>paropkey</i>	Port Partner Oper Key Value: A string of 4 hexadecimal characters.
<i>paropnum</i>	Partner Oper Port Number. Value: A string of 4 hexadecimal characters.
<i>paroppri</i>	Partner Oper Port Priority. Value: an integer in the range 0 to 65535 .
<i>popslact</i>	Partner Oper Port State LACP Activity. Values: ■ ACTIVE ■ PASSIVE
<i>popsltimo</i>	Partner Oper Port State LACP Timeout. Values: ■ LONG ■ SHORT
<i>popsagg</i>	Partner Oper Port State Aggregation. Values: ■ TRUE ■ FALSE
<i>popssyn</i>	Partner Oper Port State Synchronization. Values: ■ TRUE

Table 2-376. RTRV-LAGRP Output *spec_block* Parameters (cont 4 of 4)

Parameter Name	Description
	■ FALSE
<i>popscol</i>	Partner Oper Port State Collecting. Values: ■ TRUE ■ FALSE
<i>popsdisc</i>	Partner Oper Port State Distributing. Values: ■ TRUE ■ FALSE
<i>popsexp</i>	Partner Oper Port State Expired. Values: ■ TRUE ■ FALSE

EXAMPLE INPUT/OUTPUT

The following example applies when *protocol* = LACP:

RTRV-LAGRP:TID123:d-lag1:123456;

```
TID123 98-01-01 08:00:00
M 123456 COMPLD
"d-lag1::hashtype=MAC,protocol=LACP,actsysid=00AB12CD34EF,actsyspri=1A2B"
"d-lag1::aggmac=00EF12CD34AB,aggid=0002,actoakey=B2A1"
"d-lag1::parsysid=001234ABCDEF,parsyspri=000A,paroakey=12AB"
"d-lag1::colmaxdly=0000"
"d-lag1:d1-1:actpnum=0101,actppri=8000,actopk=A1B2,aapslact=ACTIVE"
"d-lag1:d1-1:aapsltimo=LONG,aopslact=ACTIVE"
"d-lag1:d1-1:aopsltimo=LONG,aopsagg=TRUE,aopssyn=TRUE"
"d-lag1:d1-1:aopscol=TRUE,aopsdis=TRUE,aopsdef=FALSE,aopsexp=FALSE"
"d-lag1:d1-1:parosysid=00BA21DC43,paropkey=BA21,paropnum=0001"
"d-lag1:d1-1:paroppri=8000,popslact=ACTIVE,popsltimo=LONG"
"d-lag1:d1-1:popagg=TRUE,popssyn=TRUE,popscol=TRUE,popsdis=TRUE"
"d-lag1:d1-1:popdef=FALSE,popsexp=FALSE"
"d-lag1:d1-2:actpnum=0102,actppri=8000,actopk=A1B2,aapslact=ACTIVE"
"d-lag1:d1-2:aapsltimo=LONG,aopslact=ACTIVE"
"d-lag1:d1-2:aopsltimo=LONG,aopsagg=TRUE,aopssyn=TRUE"
"d-lag1:d1-2:aopscol=TRUE,aopsdis=TRUE,aopsdef=FALSE,aopsexp=FALSE"
"d-lag1:d1-2:parosysid=00BA21DC43,paropkey=BA21,paropnum=0002"
"d-lag1:d1-2:paroppri=8000,popslact=ACTIVE,popsltimo=LONG"
"d-lag1:d1-2:popagg=TRUE,popssyn=TRUE,popscol=TRUE,popsdis=TRUE"
"d-lag1:d1-2:popdef=FALSE,popsexp=FALSE"
;
```

RTRV-LAGRP:TID123:d-lag1:123456;

ID123 98-01-01 08:00:00
23456 COMPLD

d-
::hashtype=MAC,protocol=LACP,actsysid=00AB12CD34EF,asmode=DISABLE,actsyspri=32768"
d-lag1::aggmac=00EF12CD34AB,aggid=0002,actoakey=B2A1"
d-lag1::parsysid=001234ABCDEF,parsyspri=32768,paroakey=12AB"
d-lag1::colmaxdly=0000"
d-lag1:d1-1:actpnum=0101,actppri=32768,actopk=A1B2,aapslact=ACTIVE"
d-lag1:d1-1:aapsltime=LONG,aopslact=ACTIVE"
d-lag1:d1-1:aopsltime=LONG,aopsagg=TRUE,aopssyn=TRUE"
d-lag1:d1-1:aopscol=TRUE,aopsdisc=TRUE,aopsdef=FALSE,aopsexp=FALSE"
d-lag1:d1-1:parosysid=00BA21DC43,paropkey=BA21,paropnum=0001"
d-lag1:d1-1:popppri=32768,popslact=ACTIVE,popsltime=LONG"
d-lag1:d1-1:poppsagg=TRUE,poppsyn=TRUE,popscol=TRUE,popsdisc=TRUE"
d-lag1:d1-1:poppsdef=FALSE,poppsexp=FALSE"
d-lag1:d1-2:actpnum=0102,actppri=32768,actopk=A1B2,aapslact=ACTIVE"
d-lag1:d1-2:aapsltime=LONG,aopslact=ACTIVE"
d-lag1:d1-2:aopsltime=LONG,aopsagg=TRUE,aopssyn=TRUE"
d-lag1:d1-2:aopscol=TRUE,aopsdisc=TRUE,aopsdef=FALSE,aopsexp=FALSE"
d-lag1:d1-2:parosysid=00BA21DC43,paropkey=BA21,paropnum=0002"
d-lag1:d1-2:popppri=32768,popslact=ACTIVE,popsltime=LONG"
d-lag1:d1-2:poppsagg=TRUE,poppsyn=TRUE,popscol=TRUE,popsdisc=TRUE"
d-lag1:d1-2:poppsdef=FALSE,poppsexp=FALSE"

The following example applies when *protocol* = NONE:

RTRV-LAGRP:TID123:d-lag1:123456;

```
TID123 98-01-01 08:00:00
M 123456 COMPLD
"d-lag1::hashtype=MAC,protocol=NONE"
"d-lag1::aggmac=00EF12CD34AB,aggid=0005"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there apply to this command.

RELATED TL1 MESSAGES

DLT-LAGRP, ED-LAGRP, ENT-LAGRP

NAME

RTRV-LOG: Retrieve Log

The **RTRV-LOG** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-LOG:*tid::ctag[::spec_block];*

Beginning in Release 3.0, the input format of **RTRV-LOG** is as shown below.

RTRV-LOG:*tid::ctag[:::spec_block];*

DESCRIPTION

The **RTRV-LOG** command can be initiated by users to generate a history log for the network element (NE).

This report contains up to 500 of the most recent events. The history log displays the events in “last in-first out” order, and each event is time-stamped. The command allows the user to limit the number of events displayed to between 1 and 500, with the default being 500 events.

Events include the start and end of alarm and status conditions, and all craft/OS input activities that affect or would affect the state of the NE, successfully completed or denied.

Beginning in release 3.0, the number of events contained in the report was increased from 500 to 2000. The history log displays the events in “last in-first out” order, and each event is time-stamped. The command allows the user to limit the number of events displayed to between 1 and 2000, with the default being 500 events.

Beginning in release 3.1, the number of events contained in the report increases from 2000 to 6000. The history log displays the events in “last in-first out” order, and each event is time-stamped. The command allows the user to limit the

number of events displayed to between 1 and 6000, with the default being 500 events.

Beginning in release 3.1, events include the start and end of alarm and status conditions. TL1 commands that will affect the provisioning of the NE will be stored in the Security Log and may be retrieved via the **RTRV-LOG-SECU** command.

Beginning in release 6.0, the number of events contained in the report increases from 6000 to 12000. The history log displays the events in "last in-first out" order, and each event is time-stamped. The command allows the user to limit the number of events displayed to between 1 and 12000, with the default being 500 events.

Beginning in release 3.1, the user will be able to specify a date and time of the latest entry retrieved. If **startdate** is not specified, then the current date is used to retrieve the data. If **starttime** is not specified, it will default to the current time if **startdate** is the current date, or to the end of the specified day if **startdate** is not the current day.

The first log entry at or before the **startdate** and **starttime** is the first entry to be retrieved, followed by the preceding entries until either **numln** entries are retrieved, or the earliest entry in the log is reached.

If both **startdate** and **starttime** are omitted, the log retrieval starts with the last log entry at or before the default **startdate** and **starttime**. Since the default **startdate** and **starttime** is the current NE date and time, this would be expected to be the latest entry in the log. However, if the NE time is reset to an earlier time, as might happen after the system is reset but before the Network Time Protocol has set the NE time, there may not be any log entries that are at or earlier than the current NE time.

When the NE is upgraded to Release 5.0, or downgraded from any major release to a previous major release, the History Log will be cleared. This applies only to upgrading to from the designated release, and does not apply to upgrades to other releases. It applies for all downgrades from one major release to another major release.

Starting in Release 6.0, if one of the NVMs is missing or failed, writing to the remaining NVM is disabled and an "NVM write disabled" standing condition is raised. When **RTRV-LOG** is executed while the "NVM write disabled" standing condition exists, the first message returned will indicate this standing condition. This message will not be stored in the History Log.

Starting in Release 9.0, **RTRV-LOG**, when executed on the main shelf in a multi-shelf DCS system utilizing a single TID, generates a history log for the entire multi-shelf DCS system.

Starting in Release 9.0, **RTRV-LOG** can be executed directly on a subshelf in a multi-shelf DCS system utilizing a single TID, by a user logged into the subshelf.

Execution of this command will not be recorded in the Security log.

The **RTRV-LOG** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-377. RTRV-LOG Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The following are the <i>spec_block</i> parameters.

Table 2-378. RTRV-LOG *spec_block* Input Parameters (cont 1 of 2)

Parameter Name	Description of Spec_Block Parameters
<i>numln</i>	Number of lines. This parameter identifies the maximum number of log entries to be retrieved from the log. ■ 1 - 500 The number of log entries requested may be between 1 and 500. Beginning in Release 3.0, the range of <i>numln</i> is: ■ 1 - 2000 The number of log entries requested may be between 1 and 2000. Beginning in Release 3.1, the range of <i>numln</i> is: ■ 1 - 6000 The number of log entries requested may be between 1 and 6000. Beginning in Release 6.0, the range of <i>numln</i> is: ■ 1 - 12000 The number of log entries requested may be between 1 and 12000. If <i>numln</i> is not specified, the default number of log entries retrieved will be 500.

Table 2-378. RTRV-LOG *spec_block* Input Parameters (cont 2 of 2)

Parameter Name	Description of Spec_Block Parameters
startdate	Start date: the date of the latest log entry to be retrieved. The format is YY-MM-DD. If startdate is not specified, it shall default to the current NE date.
starttime	Start time: the time of the latest log entry to be retrieved. The format is HH-MM-SS. If starttime is not specified, it shall default to the current NE time if startdate is the current NE day, or to the end of the specified day if startdate is not the current NE day.

OUTPUT FORMAT

Beginning in release 3.1 of DMX and 3.0 of DMXpress, this format will no longer be used.

If there is event data to report, the following output message is returned:

```
IP ctag
<

sid date time
M ctag COMPLD
  "aid:evtdatetime:almlvl,evt_desc"
  "aid:evtdatetime:almlvl,evt_desc"
  .
  .
  .
  "aid:evtdatetime:almlvl,evt_desc"
;
```

Beginning in release 3.1, the output format is:

```
IP ctag
<

sid date time
M ctag COMPLD
  "modifier,aid:evtdatetime:almlvl,condtype,srveff,evt_desc"
  "modifier,aid:evtdatetime:almlvl,condtype,srveff,evt_desc"
  .
  .
  .
  "modifier,aid:evtdatetime:almlvl,condtype,srveff,evt_desc"
;
```

If there is no event data to report, the following output message is returned:

```
sid date time
M ctag COMPLD
;
```

Starting in Release 3.1, the preceding output message is also returned if there are no History log entries at or earlier than the requested **startdate** and **starttime**.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response may also apply to this command. Additional parameters that specifically apply to this command response are defined in the following table:

Table 2-379. RTRV - LOG Output Parameters (cont 1 of 4)

Parameter Name	Description
<i>modifier</i>	This is the command modifier. The <i>modifier</i> will have only one of the following values: ■ COM Common ■ ENV Environment ■ EQPT Equipment ■ ENET Ethernet ■ T1 DS1 port ■ T3 DS3 port ■ EC1 EC1 port ■ E1 E1 port ■ OCn Optical OC-n line ■ STSn STS-n channel ■ VT1 VT1.5 channel

Table 2-379. RTRV-LOG Output Parameters (cont 2 of 4)

Parameter Name	Description
	■ VC12 VC12 channel ■ FELAN Ethernet 10/100T Port ■ GELAN Ethernet 1GbE Port ■ VCG VCG Interface ■ FE Fast Ethernet Port ■ 1GE 1 Gigabit Ethernet Port ■ DATA Data port ■ OCH This is for optical channels. ■ OTS This is for the optical transmission section. ■ ODU2 This is for optical channel data unit 2. ■ OTU2 This is for optical channel transport unit 2.
aid	Address Identifier. The aid is the event source identifier. For user-initiated commands the value is the user login identifier and for all other conditions the value is the source address of the event. Beginning in Release 3.1, the user login identifier will not be a valid aid. The value is the source address of the event.
evtdat	Event Date. This is the date on which the event occurred. It is reported in MM-DD format, where MM is the month of the year ranging from 01 to 12; and DD is the day of the month ranging from 01 to 31. Beginning in Release 3.0, the date will be in the format of YY-MM-DD, where YY is the last two digits of the year, MM is the month of the year, and DD is the day of the month. Normally the events are displayed in order of date/time-stamp with the most recent event being displayed first and the oldest being displayed last. If the system clock is reset, however the date and time stamps may be displayed in monotonically decreasing order.
evttime	Event Time. This is the time at which the event occurred. It is reported in HH-MM-SS format, where HH is the hour in a 24 hour format ranging from 00 to 23; MM is the minute ranging from 00 to 59; and SS is the second ranging from 00 to 59. Entries are added to the history log <i>before</i> any applicable hold off delays and after any applicable clear delays.
almvl	Alarm Level.

Table 2-379. RTRV - LOG Output Parameters (cont 3 of 4)

Parameter Name	Description
	This is the alarm level of the system immediately after the event. Beginning in Release 3.1, this is the alarm level of the event. This field reports either the autonomous message Notification Code (<i>ntfcncde</i>) or the Condition Effect (<i>condeff</i>), which are mutually exclusive. The alarm level reported is related to the event or condition described in the report entry and relates directly to the <i>ntfcncde</i> reported in REPT ALM. For alarms, <i>almvl</i> takes one of the following values. ■ CR Critical Alarm ■ MJ Major Alarm ■ MN Minor Alarm ■ CL CLear Alarm or CLear Standing Condition For events and conditions, this is the effect of the condition on the system described in the report entry and relates directly to the <i>condeff</i> reported in REPT COND. For events and conditions, <i>almvl</i> takes one of the following values. ■ SC Standing Condition ■ TC Transient Condition ■ CL CLear Alarm or CLear Standing Condition ■ ABN Abnormal Condition ■ NEA Near End Activity ■ FEA Far End Activity Beginning in Release 3.1, ABN, NEA, and FEA will no longer be supported. If there is no alarm level to report, nothing is reported for this field. Beginning in Release 3.1 of DMX and Release 3.0 of DMXpress, this field will always be populated. The alarm level reported is not necessarily related to the event or condition described in the report entry. The alarm level reported is the highest alarm level active in the system when the condition is reported. Beginning in release 3.1, the alarm level reported is related to the event or condition described in the report entry.

Table 2-379. RTRV - LOG Output Parameters (cont 4 of 4)

Parameter Name	Description
<i>condtype</i>	Condition Type. This indicates the type of alarm, switch, or event. Refer to Appendix C for a list of values. NULL is also a valid value. Note: The value of <i>condtype</i> for miscellaneous discretes, which has a default value of MISC, can be modified using the SET-ATTR-ENV command. The <i>condtype</i> value reported by RTRV-LOG will be the current value, and may not be the same value that was reported when the miscellaneous discrete alarm occurred.
<i>srveff</i>	Effect on Service. For alarms, this indicates whether the alarm is service affecting or not service affecting. For non-alarm events, this field is not applicable. ■ SA Service Affecting ■ NSA Non Service Affecting
<i>evt_desc</i>	Event Description. This is a brief description of the event.

EXAMPLE INPUT/OUTPUT

The following example shows a **RTRV-LOG** command for a NE.

```
rtrv-log:LT-1234::17:::numln=16;

IP 17
<
  LT-1234 70-01-01 02:13:13
M 17 COMPLD
  "-:01-01,00-39-29:,\\"CPY-MEM download successful\\"
  "-:01-01,00-39-28:,\\"CPY-MEM download compl.\\"
  "-:01-01,00-27-48: ,\\"CPY-MEM download IP\\"
  "LUC01:01-01,00-25-55:,\\"ent-cid-secu:cit-1\\"
  "LUC01:01-01,00-25-51:,\\"login:LUC01 \\"
  "LUC01:01-01,00-25-42:,\\"login:LUC01 DENY \\"
  "LUC01:01-01,00-25-23:,\\"logout:LUC01 \\"
  "LUC01:01-01,00-25-23:,\\"ent-cid-secu:cit-1\\"
>
  LT-1234 70-01-01 02:13:13
M 17 COMPLD
  "LUC01:01-01,00-25-22:,\\"ent-uls:lan-1\\"
  "LUC01:01-01,00-25-22:,\\"ent-cid-secu:cit-1\\"
  "LUC01:01-01,00-23-41:,\\"ent-cid-secu:cit-1\\"
  "LUC01:01-01,00-23-36:,\\"login:LUC01 \\"
  "LUC01:01-01,00-23-18:,\\"login:LUC01 DENY \\"
  "LUC01:01-01,00-16-51:,\\"logout:LUC01 DISCONNECT \\"
  "LUC01:01-01,00-12-11:,\\"ent-cid-secu:cit-1\\"
  "LUC01:01-01,00-12-07:,\\"login:LUC01 \\"
;
```

Starting in Release 3.1, the following example shows a **RTRV-LOG** command for a NE.

```
rtrv-log:LT-1234::17::numln=11,startdate=02-06-18,starttime=09-45-00;
```

```
IP 17
<
  LT-1234 02-06-18 10:05:41
M 17 COMPLD
  "STS1,m2-1-3:02-06-18,09-43-35:CR,AIS,SA,\"inc. STS1 AIS\""
  "STS1,m1-1-3:02-06-18,09-43-25:CL,AIS,NSA,\"inc. STS1 AIS\""
  "STS1,m1-1-3:02-06-18,09-43-13:TC,WKSWPR-2,,\"auto switch\""
  "STS1,m1-1-3:02-06-18,09-43-13:MN,AIS,NSA,\"inc. STS1 AIS\""
  "OC-48,main-1:02-06-18,09-43-05:MN,EQPT,NSA,\"CP removed\""
  "COM,-:02-06-18,09-22-40:TC,EOC,,\"CPY-MEM restore successful\""
  "COM,-:02-06-18,09-22-40:CL,EOC,\"CPY-MEM restore IP\""
>
  LT-1234 02-06-18 10:05:41
M 17 COMPLD
  "COM,-:02-06-18,09-22-09:SC,EOC,,\"CPY-MEM restore IP\""
  "COM,-:02-06-18,09-21-50:TC,EOC,,\"CPY-MEM backup successful\""
  "COM,-:02-06-18,09-21-50:CL,EOC,,\"CPY-MEM backup IP\""
  "COM,-:02-06-18,09-21-19:SC,EOC,\"CPY-MEM backup IP\""
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may apply to this command also.

If an NE receives a **RTRV-LOG** command with a *numln* value that is not in the range **1 - 500** the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid NUMLN */
;
```

Starting in Release 3.0, if an NE receives a **RTRV-LOG** command with a *numln* value that is not in the range **1 - 2000** the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid NUMLN */
;
```

Starting in Release 3.1, if an NE receives a **RTRV-LOG** command with a *numln* value that is not in the range **1 - 6000** the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid NUMLN */
;
```

Starting in Release 6.0, if the NE receives a **RTRV-LOG** command with a *numln* value that is not in the range **1 - 12000** the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid NUMLN */
;
```

If the NE receives a **RTRV-LOG** command with an incorrectly formatted *startdate* or *starttime*, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid date or time specified */
;
```

Starting in release 6.0, when the NE restarts, if there are no history log files on the NVMS, they will be created. If the NE receives a **RTRV-LOG** command while the history log files are being created, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, log initialization IP */
;
:
```

RELATED TL1 MESSAGES

None.

NAME

RTRV-LOG-SECU: Retrieve Security Log

The **RTRV-LOG-SECU** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 3.1

LOGIN PRIVILEGE

This command is available to users with Privileged access.

Starting in Release 4.0, this command is available to users with Privileged and Administration access.

INPUT FORMAT

RTRV-LOG-SECU:*tid::ctag[:::spec_block];*

DESCRIPTION

The **RTRV-LOG-SECU** command can be initiated by users to retrieve the security log for the network element (NE).

Number of Security Log Entries

The security log is a 1.5 MB circular buffer that can hold approximately 6000 entries. This report contains a user-specified number of the most recent events, up to all entries in the Security log. The Security log displays the events in “last in/first out” order, and each event is time-stamped.

Starting in Release 6.0, the Security Log will hold up to 10000 entries.

Retrieval of Security Log Entries

The command allows the user to limit the number of entries retrieved to between 1 and all security log entries, with the default being 100 events. The entries are returned on a “last in/first out” basis. The user can specify a date and time of the latest entry to be retrieved.

Security Log Entry Contents

The security log records at least the events listed in [Table 2-380](#). For alarm/event type entries, the Security Log records the AID or user ID (UID), event date and time, alarm level (ALMLVL), condition type (CONDTYPE), and event description (EVT_DESC) as reported in the alarm/event autonomous message. For TL1

command type entries, the Security Log records the UID of the user executing the command, date and time, the complete TL1 text string and the status, that is, either "COMPLD", "PRTL" or "DENY" and the 4-character error code. For all TL1 commands that are included in the Security log, all denied attempts are recorded, including those due to TL1 command syntax errors.

Table 2-380. Information Recorded in the Security Log

	Event	Entry Type
1.	Invalid user authentication attempts (alarms/alerts generated due to invalid authentication attempts)	Alarm/Event
2.	Unauthorized attempts to access resources (e.g., data, transactions, and processes)	Alarm/Event
3.	Changes made in a user's security profiles and attributes	TL1 Command
3.1	Changes made in a user's security profiles and attributes as a result of a change made to the NE security configuration.	DB Change
4.	Changes made in security profiles and attributes associated with a channel/port	TL1 Command
5.	Changes made in access rights associated with resources (i.e., privileges required of a user and a channel/port to access a resource)	TL1 Command
6.	Changes made in the NE security configuration	TL1 Command
7.	Creation and modification of NE resources performed via standard operations and maintenance procedures.	TL1 Command
8.	System Resets (for whatever reason)	Alarm/Event
9.	Loss of communication to NE	Alarm/Event

Starting in Release 4.0, the event description for login and logout related commands, except for denials, includes the login session identifier of the affected user along with their user ID (*uid*).

Some TL1 commands recorded in the security log trigger autonomous event messages which are also recorded in the security log. There is no specific required order of these entries and thus the TL1 command entry may precede or may follow the autonomous event message or messages that are triggered by the TL1 command.

When a TL1 command includes a password field, the password is not recorded. Instead, the password is replaced by a fixed string of six asterisks, that is "*****", regardless of the number of characters in the password.

The following TL1 commands include password fields: **ENT-USER-SECU**, **ED-USER-SECU**, **CPY-MEM** and **SCHED-BACKUP**.

Some TL1 commands which include potentially long text strings are recorded in the Security Log as two or more entries, with each of the long text string parameters recorded as separate entries. Each of the TL1 command text parameters appears as if the command was executed with only the single text parameter specified. These long text string parameters are always recorded in the Security Log as separate entries regardless of the actual length of the text string.

The specific parameters to be recorded as separate command entries are **ENT-SYS:syscontact**, **ENT-SYS:syslocation** and each banner line in **ENT-BANNER**.

TL1 commands that are discarded for the following reasons are not recorded in the Security log:

- The command is entered before system startup is complete.
- The command has an invalid format, i.e., it has less than 3 colons.
- The command has an invalid TID.
- The command has an invalid CTAG.
- The command exceeds the TL1 command length limit.
- There is no valid TL1 association.
- The message delivered to wrong RNE.
- The message queue is full.
- The login session is in the process of logout.
- The user's password has expired and the command is not **ED-PID** or **CANC-USER**.
- There is no active login for the user ID.

Starting in Release 6.0, TL1 commands are not recorded in the Security log while an "NVM write disabled" standing condition exists

TL1 commands can be up to 487 characters long (see **RTRV-HDR** requirement 940) and the TL1 output line length can be up to 410.

To ensure that the **RTRV-LOG-SECU** maximum output line length of 410 bytes is not exceeded when the *aid*, *evtdat*, *evttim*, *ccde* and *errcde* parameters are included, only the first 360 characters of the TL1 text string will be recorded in the security log.

The password aging interval, which is provisioned on an individual user basis by **ED-USER-SECU:page**, always has to be greater than the minimum waiting period before changing a password (provisioned on an NE basis by **ED-NE-SECU:pidwpd**). When the value of *pidwpd* is changed, an individual user's *page* value that would be less than or equal to the new value of *pidwpd* is automatically changed to be *pidwpd* + 1. When this happens, an **ED-USER-SECU** entry is recorded in the

Security log for each affected user ID. Since the **ED-USER-SECU** command is not actually executed by a user, the *uid,sessionID* field of the log entry is set to "-" and the *ccde,errcde* field is blank. The *tl1_text* field includes the text of the **ED-USER-SECU** command as if it was directly executed by a user.

When the NE is upgraded to Release 5.0, or downgraded from any major release to a previous major release, the Security Log will be cleared. This applies only to upgrading to from the designated release, and does not apply to upgrades to other releases. It applies for all downgrades from one major release to another major release.

Starting in Release 6.0, if one of the NVMs is missing or failed, writing to the remaining NVM is disabled and an "NVM write disabled" standing condition is raised. When **RTRV-LOG-SECU** is executed while the "NVM write disabled" standing condition exists, the first message returned will indicate this standing condition. This message will not be stored in the Security Log.

Starting in Release 9.0, **RTRV-LOG-SECU** is a supported command on a subshelf in a multi-shelf DCS system utilizing a single TID.

Execution of this command will not be recorded in the Security log.

The **RTRV-LOG-SECU** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-381. RTRV-LOG-SECU Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The following are the <i>spec_block</i> parameters.

Table 2-382. RTRV - LOG - SECU *spec_block* Input Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>numln</i>	Number of lines. This parameter identifies the maximum number of log entries to be retrieved from the log. Values include: ■ 1 - 6000 Integer number of log entries requested may be between 1 and 6000. If the number of entries specified exceeds the number of entries in the Security Log, all log entries will be reported Beginning in Release 6.0, the range of <i>numln</i> is: ■ 1 - 10000 The number of log entries requested may be between 1 and 10000. ■ ALL Specifying ALL returns all entries in the Security Log If <i>numln</i> is not specified, the default number of log entries retrieved will be 100. Warning: executing the RTRV - LOG - SECU command with <i>numln</i>=ALL may return in excess of 35,000 log entries. The time required to retrieve all of the entries could be in excess of 7 to 10 minutes, during which time the NE will be blocked from executing other TL1 commands. Beginning in Release 6.0, the maximum number of Security Log entries is fixed at 10000.
<i>startdate</i>	The date for the starting point of the report. This is the date of the latest log entry to be retrieved. The format is YY-MM-DD. If <i>startdate</i> is not specified, it shall default to the current date. The last log entry at or before the <i>startdate</i> and <i>starttime</i> is the first entry to be retrieved, followed by the preceding entries until either <i>numln</i> entries are retrieved, or the earliest entry in the log is reached. If both <i>startdate</i> and <i>starttime</i> are omitted, the log retrieval starts with the latest log entry.
<i>starttime</i>	The time for the starting point of the report. This is the time of the latest log entry to be retrieved. The format is HH-MM-SS. If <i>starttime</i> is not specified, it shall default to the current time. That is, if <i>starttime</i> is not specified, the latest entry on specified day (or the current day if <i>startdate</i> is not specified), will be the first entry returned.

OUTPUT FORMAT

The output format is as follows:

:

```
IP ctag
<
    sid date time
M ctag COMPLD
    "aid:evtdatetime:[almvl],[condtype],[srveff],[evt_desc]:"
    "uid:evtdatetime:[ccde],[errcde]:[\"tl1-text\"]"
    .
    .
    .
    "uid:evtdatetime:[ccde],[errcde]:[\"tl1-text\"]"
    "aid:evtdatetime:[almvl],[condtype],[srveff],[evt_desc]:"
>
    sid date time
M ctag COMPLD
    "uid:evtdatetime:[ccde],[errcde]:[\"tl1-text\"]"
    "aid:evtdatetime:[almvl],[condtype],[srveff],[evt_desc]:"
    "uid:evtdatetime:[ccde],[errcde]:[\"tl1-text\"]"
    .
    .
    .
    "aid:evtdatetime:[almvl],[condtype],[srveff],[evt_desc]:"
    "uid:evtdatetime:[ccde],[errcde]:[\"tl1-text\"]"
;
```

Beginning in Release 4.0, the output format is as follows:

```

:
IP ctag
<
    sid date time
M ctag COMPLD
    "aid:evtdatetime:[almvl],[condtype],[srveff],[evt_desc]:"
    "uid,sessionid:evtdatetime::[ccde],[errcde]:[\"tl1-text\"]"
    .
    .
    .
    "uid,sessionid:evtdatetime::[ccde],[errcde]:[\"tl1-text\"]"
    "aid:evtdatetime:[almvl],[condtype],[srveff],[evt_desc]:"
>
    sid date time
M ctag COMPLD
    "uid,sessionid:evtdatetime::[ccde],[errcde]:[\"tl1-text\"]"
    "aid:evtdatetime:[almvl],[condtype],[srveff],[evt_desc]:"
    "uid,sessionid:evtdatetime::[ccde],[errcde]:[\"tl1-text\"]"
    .
    .
    .
    "aid:evtdatetime:[almvl],[condtype],[srveff],[evt_desc]:"
    "uid,sessionid:evtdatetime::[ccde],[errcde]:[\"tl1-text\"]"
;

```

If there is no Security log data to report, the following output message is returned:

```

sid date time
M ctag COMPLD
;

```

Starting in Release 3.1, the preceding output message is also returned if there are no Security log entries at or earlier than the requested **startdate** and **starttime**.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command. Additional parameters that specifically apply to this command response are defined in the following table:

Table 2-383. RTRV-LOG-SECU Output Parameters (cont 1 of 3)

Parameter Name	Description
<i>aid</i>	Address Identifier. The <i>aid</i> is the event source identifier and is returned for all non-user initiated conditions recorded in the Security Log. The value is the source address of the event. If there is no <i>aid</i> associated with the event, the "value" returned in this field shall be "-". This parameter applies only to alarms and events. It does not apply to TL1 commands.
<i>uid</i>	User login Identifier. The <i>uid</i> is returned for user-initiated commands recorded in the Security Log. This parameter applies only to TL1 commands. It does not apply to alarms and events.
<i>sessionid</i>	Session Identifier. This parameter is a unique identifier assigned to each login session. <i>sessionid</i> is an integer number in the range 1 to 255. The <i>sessionid</i> is returned for user-initiated commands recorded in the Security Log. This parameter applies only to TL1 commands and does not apply to alarms and events. However, <i>sessionid</i> is also part of the normal <i>evt_desc</i> for autonomous event reports that include the user login identifier (<i>uid</i>).
<i>evtdate</i>	Event Date. This is the date on which the event occurred. It is reported in YY-MM-DD format, where YY is the year, MM is the month of the year ranging from 01 to 12; and DD is the day of the month ranging from 01 to 31. Normally the events are displayed in order of date/time-stamp with the most recent event being displayed first and the oldest being displayed last. If the system clock is reset, however the date and time stamps may be displayed in monotonically decreasing order.
<i>evtime</i>	Event Time. This is the time at which the event occurred. It is reported in HH-MM-SS format, where HH is the hour in a 24 hour format ranging from 00 to 23; MM is the minute ranging from 00 to 59; and SS is the second ranging from 00 to 59.
<i>almlvl</i>	Alarm Level. This field reports either the autonomous message Notification Code (<i>ntfcncd</i>) or the Condition Effect (<i>condeff</i>), which are mutually exclusive. The alarm level reported is related to the event or condition described in the report entry and relates directly to the <i>ntfcncd</i> reported in REPT ALM . It takes one of the following values. MJ Major Alarm MN Minor Alarm CL Clear Alarm

Table 2-383. RTRV-LOG-SECU Output Parameters (cont 2 of 3)

Parameter Name	Description
	While there are more possible alarm level values than are listed as the values for this parameter, the values listed are those for the specific sub-set of alarms that are recorded in the Security Log. For events and conditions, this is the effect of the condition on the system described in the report entry and relates directly to the <i>condeff</i> reported in REPT COND. It takes one of the following values. SC Standing Condition TC Transient Condition CL Clear Standing Condition If there is no alarm level to report, nothing is reported for this field. This parameter applies only to alarms and events. It does not apply to TL1 commands.
<i>condtype</i>	Condition Type. This indicates the type of alarm, or event. It takes one of the following values.
	BUFROVLD Buffer overload CONTR Control processor failure EOC EOC Failure - DCC, program installation (via remote download) and communication failures, and APS channel failures. MAN Manually caused abnormal condition - used to report user logins, unsuccessful login attempts, and logouts. PRCDRER R Procedure error SWFTDWN Software download While there are more condition type values than are listed as the values for this parameter, the values listed are those for the specific sub-set of conditions that are recorded in the Security Log. This parameter applies only to alarms and events. It does not apply to TL1 commands.
<i>srveff</i>	Service Effect . For alarms, this indicates whether the alarm is service affecting or not service affecting. It takes one of the following values. SA Service Affecting - this applies only to entries associated with alarms

Table 2-383. RTRV-LOG-SECU Output Parameters (cont 3 of 3)

Parameter Name	Description
	NSA Non Service Affecting - this applies only to entries associated with alarms This parameter applies only to alarms and events. It does not apply to TL1 commands.
<i>evt_desc</i>	Event Description. Text string. This is a brief description of the event as it appears in the alarm or event autonomous message. This parameter applies only to alarms and events. It does not apply to TL1 commands.
<i>ccde</i>	Completion Code for TL1 command. Value: COMPLD, PRTL or DENY. This parameter applies only to TL1 commands. It does not apply to alarms and events.
<i>errcde</i>	4-character error code associated with the TL1 command DENY or PRTL. This parameter applies only to TL1 commands. It does not apply to alarms and events.
<i>tl1_text</i>	Complete TL1 command text string entered by the user, including the command code block, the AID block, the common block, the spec block, and the state block, as appropriate. This parameter applies only to TL1 commands. It does not apply to alarms and events.

EXAMPLE INPUT/OUTPUT

The following example shows a **RTRV-LOG-SECU** command for a NE.

```
RTRV-LOG-SECU:LT-1234::17::numln=11,startdate=02-08-09,starttime=16-00-00;

IP 17
<
    LT-1234 02-08-10 02-13-13
M 17 COMPLD
    "LUC02:02-08-09,15-43-22::COMPLD:\\"OPR-PROTNSW-VT1:LT-1234:m1-1-1-4-2:1015::
MAN:RCV\\""
    "-:02-08-09,10-10-03:TC,EOC,,\\"CPY-MEM restore failed, backup file CP equipa
ge mismatch\":"
    "LUC01:02-08-09,10-09-59::COMPLD:\\"CPY-MEM:LT-1234::123456::,\"ftp://user10:
*****@199.88.77.6/backups/lt-tid/file2\"",,,restore\""
    "LUC01:02-08-09,07-47-31::COMPLD:\\"ent-sys:LT-1234::123456::syscontact=\"JJ-
Smith-978-960-9999\"\""
>
    LT-1234 02-08-10 02-13-13
M 17 COMPLD
    "LUC01:02-08-09,07-47-31::COMPLD:\\"ent-sys:LT-1234::123456::syslocation=\"M
errimack Valley, Room 21-2F21\"\""
    "LUC02:02-08-09,04-01-00::DENY,ICNV:\\"ent-banner:LT-1234::CTAG::LINE12=\"Th
is_is_the_line_1_of_banner\"\""
    "LUC02:02-08-09,03-27-55::COMPLD:\\"ed-user-secu:LT-1234:kjlee:123456::ilf123,
*****,,general\\""
    "-:02-08-09,01-15-24:CL,MAN,,\\"forced logout-LAN/DCC:PeterPan\":"
    "LUC01:02-08-09,01-15-22::COMPLD:\\"CANC-USER:LT-1234:PeterPan:123456\\""
    "-:02-08-09,00-47-10:TC,MAN,,\\"login-CIT Serial Port:userxx:DENY\":"
    "-:02-08-09,00-23-36:SC,MAN,,\\"login-LAN/DCC:LUC02\":"
    "lan-2:02-08-09,00-12-14:MN,EOC,NSA,\\"section DCC channel failed\":"
;
```

Beginning in Release 4.0, following example shows a **RTRV-LOG-SECU** command for a NE which includes the user login session ID.

```
RTRV-LOG-SECU:LT-1234::17::numln=11,startdate=02-08-09,starttime=16-00-00;

IP 17
<
  LT-1234 02-08-10 02-13-13
M 17 COMPLD
  "LUC02,142:02-08-09,15-43-22::COMPLD:\\"OPR-PROTNSW-VT1:LT-1234:m1-1-1-4-
2:1015:: MAN:RCV\\""
  "-:02-08-09,10-10-03:TC,EOC,,\\"CPY-MEM restore failed, backup file CP equipa
ge mismatch\":"
  "LUC01,34:02-08-09,10-09-59::COMPLD:\\"CPY-MEM:LT-1234::123456::,\"ftp://user10:
*****@199.88.77.6/backups/lt-tid/file2\",,,restore\\""
  "LUC01,34:02-08-09,07-47-31::COMPLD:\\"ent-sys:LT-
1234::123456::syscontact=\\"JJ-Smith-978-960-9999\\""
>
  LT-1234 02-08-10 02-13-13
M 17 COMPLD
  "LUC01,34:02-08-09,07-47-31::COMPLD:\\"ent-sys:LT-1234::123456::syslocation=\\"M
errimack Valley, Room 21-2F21\\""
  "LUC02,142:02-08-09,04-01-00::DENY,ICNV:\\"ent-banner:LT-
1234::CTAG::LINE12=\\"Th
is_is_the_line_1_of_banner\\""
  "LUC02,142:02-08-09,03-27-55::COMPLD:\\"ed-user-secu:LT-
1234:kjlee:123456::ilf123, *****,,general\\""
  "-:02-08-09,01-15-24:CL,MAN,,\\"forced logout-LAN/DCC:PeterPan,73\":"
  "LUC01,34:02-08-09,01-15-22::COMPLD:\\"CANC-USER:LT-1234:PeterPan:123456\\""
  "-:02-08-09,00-47-10:TC,MAN,,\\"login-CIT Serial Port:userxx:DENY\":"
  "-:02-08-09,00-23-36:SC,MAN,,\\"login-LAN/DCC:LUC02,212\":"
  "lan-2:02-08-09,00-12-14:MN,EOC,NSA,\\"section DCC channel failed\":"
;
```

Beginning in Release 4.0, the following example shows a **RTRV-LOG-SECU** command for an NE which includes an **ED-NE-SECU** command changing the value of the minimum period for changing passwords, *pidwprd*, and the subsequent entries for the automatic subsequent changes to individual user's value of the password aging interval, *page*.

```
RTRV-LOG-SECU:LT-1234::17::numln=4,startdate=03-10-14,starttime=10-00-00;

IP 17
<
  LT-1234 03-10-13 02-13-13
M 17 COMPLD
  "LUC02,142:02-08-09,03-27-55::COMPLD:\\"ed-ne-secu:LT-TID123::123456::pidwprd=30\\""
  "-:02-08-09,03-27-55::\\"ed-user-secu:LT-TID123:kjlee:123456::page=31\\""
  "-:02-08-09,03-27-55::\\"ed-user-secu:LT-TID123:rjones:123456::page=31\\""
  "-:02-08-09,03-27-55::\\"ed-user-secu:LT-TID123:asmith:123456::page=31\\""
;
```


ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may apply to this command also.

If the NE receives a **RTRV-LOG-SECU** command with an incorrectly formatted **startdate** or **starttime**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid date or time specified */
;
```

If an NE receives a **RTRV-LOG-SECU** command with a **numln** value that is not in the range **1 - 6000**, or **ALL**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid NUMLN */
;
```

Starting in Release 6.0, if the NE receives a **RTRV-LOG-SECU** command with a **numln** value that is not in the range **1 - 10000**, or **ALL**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid NUMLN */
;
```

Starting in release 6.0, when the NE restarts, if there are no security log files on the NVMS, they will be created. If the NE receives a **RTRV-LOG-SECU** command

while the security log files are being created, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, log initialization IP */
;
:
```

RELATED TL1 MESSAGES

RTRV-LOG

NAME

RTRV - LPBK: Retrieve Loopback

The **RTRV - LPBK** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV - LPBK-*modifier*:*tid*:*aid*:*ctag*;

DESCRIPTION

The **RTRV - LPBK** command retrieves the loopback information in the network element.

Beginning in Release 7.1, this command applies to client ports of muxponder packs with all *signaltype* values other than STNA (see **RTRV - OTPE**).

Execution of this command is not recorded in the Security log.

The **RTRV - LPBK** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-384. RTRV - LPBK Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>modifier</i>	Modifier. This indicates the interface type on which the command is to act. Values include: ■ ALL ■ EC1 ■ ENET ■ DATA

Table 2-384. RTRV-LPBK Input Parameters (cont 2 of 2)

Parameter Name	Description
	■ OC3 ■ OC12 ■ OC48 ■ OC192 ■ T1 ■ E1 ■ T3
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The aid indicates the interface AID for which the loopback information is being requested. Only the interfaces that have loopbacks active are reported. See the AID Table in Appendix A. Valid AID types are: ALL In a multi-shelf DCS system, ALL retrieves loopbacks on the main shelf only. To retrieve information about all loopbacks in a specific subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number. port AID line AID LAG (Link Aggregation Group) AID (beginning in Release 7.0)
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

After receiving the **RTRV-LPBK** command, regardless of whether loopbacks are active or not on the specified ports, the following normal completion response is returned:

```

sid date time
M ctag COMPLD
  "aid:rate:spec_block"
  .
  .
  "aid:rate:spec_block"
;

```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for the **RTRV-HDR** command.

Table 2-385. RTRV-LPBK Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This parameter indicates the AID for which the loopback information is being retrieved.
<i>rate</i>	Rate indicates the interface type of the <i>aid</i>. Values include: ■ EC1 ■ FE-LAN This value may be returned if modifier is ENET (or ALL). ■ GE-LAN This value may be returned if modifier is ENET (or ALL). ■ DATA ■ OC3 ■ OC12 ■ OC48 ■ OC192 ■ T1

Table 2-385. RTRV - LPBK Output Parameters (cont 2 of 2)

Parameter Name	Description
	■ E1 ■ T3
<i>spec_block</i>	The following table contains the <i>spec_block</i> parameters and values.

Table 2-386. RTRV - LPBK Output *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>cmdmode</i>	Command Mode. This parameter indicates the command mode of the optical loopback being retrieved. Values include: ■ NORM For an OCn FACILITY loopback to be accepted in the NORM mode, the line must be in the out-of-service state. (See RTRV - rr, the <i>pst</i> parameter.) ■ FRCD Forced.
<i>lpbktype</i>	Loopback Type. This parameter indicates the type of the loopback being retrieved. Values include: ■ FACILITY Facility loopback. The signal is looped back at the receiver. ■ TERMINAL Terminal loopback. The signal is looped back at the transmitter.

EXAMPLE INPUT/OUTPUT

The following example retrieves all loopback information on T3 ports from the NE:

```
RTRV-LPBK-T3:LT-TID:all:123456;  
LT-TID 98-01-01 08:00:00  
M 123456 COMPLD  
"b-1:T3:LPBKTYPE=FACILITY"  
"b-3:T3:LPBKTYPE=FACILITY"  
"d-2:T3:LPBKTYPE=TERMINAL"  
"d-10:T3:LPBKTYPE=FACILITY"  
"d-11:T3:LPBKTYPE=FACILITY"  
;
```

The following example retrieves all loopback information on the ports (T1, T3, etc.) from the NE:

```
RTRV-LPBK-ALL:LT-TID:all:123456;  
LT-TID 98-01-01 08:00:00  
M 123456 COMPLD  
"a-1-1:T1:LPBKTYPE=FACILITY"  
"a-2-4:T1:LPBKTYPE=FACILITY"  
"b-1:T3:LPBKTYPE=FACILITY"  
"b-3:T3:LPBKTYPE=FACILITY"  
"d-2:EC1:LPBKTYPE=FACILITY"  
"d-7:EC1:LPBKTYPE=FACILITY"  
;
```

The following example retrieves all loopback information on the NE's OC-12 lines:

```
RTRV-LPBK-OC12:LT-TID:all:123456;  
LT-TID 98-01-01 08:00:00  
M 123456 COMPLD  
"main-1-1:OC12:LPBKTYPE=FACILITY,CMDMODE=FRCD"  
"fn-d-1-1:OC12:LPBKTYPE=TERMINAL,CMDMODE=FRCD"  
"fn-d-2-2:OC12:LPBKTYPE=FACILITY,CMDMODE=NORM"  
;
```

The following example retrieves all loopbacks in a shelf:

```
RTRV-LPBK-ALL:LT-TID:all:123456;  
LT-TID 98-01-01 08:00:00  
M 123456 COMPLD  
"main-1-1:0C12:LPBKTYPE=FACILITY,CMDMODE=FRCD"  
"a-1-3:T1:LPBKTYPE=FACILITY"  
"b-1:T3:LPBKTYPE=FACILITY"  
"fn-d-1-1:0C12:LPBKTYPE=TERMINAL,CMDMODE=FRCD"  
"fn-d-2-2:0C12:LPBKTYPE=FACILITY,CMDMODE=NORM"  
;
```

The following example, beginning in Release 7.0, retrieves all loopbacks in a shelf, including a LAG (Link Aggregation Group) loopback:

```
RTRV-LPBK-ALL:LT-TID:all:123456;  
LT-TID 07-04-10 19:26:36  
M 123456 COMPLD  
"main-1-1:0C12:LPBKTYPE=FACILITY,CMDMODE=FRCD"  
"a-1-3:T1:LPBKTYPE=FACILITY"  
"b-1:T3:LPBKTYPE=FACILITY"  
"fn-d-1-1:0C12:LPBKTYPE=TERMINAL,CMDMODE=FRCD"  
"fn-d-2-2:0C12:LPBKTYPE=FACILITY,CMDMODE=NORM"  
"g-lag1:GE-LAN:LPBKTYPE=TERMINAL"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command in the **ERROR RESPONSES** section. The error responses listed there may also apply to the **RTRV-LPBK** command.

If the NE receives a **RTRV-LPBK** command, with an *aid* that is not provisioned for loopback, the following error response is returned:

```
sid date time  
M ctag DENY  
SNPV  
/* Status, Not Provisioned */  
;
```


If the NE receives a **RTRV-LPBK** command with a ***modifier*** other than that supported by the NE, the following error response is returned:

```
sid date time
M ctag DENY
  ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

If the NE receives a **RTRV-LPBK** command without an ***aid***, or with an ***aid*** other than that which is supported by the NE, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid ACcess identifier */
;
```

If the NE receives a **RTRV-LPBK** command with a valid ***aid*** value, but the required corresponding equipment is not present, the following error response is returned:

```
sid date time
M ctag DENY
  ENEQ
/* Equipage, Not EQuipped */
;
```

RELATED TL1 MESSAGES

OPR-LPBK

RLS-LPBK

NAME

RTRV-MAC: Retrieve MAC Address

The **RTRV-MAC** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 4.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-MAC: *tid:aid:ctag::[mac],[tag],[type],[portaid];*

Starting in Release 5.1 the format is as follows:

RTRV-MAC: *tid:aid:ctag::[mac],[tag],[type],[portaid],[vrtswid]:spec_block;*

DESCRIPTION

The **RTRV-MAC** command retrieves the MAC+vlan/tag and type for a slot AID or for a port AID.

A persistent MAC+VLAN will bypass the normal aging process. Filtering on a MAC+VLAN/tag address allows an operator to drop frames from a disruptive user based on its MAC+VLAN/tag address. Packets received by any port in that VLAN on the pack with the MAC as Source Address will be dropped.

Execution of this command will not be recorded in the Security log.

The **RTRV-MAC** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-387. RTRV-MAC Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of the slot (slot AID). Refer to the AID Table in Appendix A for a list of valid AIDs. Value ALL is not allowed.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>mac</i>	MAC address. If this parameter is omitted, information on all MACs is returned. Value: A string of 12 hexadecimal characters. This parameter is optional.
<i>tag</i>	VLAN or port tag. Value: An integer in the range 1 - 4093. When vtagmd (ED-EQPT) or tagmd (ED-VRTSW) is 802.1TAG , VLAN is used. When vtagmd (ED-EQPT) or tagmd (ED-VRTSW) is TRANS , port tag is used. When vtagmd (ED-EQPT) is NOTAG , the command is not supported. This parameter is optional. If not specified, MACs for all vlan/tag will be returned.
<i>type</i>	Address type. Legal values are: ■ PERSISTENT - address will not age out, the same address is allowed on only one port in a circuit pack. ■ FILTERED - frame with filtered source MAC is dropped, the same address is allowed on many ports. ■ DYNAMIC - address learned. This parameter is optional. If not specified, MACs for all types will be returned. When portaid is an RPR port, only PERSISTENT and DYNAMIC apply.

Table 2-387. RTRV-MAC Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>portaid</i>	Ethernet LAN/VCG Port AID. This is the port aid where the MAC address is provisioned. Refer to the AID Table in Appendix A for a list of valid AIDs. This parameter is optional. If not specified, MACs for all ports will be returned. For RPR packs the only valid RPR VCG AID is RPR Span. Starting in Release 7.0, EoS VCGs on the LNW78 are valid. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid, if the member ports are consistent with <i>aid</i>. The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG.
<i>virtswid</i>	Virtual Switch. This parameter is optional. If not specified, MACs for all virtual switches will be returned. This parameter applies to the following circuit packs: ■ LNW70 Value: An integer in the range 1 - 16. ■ LNW78 Value: An integer in the range 1 - 8.
<i>spec_block</i>	Specific Block. The <i>spec_block</i> parameters are defined in the following table.

Table 2-388. RTRV-MAC input *spec_block* parameters

Parameter Name	Description
<i>more</i>	More Flag. Legal values are: ■ ON - The RTRV-MAC request is a continuation of an earlier RTRV-MAC request in the CIT session. The preceding request did not produce all the requested MAC entries. ■ OFF - The RTRV-MAC request is an initial request for MAC entries. If not specified, the <i>more</i> flag is OFF. If the user specifies <i>more</i> ON but there was not a preceding request for the slot or the preceding request did not need to be continued, the retrieve will be processed as if <i>more</i> is OFF. This parameter applies to the following circuit packs: ■ LNW70 ■ LNW78 ■ LNW66, LNW67, LNW68 (starting in Release 7.0)

OUTPUT FORMAT

If the system fully complies with the request, the following normal completion response is returned:

```

sid date time
M ctag COMPLD
  "portaid:mac:tag:type"
  <1 or more of the line above, for another mac if more mac's.
  This list is sorted by mac in ascending order.>
  <1 or more of this entire block, for another aid if more port aid's.
  These blocks are sorted by aid in ascending order.>
;
```

When there are no data to retrieve, the system will respond with the completed message and no data.

On the LNW70, the following normal completion response is returned. When not all entries are listed (more entries can be retrieved with a subsequent **RTRV-MAC** command) the *more* flag appears at the end of the last line:

```
sid date time
M ctag COMPLD
  "portaid:mac:tag:type:vrtswid"
  <1 or more of the line above, for another mac if more mac's.
  This list is sorted by mac in ascending order.>
  <1 or more of this entire block, for another aid if more port aid's.
  These blocks are sorted by aid in ascending order.>
  "portaid:mac:tag:type:vrtswid:more"
;
```

Starting in Release 6.0, for the LNW70 and LNW78, the following normal completion response is returned. When not all entries are listed (more entries can be retrieved with a subsequent **RTRV-MAC** command) the *more* flag appears at the end of the last line:

```
sid date time
M ctag COMPLD
  "portaid:mac:tag:type:vrtswid:rpr_mac"
  <1 or more of the line above, for another mac if more mac's.
  This list is sorted by mac in ascending order.>
  <1 or more of this entire block, for another aid if more port aid's.
  These blocks are sorted by aid in ascending order.>
  "portaid:mac:tag:type:vrtswid:rpr_mac:more"
;
```

Starting in Release 7.0, for all Ethernet switch packs, the following normal completion response is returned. When not all entries are listed (more entries can be retrieved with a subsequent **RTRV-MAC** command) the *more* flag appears at the end of the last line, otherwise the total number of entries appears at the end of the last line:

```
sid date time
M ctag COMPLD
  "portaid:mac:tag:type:vrtswid:rpr_mac"
  <1 or more of the line above, for another mac if more mac's.
  This list is sorted by mac in ascending order.>
  <1 or more of this entire block, for another aid if more port aid's.
  These blocks are sorted by aid in ascending order.>
  "portaid:mac:tag:type:vrtswid:rpr_mac:[more][,total]"
;
```

On the LNW70, at most 8K (8192) MAC entries will be produced as a result of a single **RTRV-MAC** command. If more entries match the input parameters, another **RTRV-MAC** command needs to be entered with the **more** flag set to ON after completion of the first **RTRV-MAC** command. The Network Element maintains state information with respect to a batch of **RTRV-MAC** commands within a CIT session. This allows the Network Element to begin a subsequent report at the point where it stopped the previous report. However, between **RTRV-MAC** requests, it is possible that the MAC table content changes (either because new addresses are learned, addresses are aged out, or because of MAC address provisioning). The state information does not survive system resets.

Note that only the shown entries are sorted per aid and per MAC address. If the report is not complete, it is possible that entries will be produced as a result of a subsequent **RTRV-MAC** even though their sort key (aid and/or MAC address) suggest that they should be part of the initial report.

The previous two paragraphs also apply to the LNW78.

Starting in Release 7.0, these two paragraphs apply to all Ethernet switch packs.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there apply to this command also. Additional parameters that specifically apply to this command response are defined in the following table.

Table 2-389. RTRV-MAC Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>portaid</i>	Ethernet LAN/VCG Port AID. This is the port aid where the MAC address is provisioned. Refer to the AID Table in Appendix A for a list of valid AIDs. For RPR packs the only valid RPR VCG AID is RPR Span. Starting in Release 7.0, EoS VCGs on the LNW78 are valid. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG.
<i>mac</i>	MAC address. Value: A string of 12 hexadecimal characters.
<i>rpr_mac</i>	RPR MAC Address. Starting in Release 6.0 this parameter applies to RPR packs. It is the address of the RPR station through which the <i>mac</i> is reached. It is reported only if <i>portaid</i> is a valid RPR Span and <i>enh_brdgmd</i> (see ED-RPR) is ENABLE. Value: A string of 12 hexadecimal characters.
<i>tag</i>	VLAN or port tag. Value: An integer in the range 1 - 4093. When <i>vlantagmd</i> (ED-EQPT) or <i>tagmd</i> (ED-VRTSW) is 802.1TAG, VLAN is retrieved. When <i>vlantagmd</i> (ED-EQPT) or <i>tagmd</i> (ED-VRTSW) is TRANS, port tag is retrieved. When <i>vlantagmd</i> (ED-EQPT) is NOTAG, the command is not retrieved.
<i>type</i>	Address type. Legal values are: ■ PERSISTENT ■ FILTERED ■ DYNAMIC
<i>vrtswid</i>	Virtual Switch. Value : An integer in the range 1 - 16. This parameter applies to the following circuit packs: ■ LNW70 ■ LNW78
<i>more</i>	More Flag. Only possible value is: ■ MORE - There are more entries This parameter is only shown on the last line of output if not all MAC entries have been output because maximum limit of output was reached. This parameter applies to the following circuit packs: ■ LNW70

Table 2-389. RTRV-MAC Output Parameters (cont 2 of 2)

Parameter Name	Description
	■ LNW78 ■ LNW66, LNW67, LNW68 (starting in Release 7.0)
<i>total</i>	Total number of addresses reported. Value: An integer in the range 1 - 512000. This parameter, valid starting in Release 7.0, is only shown on the last line of output if all MAC entries have been output.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number may be included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

The following example retrieves all MAC+VLAN/tags in a slot.

```
RTRV-MAC:LT-TID123:fn-d-1:123456;

IP 123456
<

LT-TID123 00-01-01 08:00:00
M 123456 COMPLD
"d-1:003456786566:123:dynamic"
"d-1:005476878723:123:filtered"
"d-1:005576878723:123:persistent"
"d-v1:006576789878:123:dynamic"
"d-v1:006654678909:123:dynamic"
"d-v2:002354678767:123:dynamic"
"d-v2:005687678989:123:dynamic"
;
```

The following example retrieves all MAC+VLAN/tags+VS in a slot for an LNW70 circuit pack. It shows MAC addresses associated with ports d-1 and d-v3 in virtual switch 4 and ports d-2, d-v1 and d-v2 in virtual switch 5. Both virtual switches (in Transparent mode) use VLAN 123 on all ports:

```
RTRV-MAC:LT-TID123:fn-d-1:123456:;  
  
IP 123456  
<  
  
LT-TID123 00-01-01 08:00:00  
M 123456 COMPLD  
"d-1:003456786566:123:dynamic:4"  
"d-1:005476878723:123:filtered:4"  
"d-1:005576878723:123:persistent:4"  
"d-2:003456786723:123:dynamic:5"  
"d-v1:006576789878:123:dynamic:5"  
"d-v1:006654678909:123:dynamic:5"  
"d-v2:002354678767:123:dynamic:5"  
"d-v2:005687678989:123:dynamic:5"  
"d-v3:005687675723:123:dynamic:4"  
;
```

The same example with the same MAC entries but assuming that the limit of 8K entries is reached:

```
RTRV-MAC:LT-TID123:fn-d-1:123456:;  
  
IP 123456  
<  
  
LT-TID123 00-01-01 08:00:00  
M 123456 COMPLD  
...  
"d-1:003456786566:123:dynamic:4"  
"d-1:005476878723:123:filtered:4"  
"d-1:005576878723:123:persistent:4"  
"d-2:003456786723:123:dynamic:5"  
"d-v1:006576789878:123:dynamic:5"  
"d-v1:006654678909:123:dynamic:5"  
"d-v2:002354678767:123:dynamic:5"  
"d-v2:005687678989:123:dynamic:5"  
"d-v3:005687675723:123:dynamic:4:more"  
;
```

Because of the change in output format starting in Release 6.0, the previous example is replaced by the following:

```
RTRV-MAC:LT-TID123:fn-d-1:123456;;

IP 123456
<

LT-TID123 00-01-01 08:00:00
M 123456 COMPLD
...
"d1-1:003456786566:123:dynamic:4"
"d1-1:005476878723:123:filtered:4"
"d1-1:005576878723:123:persistent:4"
"d1-2:003456786723:123:dynamic:5"
"d1-v1:006576789878:123:dynamic:5"
"d1-v1:006654678909:123:dynamic:5"
"d1-v2:002354678767:123:dynamic:5"
"d1-v2:005687678989:123:dynamic:5"
"d1-v3:005687675723:123:dynamic:4::more"
;
```

The following example, starting in Release 6.0, retrieves all MAC+VLAN/tags+VS in a slot for an LNW78 circuit pack. It shows MAC addresses associated with ports d1-1, d1-2, d1-v1, and d1-v2 in virtual switch 1. The virtual switch (in Transparent mode) uses VLAN 123 on all ports, and **enh_brdgmd** (see **ED-RPR**) is **ENABLE**. This is also a case where the output limit was reached and more is available:

```
RTRV-MAC:LT-TID123:fn-d-1:123456;;

IP 123456
<

LT-TID123 00-01-01 08:00:00
M 123456 COMPLD
...
"d1-1:003456786566:123:dynamic:1:"
"d1-1:005576878723:123:persistent:1:"
"d1-2:003456786723:123:dynamic:1:"
"d1-v1:006576789878:123:dynamic:1:0BC123DEF456"
"d1-v1:006654678909:123:dynamic:1:0BC123DEF456"
"d1-v2:002354678767:123:persistent:1:456ABC123DEF:more"
;
```

Starting in Release 7.0, for the LNW66, LNW67, and LNW68 packs, the following is an example output when the output is complete:

```
RTRV-MAC:LT-TID123:fn-d-1:123456:;  
  
IP 123456  
<  
  
    LT-TID123 00-01-01 08:00:00  
M 123456 COMPLD  
    "d1-1:003456786566:123:dynamic"  
    "d1-1:005476878723:123:filtered"  
    "d1-1:005576878723:123:persistent"  
    "d1-v1:006576789878:123:dynamic"  
    "d1-v1:006654678909:123:dynamic"  
    "d1-v2:002354678767:123:dynamic"  
    "d1-v2:005687678989:123:dynamic::,7"  
;
```

Starting in Release 7.0, for the LNW66, LNW67, and LNW68 packs, the following is an example output when there are more addresses to report:

```
RTRV-MAC:LT-TID123:fn-d-1:123456:;  
  
IP 123456  
<  
  
    LT-TID123 00-01-01 08:00:00  
M 123456 COMPLD  
    ...  
    "d1-1:003456786566:123:dynamic"  
    "d1-1:005476878723:123:filtered"  
    "d1-1:005576878723:123:persistent"  
    "d1-v1:006576789878:123:dynamic"  
    "d1-v1:006654678909:123:dynamic"  
    "d1-v2:002354678767:123:dynamic"  
    "d1-v2:005687678989:123:dynamic::more"  
;
```

Starting in Release 7.0, for the LNW70 pack, the following is an example output when the output is complete:

```
RTRV-MAC:LT-TID123:fn-d-1:123456:;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-01-01 08:00:00
```

```
M 123456 COMPLD
```

```
"d1-1:003456786566:123:dynamic:4"
```

```
"d1-1:005476878723:123:filtered:4"
```

```
"d1-1:005576878723:123:persistent:4"
```

```
"d1-2:003456786723:123:dynamic:5"
```

```
"d1-v1:006576789878:123:dynamic:5"
```

```
"d1-v1:006654678909:123:dynamic:5"
```

```
"d1-v2:002354678767:123:dynamic:5"
```

```
"d1-v2:005687678989:123:dynamic:5"
```

```
"d1-v3:005687675723:123:dynamic:4::,9"
```

```
;
```

Starting in Release 7.0, for the LNW78 pack, the following is an example output when the output is complete:

```
RTRV-MAC:LT-TID123:fn-d-1:123456:;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-01-01 08:00:00
```

```
M 123456 COMPLD
```

```
"d1-1:003456786566:123:dynamic:1:"
```

```
"d1-1:005576878723:123:persistent:1:"
```

```
"d1-2:003456786723:123:dynamic:1:"
```

```
"d1-v1:006576789878:123:dynamic:1:0BC123DEF456"
```

```
"d1-v1:006654678909:123:dynamic:1:0BC123DEF456"
```

```
"d1-v2:002354678767:123:persistent:1:456ABC123DEF:,6"
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSE** section. The error responses listed there also may apply to this command.

If the specified slot AID contains an non Ethernet board, or if the Ethernet board is not set to 802.1 or transparent tag mode, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, board type or mode may not support
  MAC+vlan/tag */
```

If the specified slot AID is not specified or "ALL" is used in the AID field, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID is missing, wrong or
  inconsistent with modifier */
;
```

If the specified port (or LAG) AID is inconsistent with **aid**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, inconsistent AIDs */
;
```

If the specified port is a member of a Link Aggregation Group, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, port is member of a LAG */
;
```

If the entered MAC, VLAN/tag, and type does not already exist, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more specified parameter does not
exist */
```

Starting in Release 5.1, the above is extended to include Virtual Switch as follows: if the entered MAC does not exist, the following error response is returned. Also, if the entered VS + VLAN/tag does not exist, or does not exist for the port AID if specified, then the following error response is returned :

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more specified parameter does not
exist */
```

If a specified parameter has an incorrect value, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more input parameters are invalid */
;
```

Starting in Release 5.1, if the specified virtual switch id (**vrtswid**) is not within the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, vrtswid out of range */
;
```


RTRV-MAC
TL1 Message Details

RTRV-MAC
Alcatel-Lucent 1665 DMX, R9.0

RELATED TL1 MESSAGES

ENT - MAC

DLT - MAC

NAME

RTRV-MAP-NEIGHBOR: Retrieve Map Neighbor

The **RTRV-MAP-NEIGHBOR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-MAP-NEIGHBOR:*tid::ctag;*

DESCRIPTION

This command retrieves a list of all Network Elements (NEs) that are immediate DCC or IAO LAN neighbors to the local NE. Both the local NE and neighbor NEs must have the OSI protocol stack enabled between them to be included in the response to this command.

The local NE returns a report containing the Target Identifiers (TIDs) of every NE that is directly connected (via DCC or IAO LAN) to the local NE, including the connectivity between the local NE and each of the neighboring NEs, as well as other information.

Note that a neighboring NE may be listed more than once in the report.

If there is a DCC or IAO LAN failure between the local NE and its neighboring NE, the neighboring NE entry will not appear in the report.

Starting in Release 9.0, **RTRV-MAP-NEIGHBOR** is a supported command on a subshelf in a multi-shelf DCS system utilizing a single TID.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-390. RTRV-MAP-NEIGHBOR Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

In response to a valid **RTRV-MAP-NEIGHBOR** command, the following output report is returned:

```

sid date time
M  ctag COMPLD
   "TID=x, NSAP=x, LEVEL=x, PRODTYPE=x"
   "TID=x, NSAP=x, THRU=x, LEVEL=x[, DCC=NO]"
   .      .      .      .      .
   .      .      .      .      .
   "TID=x, NSAP=x, THRU=x, LEVEL=x[, DCC=NO]"
;
```

Starting in Release 4.0, in response to a valid **RTRV-MAP-NEIGHBOR** command, the following output report is returned:

```

sid date time
M  ctag COMPLD
   "TID=x, NSAP=x, LEVEL=x, PRODTYPE=x"
   "TID=x, NSAP=x, THRU=x[, NPAID=x], LEVEL=x[, DCC=NO]"
   .      .      .      .      .
   .      .      .      .      .
   "TID=x, NSAP=x, THRU=x[, NPAID=x], LEVEL=x[, DCC=NO]"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command also. Additional parameters that specifically apply to this command response are defined below:

Table 2-391. RTRV-MAP-NEIGHBOR Output Parameters (cont 1 of 2)

Parameter Name	Description
	The first entry in the output report represents the local NE, i.e., the NE to which the command was addressed. The local NE's parameters are output in the following order: <i>tid, nsap, level, prodtype</i>. The neighboring NEs are included in the output report in order by the value of the <i>thru</i> field port AID, i.e., high-speed Main ports, low-speed ports, and IAO LAN ports. Each neighboring NE's parameters are output in the following order: <i>tid, nsap, thru, level, dcc</i>. Beginning in Release 4.0, each neighboring NE's parameters are output in the following order: <i>tid, nsap, thru, npaid, level, dcc</i>.
<i>tid</i>	Target Identifier of the NE. If the local NE is unable to determine a <i>tid</i> for a reachable NSAP, the parameter/value will be "TID=?". The TIDs for neighbors are determined by real-time TARP NSAP-to-TID queries even if TARP Data Cache is enabled. If any neighboring NEs have duplicate TIDs, they will both be listed in the report.
<i>prodtype</i>	Product Type. The product type is only reported for the local NE and the value is: DMX This identifies the local NE as a DMX.
<i>thru</i>	The port AID on the local node through which the neighbor node is connected. The AID can be in different formats, depending on the protection type. For 1+1 protected lines, the AID uses xOC-n line pair format; otherwise, the AID uses xOC-n line format. Refer to the AID Table. Starting in release 6.0, for 1+1 protected line pairs, the AID uses the line AID of the line in slot 1 of the pairs.

Table 2-391. RTRV-MAP-NEIGHBOR Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>npaid</i>	Neighbor Port AID. This parameter is used for the DCC neighboring port AID. It is omitted for non-LinkID and LAN neighbors or if the information is not currently available. To interwork with other SONET NE types, the value format of this parameter is bay-shelf-#-#-slot-port. For DMX product family, port equals the port number on the OC-n pack, and slot is defined as the following when applicable: "02" for "main-1", "04" for "main-2", "06" for "fn-a-1", "08" for "fn-a-2", "10" for "fn-b-1", "12" for "fn-b-2", "14" for "fn-c-1", "16" for "fn-c-2", "18" for "fn-d-1", "20" for "fn-d-2", "22" for "growth-1" and "24" for "growth-2".
<i>level</i>	This field has the value "2" for the local NE if the local NE is provisioned to be a Level 2 IS, in which case, all neighboring NEs that are provisioned to be a Level 2 IS are identified with a value of "2" in this field, also, in a network with multiple Level 2 ISs and OSI routing areas. This field has the value "1" for the local NE if the local NE is <i>not</i> provisioned to be a Level 2 IS, in which case, this field has the value "2" to indicate if a neighboring NE is the default Level 2 IS for the local NE and the value "1" for all other neighboring NEs in the same OSI routing area as the local NE, in a network with multiple Level 2 ISs and OSI routing areas. If the local NE is not provisioned to be a Level 2 IS but has a neighbor in a different OSI routing area, this field has the value "?" (and "DCC=NO") because the local NE cannot determine the neighbor's Level. If a remote NE that was provisioned to be a Level 2 IS is disabled as a Level 2 IS, it may take up to 20 minutes for that change to be reflected in the report. If a network consists of only one area, the local NE can indicate if it is provisioned to be a Level 2 IS, but it can't indicate if any of the remote NEs are provisioned to be Level 2 ISs.
<i>dcc</i>	DCC and IAO LAN OSI Communications. If the local NE has a neighbor in a different OSI routing area, and either the local NE or the neighbor is not provisioned to be a Level 2 IS, the value of this field is "NO" because OSI communications between the local NE and its neighbor is not fully functional. Otherwise, this field does not appear in the output (i.e., when OSI communication between neighbors is fully functional). This parameter is sometimes referred to as a missing router indicator because it may indicate that the local NE and its neighbor should both be provisioned as Level 2 ISs, or conversely, it may indicate that DCC should be disabled between the local NE and its neighbor.
<i>nsap</i>	NSAP address of the NE. The 20 bytes of the NSAP are displayed using 40 hexadecimal digits. Refer to the ENT - ULSDCC - L3 command for the format of the NSAP.

EXAMPLE INPUT/OUTPUT

The following example requests the map of the neighboring NEs:

```
RTRV-MAP-NEIGHBOR:LT-TID123::123456;
```

```
IP 123456
<
  LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
  "TID=LT-TID123, NSAP=39840F800000000000000000000000008006a1ad06e00, LEVEL=2, PRODTYPE=DMX"
  "TID=NE11, NSAP=39840F800000000000000000000000008006a1ad06f00, THRU=main-1-1, LEVEL=1"
  "TID=NE22, NSAP=39840F80000000000000000000000000000e3a037200, THRU=main-2-1, LEVEL=1"
  "TID=NE33, NSAP=39840F80000000000000000000000000000e3a027300, THRU=lan-2, LEVEL=1"
  "TID=NE44, NSAP=39840F80000000000000000000000000200000e3a073200, THRU=lan-2, LEVEL=2"
;
```

Starting in Release 4.0, the following example requests the map of the neighboring NEs:

```
RTRV-MAP-NEIGHBOR:LT-TID123::123456;
```

```
IP 123456
<
  LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
  "TID=LT-TID123, NSAP=39840F800000000000000000000000008006a1ad06e00, LEVEL=2, PRODTYPE=DMX"
  "TID=NE11, NSAP=39840F800000000000000000000000008006a1ad06f00, THRU=main-1-1, NPAID=1-1-#-#-04-1, LEVEL=1"
  "TID=NE22, NSAP=39840F80000000000000000000000000000e3a037200, THRU=main-2-1, NPAID=1-1-#-#-02-1, LEVEL=1"
  "TID=NE33, NSAP=39840F80000000000000000000000000000e3a027300, THRU=lan-2, LEVEL=1"
  "TID=NE44, NSAP=39840F80000000000000000000000000200000e3a073200, THRU=lan-2, LEVEL=2"
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

RTRV-MAP-NEIGHBOR TL1 Message Details

RTRV-MAP-NEIGHBOR Alcatel-Lucent 1665 DMX, R9.0

If the NE receives a **RTRV-MAP-NEIGHBOR** command with an otherwise valid set of input parameter values but the command could not be completed by the NE, the following error response is returned:

```
sid date time
M ctag DENY
SR0F
/* Status, Requested Operation Failed */
;
```

RELATED TL1 MESSAGES

ENT-FECOM

ENT-SYS

ENT-ULSDCC-L3

RTRV-MAP-NETWORK

NAME

RTRV-MAP-NETWORK: Retrieve Map Network

The **RTRV-MAP-NETWORK** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-MAP-NETWORK:*tid::ctag[::level2];*

DESCRIPTION

This command retrieves a list of all reachable Network Elements (NEs) (including Level 2 ISs) in the local NE's OSI routing area only or all reachable Level 2 IS NEs across all OSI routing areas (if the local NE is provisioned to be a Level 2 IS). Both the local NE and any remote NE must have DCC and/or IAO LAN connectivity with the OSI protocol stack enabled between them to be included in the response to this command.

When the NE receives a **RTRV-MAP-NETWORK** command from the user, the NE returns a report containing Target IDentifiers (or TIDs) of other NEs in the network, as well as other information about the NEs.

Unlike **RTRV-MAP-NEIGHBOR**, an NE is listed only once in the report.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-392. RTRV-MAP-NETWORK Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-392. RTRV-MAP-NETWORK Input Parameters (cont 2 of 2)

Parameter Name	Description
level2	Level 2 ISs. The valid values are: N (Default) the report will list the reachable NEs (including Level 2 ISs) in the local NE's OSI routing area only. Y This value is only accepted if the local NE is provisioned to be a Level 2 IS. The report will list the reachable Level 2 IS NEs, across all OSI routing areas.

OUTPUT FORMAT

In response to a valid **RTRV-MAP-NETWORK** command, the following output report is returned:

```

sid date time
M ctag COMPLD
  "TID=x, NSAP=x, LEVEL=x, PRODTYPE=x"
  "TID=x, NSAP=x, LEVEL=x"
  :
  :
  "TID=x, NSAP=x, LEVEL=x"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command. Additional parameters that specifically apply to this command response are defined below:

Table 2-393. RTRV-MAP-NETWORK Output Parameters (cont 1 of 2)

Parameter Name	Description
	The first entry in the output report represents the local NE, i.e., the NE to which the command was addressed. The local NE's parameters are output in the following order: tid, nsap, level and prodtype. The remote NEs are included in order the output report by the value of the tid field. Each remote NE's parameters are output in the following order: tid, nsap and level.

Table 2-393. RTRV-MAP-NETWORK Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. If the local NE is unable to determine a <i>tid</i> for a reachable NSAP, the parameter/value will be "TID=?". The TIDs for remote NEs are determined by real-time TARP NSAP-to-TID queries even if TARP Data Cache is enabled. If any remote NEs have duplicate TIDs, they will both be listed in the report.
<i>prodtype</i>	Product Type. The product type is only reported for the LOCAL NE. The value is as following: ■ DMX This identifies the local NE as a DMX.
<i>level</i>	This field has the value "2" for the local NE if the local NE <i>is</i> provisioned to be a Level 2 IS, in which case, all remote NEs included in the output report that are provisioned to be a Level 2 IS are identified with a value of "2" in this field. This also applies in a network with multiple Level 2 ISs and OSI routing areas. This field has the value "1" for the local NE if the local NE is <i>not</i> provisioned to be a Level 2 IS, in which case, this field has the value "2" to indicate the remote NE that is the default Level 2 IS for the local NE, and the value "1" for all other remote NEs in the same OSI routing area as the local NE, in a network with multiple Level 2 ISs and OSI routing areas. Note: If a remote NE that was provisioned to be a Level 2 IS is disabled as a Level 2 IS, it may take up to 20 minutes for that change to be reflected in the report. If a network consists of only one area, the local NE can indicate if it is provisioned to be a Level 2 IS, but it cannot indicate if any of the remote NEs are also provisioned to be Level 2 ISs.
<i>nsap</i>	NSAP address of the NE. The 20 bytes of the NSAP are displayed using 40 hexadecimal digits. Refer to the ENT-ULSDCC-L3 command for the format of the NSAP.

EXAMPLE INPUT/OUTPUT

The following example requests the list of NEs contained in the local NE's OSI routing area:

```
RTRV-MAP-NETWORK:LT-TID123::123456;

IP 123456
<
  LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
  "TID=LT-TID123, NSAP=39840F800000000000000000000000008006a1ad06e00, LEVEL=2,
  PRODTYPE=DMX"
  "TID=NE11, NSAP=39840F80000000000000000000000000e3a027300, LEVEL=1"
  "TID=NE22, NSAP=39840F800000000000000000000000008006a1ad07f00, LEVEL=1"
  "TID=NE33, NSAP=39840F80000000000000000000000000e3a073200, LEVEL=1"
  "TID=NE44, NSAP=39840F80000000000000000000000000e3a037200, LEVEL=2"
  "TID=NE55, NSAP=39840F800000000000000000000000008006a1ad06f00, LEVEL=1"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the NE receives a **RTRV-MAP-NETWORK** command with an invalid *level2* value, or any other unsupported input parameter, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid Level2 */
;
```

RELATED TL1 MESSAGES

ENT-FECOM

ENT-SYS

ENT-ULSDCC-L3

RTRV-MAP-NEIGHBOR

NAME

RTRV-MAP-RING: Retrieve Map Ring

The **RTRV-MAP-RING** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-MAP-RING: *tid*: [*aid*]: *ctag*: : [*rid*] [, *mapsrc*];

DESCRIPTION

The **RTRV-MAP-RING** command generates a report listing the sequence of nodes (ring map) for a BLSR of which the specified BLSR protection group is a member. The command permits the user to address a BLSR protection group using the BLSR protection group AID or the Ring ID . The command supports retrieval of the active (**NVMRING**) ring map or the inactive (**MANUAL**) ring map. When the inactive ring map is retrieved, the response also includes a list of cross-connections carrying service that originates from or is destined to a node, which is not in the inactive ring map.

Execution of this command will not be recorded in the Security log.

The **RTRV-MAP-RING** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-394. RTRV-MAP-RING Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-394. RTRV-MAP-RING Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. See Appendix A - AID Tables. This is the access identifier for a 2F (BLSR) protection group. Either the <i>aid</i> or <i>rid</i>, but not both, must be specified. Beginning in Release 6.0, a line-pair aid will no longer be accepted as the identifier of a linear protection group. Instead the aid of the line in slot 1 becomes the identifier.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>rid</i>	Ring Identification name. Storage and retrieval of the <i>rid</i> is case sensitive, but actual use of the <i>rid</i> to determine the corresponding protection group is case insensitive. Value: The ring ID parameter is a quoted text string of up to 15 characters consisting of 7-bit hex values of [20-7E] (i.e., printable ASCII characters found in the English language), with the following exceptions: ; (semicolon) is not allowed, and " (double quote) and \ (backslash) must be preceded by a backslash. Beginning in R3.1, the " (double quote) and \ (backslash) characters are not allowed within the quoted text string. If this parameter is specified, then the command will operate on the protection group associated with that ring ID. Either the <i>rid</i> or the <i>aid</i>, but not both must be specified.
<i>mapsrc</i>	Map Source. It indicates the source of the ring map. When NVMRING is specified, if there is a valid and complete ring map in NVM, it will be reported. Otherwise, nothing will be reported. The valid ring map in NVM is used by the BLSR protection group. Values: ■ NVMRING This shows the active ring map data stored in NVM. (default) ■ MANUAL This shows the ring map data manually populated by the user and stored in RAM (inactive). ■ DCC This shows the most recent automatically discovered ring map data. In the event that insufficient data is gathered, a one node ring map is reported. If automatic ring discovery had never been enabled for the specified BLSR protection group nothing is reported.

OUTPUT FORMAT

In response to a valid **RTRV-MAP-RING** command, the following output report is returned to the user:

```
sid date time
M ctag COMPLD
  "aid:rid, localnid:spec_block"
  ...
  ...
  "aid:rid, localnid:spec_block"
    <zero or more occurrences of the following line>
    "src_aid,dest_aid::cct,rate:spec_block_b"
  ;
```

Beginning in Release 3.0, the **RTRV-MAP-RING** output format shall be as follows:

```
[aid][,src_aid[,dest_aid]]:[rid],[localnid][,cct,rate]:
[spec_block|spec_block_b]
```

with the ring map parameters reported as

```
"aid:rid, localnid:spec_block"
```

and the cross-connect parameters reported as

```
",src_aid,dest_aid::,cct,rate:spec_block_b"
```

Beginning in Release 3.0, in response to a valid **RTRV-MAP-RING** command, the following output report is returned to the user:

```
sid date time
M ctag COMPLD
  "aid:rid, localnid:spec_block"
  ...
  ...
  "aid:rid, localnid:spec_block"
    <zero or more occurrences of the following line>
    ",src_aid,dest_aid::,cct,rate:spec_block_b"
  ;
```

Beginning in Release 6.0, the **RTRV-MAP-RING** output format is as follows:

```
[aid][,src_aid[,dest_aid]]:[rid],[localnid][,cct,rate[,src2_aid]]  
:  
[spec_block/spec_block_b]
```

with the ring map parameters reported as

```
"aid:rid,localnid:spec_block"
```

and the cross-connect parameters reported as

```
",src_aid,dest_aid:,,cct,rate[,src2_aid]:spec_block_b"
```

Beginning in Release 6.0, in response to a valid **RTRV-MAP-RING** command, the following output report is returned to the user:

```
sid date time  
M ctag COMPLD  
  "aid:rid,localnid:spec_block"  
  ...  
  ...  
  "aid:rid,localnid:spec_block"  
    <zero or more occurrences of the following line>  
    ",src_aid,dest_aid:,,cct,rate[,src2_aid]:spec_block_b"  
;
```

OUTPUT PARAMETERS

For closed rings, the output starts at the node with the lowest *nid* value and continues in the direction of the first node's East neighbor.

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section. The requirements listed there also apply to the **RTRV-MAP-RING** command. The following table shows the additional output parameters that apply to the **RTRV-MAP-RING** command:

Table 2-395. RTRV-MAP-RING Output Parameters (cont 1 of 3)

Parameter Name	Description of Output Parameters
<i>aid</i>	Access Identifier - 2F (BLSR) protection group AID. Value: 2F (BLSR) protection group AID. Beginning in Release 6.0, a line-pair aid will no longer be reported as the identifier of a linear protection group. Instead the aid of the line in slot 1 becomes the identifier.
<i>rid</i>	Ring Identification name. Storage and retrieval of the <i>rid</i> is case sensitive, but actual use of the <i>rid</i> to determine the corresponding protection group is case insensitive. Value: The ring ID parameter is a quoted text string of up to 15 characters consisting of 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language), with the following exceptions: ; (semicolon) is not allowed, and " (double quote) and \ (backslash) must be preceded by a backslash. Beginning in Release 3.1, the " (double quote) and \ (backslash) characters are not allowed within the quoted text string.
<i>localnid</i>	Local Node ID. This is an identifier assigned to each NE. When automatic ring discovery is enabled, the value is based on its relative NET value. It is the ID of the reporting node. Value: Integer with a range of 0-15.
<i>src_aid</i>	Source Access Identifier. This is the source AID of a cross-connection carrying service originating from or destined to a node which is not in the inactive ring map. Beginning in Release 6.0, <i>src_aid</i> identifies the input of a 1WAY cross-connection or the first input of a 1WAYPR cross-connection carrying service originating from or destined to a node which is not in the inactive ring map. Values: See Appendix A - Aid Tables. Beginning in Release 6.0, logical ring channel aids are used to specify the source of a cross-connection. Refer to Appendix A - AID Tables for the supported aids and to Appendix E - Cross-connections for a definition of the logical ring channels. This parameter is permitted in the response only if mapsrc=MANUAL

Table 2-395. RTRV-MAP-RING Output Parameters (cont 2 of 3)

Parameter Name	Description of Output Parameters
<i>dest_aid</i>	Destination Access Identifier. This is the destination AID of a cross-connection carrying service originating from or destined to a node which is not in the inactive ring map. Values: See Appendix A - AID Tables. Beginning in Release 6.0, logical ring channel aids are used to specify the destination of a cross-connection. Refer to Appendix A - AID Tables for the supported aids and to Appendix E - Cross-connections for a definition of the logical ring channels. This parameter is permitted in the response only if mapsrc=MANUAL
<i>cct</i>	Cross-connection Type. This is the type attribute of a cross-connection carrying service originating from or destined to a node which is not in the inactive ring map. Values include: ■ 2WAYPR ■ 1WAY ■ 1WAYPR Beginning in Release 6.0, 2WAYPR is no longer a supported value. This parameter is only permitted in the response if mapsrc=MANUAL
<i>rate</i>	This is the rate attribute of a cross-connection carrying service originating from or destined to a node which is not in the inactive ring map. It reflects the value of the modifier in the ENT-CRS-rr command used to establish the cross-connection. Values include: ■ STS1 ■ STS3c ■ STS12c ■ STS48c ■ VT1 This parameter is permitted in the response only if mapsrc=MANUAL

Table 2-395. RTRV-MAP-RING Output Parameters (cont 3 of 3)

Parameter Name	Description of Output Parameters
<i>src2_aid</i>	Second Source Access Identifier. See "Appendix A - AID Tables". <i>src2_aid</i> identifies the second input of a 1WAYPR cross-connection. Values: ■ logical ring channel aid. Refer to Appendix A - AID Tables for the supported aids and to Appendix E - Cross-connections for a definition of the logical ring channels.
<i>spec_block</i>	The <i>spec_block</i> parameters are identified Output <i>spec_block</i> Parameters table.
<i>spec_block_b</i>	The <i>spec_block_b</i> parameters are identified in Output <i>spec_block_b</i> Parameters table. This table is applicable only if mapsrc=MANUAL

Table 2-396. RTRV-MAP-RING Output *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description of Spec_Block Parameters
<i>continuity</i>	Transmission Continuity Status. Values include: ■ UNKNOWN (default) The link ID has not been established. ■ UP The link is working. ■ DOWN The link has failed. ■ OPEN The link is non-existent, as in an open ring. ■ ISOLATED The link is in an isolated part of a segmented ring.

Table 2-396. RTRV-MAP-RING Output *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description of Spec_Block Parameters
<i>linkid</i>	Link Identifier. The format of this parameter is: <pre>linkid="{nename,[port],direction},{nename,[port],direction}"</pre> Where: ■ <i>nename</i> Network Element Name: The target identifier, TID, of the network element. Values: Refer to the RTRV-HDR command for the parameter syntax and allowable values. ■ <i>port</i> Port: The AID of the east or west 2F BLSR ring port. Values: 1-1-#-#-<i>slot-port</i> Where <i>port</i> equals the port number on the OC-n pack and <i>slot</i> is defined in the following <i>linkid slot</i> mapping table. Beginning in Release 3.0, the AID of all DMX ports in the ring map is reported using a DMX line AID format. Non-DMX ports will continue to be reported using the WaveStar AID format. Values: See Appendix A - AID Table. ■ <i>direction</i> Ring Direction: The east or west designation of the 2F BLSR <i>port</i> Values: E (east) W (west) In manually provisioned ring maps only the <i>port</i> and <i>direction</i> of the local node are known. The <i>port</i> and <i>direction</i> parameters for other nodes in the ring may be omitted if the ring maps are manually provisioned.

Table 2-396. RTRV-MAP-RING Output *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description of Spec_Block Parameters						
<i>net</i>	This field is the Network Entity Title (NET). <i>net</i> corresponds to the first tid/nename listed in the <i>linkid spec_block</i> parameter, not the second tid/nename. <i>net</i> is the same as the NSAP (Network Service Access Point) with the last byte set to 00 (hex). The NSAP is the actual network-wide address of the node residing in the SONET network, which includes the DCC neighbor. The NSAP is a 20 bytes (or 40 hexadecimal digits) address made up of multiple fields which allow the network provider to provision domains and areas within the network. Refer to the ENT -ULSDCC -L3 command for the format of the NSAP. This parameter does not appear in the output if auto ring discovery is disabled.						
<i>nid</i>	Node identifier. This is the identity of each node in the ring. It is the node ID in the ring corresponding to the first tid/nename listed in the <i>linkid spec_block</i> parameter, not the second tid/nename. Value: an integer with a range of 0 to 15.						
<i>rnvtyp</i>	Ring Node VT Type: <i>rnvtyp</i> indicates the level of support for VT BLSR access for the ring node. Values: <table> <tr> <td>TYPE1</td><td>The node does not support any VT BLSR access</td></tr> <tr> <td>TYPE2</td><td>The node supports VT-accessed STS1 pass-through cross-connections</td></tr> <tr> <td>TYPE3</td><td>The node supports VT cross-connections and VT-accessed STS1 pass-through cross-connections</td></tr> </table> Note, when retrieving a manually provisioned ring map, <i>rnvtyp</i> indicates the VT Type of the local node while <i>rnvtype</i>=TYPE1 for all remote nodes.	TYPE1	The node does not support any VT BLSR access	TYPE2	The node supports VT-accessed STS1 pass-through cross-connections	TYPE3	The node supports VT cross-connections and VT-accessed STS1 pass-through cross-connections
TYPE1	The node does not support any VT BLSR access						
TYPE2	The node supports VT-accessed STS1 pass-through cross-connections						
TYPE3	The node supports VT cross-connections and VT-accessed STS1 pass-through cross-connections						

Table 2-397. RTRV-MAP-RING Output *spec_block_b* Parameters (cont 1 of 3)

Parameter Name	Description of Spec_Block_B Parameters
<i>circuitid</i>	Circuit Identifier. <i>circuitid</i> is a quoted text string of up to ASCII 36 characters. The permitted character set consists of the 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language), with the following exceptions: the ; (semicolon), " (double quote), and \ (backslash) characters are not permitted within the quoted string. <i>circuitid</i> is an attribute of an STSn rate cross-connection. Beginning in Release 5.0 <i>circuitid</i> is also an attribute of a VT1 rate cross-connection.
<i>loca</i>	Identifies the TID associated with <i>src_aid</i> of a cross-connection carrying service originating from or destined to a node which is not in the inactive ring map. <i>loca</i> identifies the node at which service is added to the BLSR. A non-NULL <i>loca</i> is reported if the <i>src_aid</i> is a tributary in a BLSR port protection group. Values: See <i>tid</i> in the RTRV-HDR command. This parameter is permitted in the response only if mapsrc=MANUAL
<i>locz</i>	Identifies the TID associated with <i>dest_aid</i> of a cross-connection carrying service originating from or destined to a node which is not in the inactive ring map. <i>locz</i> identifies the node at which service is dropped from the BLSR. A non-NULL <i>locz</i> is reported if the <i>dest_aid</i> is a tributary in a BLSR port protection group. Values: See <i>tid</i> in the RTRV-HDR command. This parameter is permitted in the response only if mapsrc=MANUAL
<i>vtacc</i>	VT Accessed: <i>vtacc</i> is an attribute of a STS1 BLSR pass-through cross-connection. It specifies whether or not the STS1 transported within that STS1 are cross-connected at the VT1 rate at other nodes in the circuit. Values: YES VT-accessed <i>vtacc</i> is not reported if the STS1 is not VT-accessed

Table 2-397. RTRV-MAP-RING Output *spec_block_b* Parameters (cont 2 of 3)

Parameter Name	Description of Spec_Block_B Parameters
<i>vtloca</i>	Identifies the TID associated with <i>src_aid</i> of a VT1 cross-connection carrying service originating from or destined to a node which is not in the inactive ring map. <i>vtloca</i> is the source node tid of a VT1 BLSR cross-connection. A non-Null <i>vtloca</i> is reported for VT1 cross-connections if and only if <i>src_aid</i> is a VT1.5 in a BLSR protection group, subject to the following exceptions: <i>vtloca</i> is not reported for VT1 pass-through cross-connections and VT1 UNSWITCHED cross-connections. Values: See <i>tid</i> in the RTRV-HDR command. This parameter is permitted in the response only if mapsrc=MANUAL
<i>vtlocz</i>	Identifies the TID associated with <i>dest_aid</i> of a VT1 cross-connection carrying service originating from or destined to a node which is not in the inactive ring map. <i>vtlocz</i> is the destination node tid of a VT1 BLSR cross-connection. A non-Null <i>vtlocz</i> is reported for VT1 cross-connections if and only if <i>dest_aid</i> is a VT1.5 in a BLSR protection group, subject to the following exceptions: <i>vtlocz</i> is not reported for 1-way VT1 cross-connections, VT1 pass-through cross-connections and VT1 UNSWITCHED cross-connections. Values: See <i>tid</i> in the RTRV-HDR command. This parameter is permitted in the response only if mapsrc=MANUAL Beginning in Release 6.0, <i>vtlocz</i> is no longer reported since it is not applicable to 1-way cross-connections and all reported cross-connections are 1-way cross-connections..
<i>xcappl</i>	Cross-connection Application: <i>xcappl</i> is provided as a means to identify the application in which the cross-connection is used. The management system can use <i>xcappl</i> in conjunction with <i>xcnum</i> to uniquely identify a set of cross-connections associated with one instance of an application. Values: 0-255 The mapping of applications to numeric values is a management system function.

Table 2-397. RTRV-MAP-RING Output *spec_block_b* Parameters (cont 3 of 3)

Parameter Name	Description of Spec_Block_B Parameters
<i>xcnum</i>	Cross-Connection Number: <i>xcnum</i> is provided as a means to identify the instance of the application (<i>xcappl</i>) in which the cross-connection is used. The management system can use <i>xcnum</i> in conjunction with <i>xcappl</i> to uniquely identify a set of cross-connections associated with one instance of an application. Values: Any 9-digit number is acceptable. The suggested format of the 9 digits is as follows: 2 digits for the slot, 2 digits for the port, 3 digits for the STS tributary and 2 digits for the VT tributary.

The format of the *port* field of the *linkid* parameter is 1-1-#-#-*slot-port* where *slot* is a 2-digit field defined in the following table.

Table 2-398. RTRV-MAP-RING: *linkid slot* Mapping

DMX Slot AID	<i>linkid slot</i>
main-1	02
main-2	04
fn-a-1	06
fn-a-2	08
fn-b-1	10
fn-b-2	12
fn-c-1	14
fn-c-2	16
fn-d-1	18
fn-d-2	20
growth-1	22
growth-2	24

Beginning in Release 3.1, the AID of all DMX ports in the ring map is reported using a DMX line AID format. The translation defined in the above table is no longer applicable.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, BLSR protection groups are no longer identified by a line pair aid. Instead the slot 1 line aid is used. In addition, support for 2WAYPR cross-connections is discontinued. 2-way connectivity is achieved by provisioning multiple 1-way cross-connections and all cross-connections are reported using logical ring channel aids. Consequently, unless otherwise specified, the following examples should be considered invalid in Release 6.0.

Refer to the following figure, titled “Ring Map for Closed Ring at nename-3”, for an example of a closed ring. In this closed ring, the BLSR ring map for RingID1 is provided by NodeID3. This figure shows the following:

1. RingID1
2. NodeLinkMap list for a closed ring:
 - NodeID0, [{nename-0,p2,E}, {nename-3,p1,W}]
 - NodeID3, [{nename-3,p2,E}, {nename-1,p1,W}]
 - NodeID1, [{nename-1,p2,E}, {nename-2,p1,E}]
 - NodeID2, [{nename-2,p2,W}, {nename-0,p1,W}]
3. Local NodeID = NodeID3
4. Ports for the ring map:
 - p1 = main-1-1
 - p2 = main-2-1

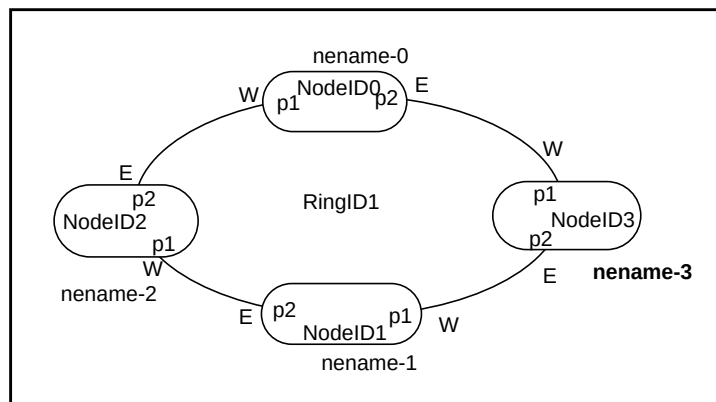


Figure 1. Ring Map for Closed Ring at nename-3

The following is an example of the **RTRV-MAP-RING** command for Closed Ring. In systems with manually provisioned ring maps, the ring map only specifies port

and direction for the local node (that is, the node for which the command is executed).

```
RTRV-MAP-RING:NENAME-3::123456::"RingID1",manual;
NENAME-3 98-01-01 08:00:
M 123456 COMPLD
  "main-1:\\"RingID1\\",3:NID=0,linkid=\"{NENAME-0,,},
{NENAME-3,1-1-#-#-02-1,W}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=3,linkid=\"{NENAME-3,1-1-#-#-04-1,E},
{NENAME-1,,}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=1,nlinkid=\"{NENAME-1,,},
{NENAME-2,,}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=2,linkid=\"{NENAME-2,,},
{NENAME-0,,}\\",continuity=UNKNOWN"
;
```

Beginning in Release 4.0, the response in the previous example will contain the *rnvttyp* parameter as shown below.

```
RTRV-MAP-RING:NENAME-3::123456::"RingID1",manual;
NENAME-3 98-01-01 08:00:
M 123456 COMPLD
  "main-1:\\"RingID1\\",3:NID=0,rnvttyp=TYPE1,linkid=\"{NENAME-0,,},
{NENAME-3,1-1-#-#-02-1,W}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=3,rnvttyp=TYPE3,
linkid=\"{NENAME-3,1-1-#-#-04-1,E},
{NENAME-1,,}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=1,rnvttyp=TYPE1,nlinkid=\"{NENAME-1,,},
{NENAME-2,,}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=2,rnvttyp=TYPE1,linkid=\"{NENAME-2,,},
{NENAME-0,,}\\",continuity=UNKNOWN"
;
```

The following example shows the response when the user provisions the inactive ring map information, and there are existing cross-connections carrying service

originating from or destined to a node (with tid=NENAME-4) that is not in the inactive ring map.

```
RTRV-MAP-RING:NENAME-3::123456::"RingID1",manual;
NENAME-3 98-01-01 08:00:
M 123456 COMPLD
  "main-1:\\"RingID1\\",3:NID=0,linkid=\\"{NENAME-0,,},
{NENAME-3,1-1-#-#-02-1,W}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=3,linkid=\\"{NENAME-3,1-1-#-#-04-1,E},
{NENAME-1,,}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=1,nlinkid=\\"{NENAME-1,,},
{NENAME-2,,}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=2,linkid=\\"{NENAME-2,,},
{NENAME-0,,}\\",continuity=UNKNOWN"
  "m1-1-2,a-2-4::2WAYPR,STS1:loca=NENAME-4"
  "b-2-4,m2-1-7::2WAYPR,STS3c:locz=NENAME-4"
;
```

Beginning in Release 3.0, the following example shows the response when the user provisions the inactive ring map information, and there are existing cross-connections carrying service originating from or destined to a node (with tid=NENAME-4) that is not in the inactive ring map.

```
RTRV-MAP-RING:NENAME-3::123456::"RingID1",manual;
NENAME-3 98-01-01 08:00:
M 123456 COMPLD
  "main-1:\\"RingID1\\",3:NID=0,linkid=\\"{NENAME-0,,},
{NENAME-3,1-1-#-#-02-1,W}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=3,linkid=\\"{NENAME-3,1-1-#-#-04-1,E},
{NENAME-1,,}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=1,nlinkid=\\"{NENAME-1,,},
{NENAME-2,,}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=2,linkid=\\"{NENAME-2,,},
{NENAME-0,,}\\",continuity=UNKNOWN"
  " ,m1-1-2,a-2-4::,2WAYPR,STS1:loca=NENAME-4"
  " ,b-2-4,m2-1-7::,2WAYPR,STS3c:locz=NENAME-4"
;
```

Beginning in Release 3.0.2, the previous response will contain the provisioned *circuitid* value for the identified cross-connections as shown below.

```
RTRV-MAP-RING:NENAME-3::123456::"RingID1",manual;
NENAME-3 98-01-01 08:00:
M 123456 COMPLD
  "main-1:\\"RingID1\\",3:NID=0,linkid=\\"{NENAME-0,,},
{NENAME-3,1-1-#-#-02-1,W}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=3,linkid=\\"{NENAME-3,1-1-#-#-04-1,E},
{NENAME-1,,}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=1,nlinkid=\\"{NENAME-1,,},
{NENAME-2,,}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=2,linkid=\\"{NENAME-2,,},
{NENAME-0,,}\\",continuity=UNKNOWN"
  ",m1-1-2,a-2-4::,2WAYPR,STS1:loca=NENAME-4,
circuitid=\\"Boston to Lawrence\\"
  ",b-2-4,m2-1-7::,2WAYPR,STS3c:locz=NENAME-4"
;
```

Beginning in Release 4.0, the response in the previous example will contain the *rnvttyp* parameter as shown below.

```
RTRV-MAP-RING:NENAME-3::123456::"RingID1",manual;
NENAME-3 98-01-01 08:00:
M 123456 COMPLD
  "main-1:\\"RingID1\\",3:NID=0,rnvttyp=TYPE1,linkid=\\"{NENAME-0,,},
{NENAME-3,1-1-#-#-02-1,W}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=3,rnvttyp=TYPE3,
linkid=\\"{NENAME-3,1-1-#-#-04-1,E},
{NENAME-1,,}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=1,rnvttyp=TYPE1,nlinkid=\\"{NENAME-1,,},
{NENAME-2,,}\\",continuity=UNKNOWN"
  "main-1:\\"RingID1\\",3:NID=2,rnvttyp=TYPE1,linkid=\\"{NENAME-2,,},
{NENAME-0,,}\\",continuity=UNKNOWN"
  ",m1-1-2,a-2-4::,2WAYPR,STS1:loca=NENAME-4"
  ",b-2-4,m2-1-7::,2WAYPR,STS3c:locz=NENAME-4"
```

The following example shows the response when the user provisions the inactive ring map information, and there are existing STSn and VT1 cross-connections

carrying service originating from or destined to a node (in this example tid=NENAME-4) that is not in the inactive ring map.

```
RTRV-MAP-RING:NENAME-3::123456::"RingID1",manual;
  NENAME-3 98-01-01 08:00:
M 123456 COMPLD
  "main-1:\RingID1\",3:NID=0,rnvttyp=TYPE1,linkid=\"{NENAME-0,,},
{NENAME-3,main-1-1,W}\",continuity=UNKNOWN"
  "main-1:\RingID1\",3:NID=3,rnvttyp=TYPE3,linkid=\"{NENAME-3,main-1-2,E},
{NENAME-1,,}\",continuity=UNKNOWN"
  "main-1:\RingID1\",3:NID=1,rnvttyp=TYPE1,linkid=\"{NENAME-1,,},
{NENAME-2,,}\",continuity=UNKNOWN"
  "main-1:\RingID1\",3:NID=2,rnvttyp=TYPE1,linkid=\"{NENAME-2,,},
{NENAME-0,,}\",continuity=UNKNOWN"
  ",a-2-4,m1-1-2::,2WAYPR,STS1:locz=NENAME-4"
  ",m2-1-8,m1-1-8::,2WAYPR,STS1:loca=NENAME-4,
locz=NENAME-1,vtacc=YES"
  ",b-2-4,m2-1-7::,2WAYPR,STS3c:locz=NENAME-4"
  ",a-1-1-1-1,m2-1-9-1-1::,2WAYPR,VT1:locz=NENAME-4,
vtlocz=NENAME-4"
  ",m2-1-10-1-1,a-1-2-1-1::,1WAY,VT1:loca=NENAME-4,
vtloca=NENAME-4"
;
```

```

RTRV-MAP-RING-NAME:NENAME-3::123456::"RingID1",manual;
  NENAME-3 98-01-01 08:00:
M 123456 COMPLD
  "main-1:"RingID1\",3:NID=0,rnvttyp=TYPE1,linkid=\"{NENAME-0,,},
{NENAME-3,main-1-1,W}\",continuity=UNKNOWN"
  "main-1:"RingID1\",3:NID=3,rnvttyp=TYPE3,linkid=\"{NENAME-3,main-1-2,E},
{NENAME-1,,}\",continuity=UNKNOWN"
  "main-1:"RingID1\",3:NID=1,rnvttyp=TYPE1,linkid=\"{NENAME-1,,},
{NENAME-2,,}\",continuity=UNKNOWN"
  "main-1:"RingID1\",3:NID=2,rnvttyp=TYPE1,linkid=\"{NENAME-2,,},
{NENAME-0,,}\",continuity=UNKNOWN"
  ",a-2-4,m1-1-2:,2WAYPR,STS1:locz=NENAME-4,
circuitid=\"Boston to Lawrence\""
  ",m2-1-8,m1-1-8:,2WAYPR,STS1:loca=NENAME-4,
locz=NENAME-1,vtacc=YES"
  ",b-2-4,m2-1-7:,2WAYPR,STS3c:locz=NENAME-4"
  ",a-1-1-1-1,m2-1-9-1-1:,2WAYPR,VT1:locz=NENAME-4,
vtlocz=NENAME-4,circuitid=\"Haverhill to Lawrence\""
  ",m2-1-10-1-1,a-1-2-1-1:,1WAY,VT1:loca=NENAME-4,
vtloca=NENAME-4"
;

```

[illegible]

```

RTRV-MAP-RING:NENAME-3::123456::"RingID1";

    NENAME-3 98-01-01 08:00:
M  123456 COMPLD
    "main-1:\"RingID1\",3:NID=0,rnvttyp=TYPE3,linkid=\"{nename-0,1-1-#-#-04-1,E},{nename-3,1-1-#-#-02-1,W}\"\",continuity=UP,
net=39840F800000000000000000000000000000000000000000a000"
    "main-1:\"RingID1\",3:NID=3,rnvttyp=TYPE3,linkid=\"{nename-3,1-1-#-#-04-1,E},{nename-1,1-1-#-#-02-1,W}\"\",continuity=UP,
net=39840F80000000000000000000000000000000000000000a300"
    "main-1:\"RingID1\",3:NID=1,rnvttyp=TYPE3,linkid=\"{nename-1,1-1-#-#-04-1,E},{nename-2,1-1-#-#-02-1,W}\"\",continuity=UP,
net=39840F80000000000000000000000000000000000000000a100"
    "main-1:\"RingID1\",3:NID=2,rnvttyp=TYPE3,linkid=\"{nename-2,1-1-#-#-04-1,E},{nename-0,1-1-#-#-02-1,W}\"\",continuity=UP,
net=39840F80000000000000000000000000000000000000000a200"
;

```

[illegible]

```
RTRV-MAP-RING:NENAME-3::123456::"RingID1";

NENAME-3 98-01-01 08:00:
M 123456 COMPLD
  "main-1:"RingID1\",3:NID=0,rnvttyp=TYPE3,linkid=\"{nename-0,main-1-2,E},
{nename-3,main-1-1,w}\"\",continuity=UP,
net=39840F8000000000000000000000000000000000000000000000000a000\"
  "main-1:"RingID1\",3:NID=3,rnvttyp=TYPE3,linkid=\"{nename-3,main-1-2,E},
{nename-1,main-1-1,w}\"\",continuity=UP,
net=39840F8000000000000000000000000000000000000000000000000a300\"
  "main-1:"RingID1\",3:NID=1,rnvttyp=TYPE3,linkid=\"{nename-1,main-1-1,E},
{nename-2,main-1-2,w}\"\",continuity=UP,
net=39840F8000000000000000000000000000000000000000000000000a100\"
  "main-1:"RingID1\",3:NID=2,rnvttyp=TYPE3,linkid=\"{nename-2,main-1-2,E},
{nename-0,main-1-1,w}\"\",continuity=UP,
net=39840F8000000000000000000000000000000000000000000000000a200\"
;

```

The following is an example of the **RTRV-MAP-RING** command for Closed Ring with a manually provisioned ring map. In systems with manually provisioned ring maps, the ring map only specifies port and direction for the local node (that is, the node for which the command is executed).

```

RTRV-MAP-RING:NENAME-3::123456::"RingID1",manual;
    NENAME-3 98-01-01 08:00:
M 123456 COMPLD
    "main-1-1:\\"RingID1\\",3:NID=0,rnvttyp=TYPE1,linkid=\{"NENAME-0,,},
    {"NENAME-3,main-1-1,w}\",continuity=UNKNOWN"
    "main-1-1:\\"RingID1\\",3:NID=3,rnvttyp=TYPE3,
    linkid=\{"NENAME-3,main-1-2,E},
    {"NENAME-1,,}\",continuity=UNKNOWN"
    "main-1-1:\\"RingID1\\",3:NID=1,rnvttyp=TYPE1,nlinkid=\{"NENAME-1,,},
    {"NENAME-2,,}\",continuity=UNKNOWN"
    "main-1-1:\\"RingID1\\",3:NID=2,rnvttyp=TYPE1,linkid=\{"NENAME-2,,},
    {"NENAME-0,,}\",continuity=UNKNOWN"
;

```

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originating from or destined to a node (with tid=NENAME-4) that is not in the inactive ring map.

```
RTRV-MAP-RING:NENAME-3::123456::"RingID1",manual;
NENAME-3 98-01-01 08:00:
M 123456 COMPLD
"main-1-1:"RingID1\",3:NID=0,rnvttyp=TYPE1,linkid=\"{NENAME-0,,},
{NENAME-3,main-1-1,W}\",continuity=UNKNOWN"
"main-1-1:"RingID1\",3:NID=3,rnvttyp=TYPE3,linkid=\"{NENAME-3,main-1-
2,E},{NENAME-1,,}\",continuity=UNKNOWN"
"main-1-1:"RingID1\",3:NID=1,rnvttyp=TYPE1,linkid=\"{NENAME-1,,},
{NENAME-2,,}\",continuity=UNKNOWN"
"main-1-1:"RingID1\",3:NID=2,rnvttyp=TYPE1,linkid=\"{NENAME-2,,},
{NENAME-0,,}\",continuity=UNKNOWN"
",a1-2-4,m1-1-2:,1WAY,STS1:circuitid=\"Boston to Lawrence\",
locz=NENAME-4,xcappl=70,xcnum=030200400"
",m2-1-8,m1-1-8:,1WAY,STS1:loca=NENAME-4,locz=NENAME-1,vtacc=YES,
xcappl=11,xcnum=010100800"
",b1-2-4,m2-1-7:,1WAYPR,STS3c,b2-2-4:locz=NENAME-4,xcappl=11,
xcnum=010100800"
",m1-1-8,m2-1-8:,1WAY,STS1:loca=NENAME-1,locz=NENAME-4,vtacc=YES,
xcappl=11,xcnum=010100800"
",a-1-1-1-1,m2-1-9-1-1:,1WAY,VT1:circuitid=\"Haverhill to Lawrence\",
locz=NENAME-4,xcappl=70,xcnum=010100101"
",m2-1-9-1-1,a-1-1-1-1:,1WAY,VT1:circuitid=\"Haverhill to Lawrence\",
locz=NENAME-4,vtloca=NENAME-4,xcappl=70,xcnum=010100101"
",m2-1-10-1-1,a-1-2-1-1:,1WAY,VT1:loca=NENAME-4,
vtloca=NENAME-4"
",m1-1-2,a1-2-4:,1WAY,STS1:circuitid=\"Boston to Lawrence\",
loca=NENAME-4,xcappl=70,xcnum=030200400"
",m2-1-7,b1-2-4:,1WAY,STS3c:loca=NENAME-4,xcappl=11,
xcnum=010100800"
",m2-1-7,b2-2-4:,1WAY,STS3c:loca=NENAME-4,xcappl=11,
xcnum=010100800"
;
```

[illegible]

Refer to the error responses in **RTRV-HDR**. The error responses listed there may also apply.

```

    sid date time
M  ctag DENY
    IDNV
    /* Input, Data Not Valid, rid is not quoted */
;

```

If the system receives a **RTRV-MAP-RING** command containing a **rid** parameter with illegal characters, the command is denied, and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, illegal character in RID */
;
```

If the system receives a **RTRV-MAP-RING** command containing a **rid** parameter containing too many characters, the command is denied, and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, rid is too long */
;
```

If the system received a **RTRV-MAP-RING** command in which the specified **rid** is not a valid BLSR protection group, then the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, Not a 2F protection group */
;
```

If the system receives a **RTRV-MAP-RING** command containing an invalid value of the **mapsrc** parameter, the command is denied, and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid */
;
```

If the system receives a **RTRV-MAP-RING** command in which both the **aid** and **rid** are specified, the command is denied the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, AID and RID both entered */
;
```

If the system received a **RTRV-MAP-RING** command in which the specified **aid** is not a valid BLSR protection group AID then the following error response is returned.

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, Not a 2F protection group */
;
```

If the system received a **RTRV-MAP-RING** command in which the **aid** is missing or invalid, the following error response is returned.

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid Access identifier, AID is missing,
wrong or inconsistent with modifier */
;
```

RELATED TL1 MESSAGES

ED-MAP-RING

ENT-ULSDCC-L3

SET-MAP-RING

NAME

RTRV-MAP-RPR: Retrieve Map-Resilient Packet Ring (RPR)

The **RTRV-MAP-RPR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-MAP-RPR:*tid:[aid]:ctag::[rid];*

DESCRIPTION

The **RTRV-MAP-RPR** command retrieves the attributes across a Resilient Packet Ring.

Execution of this command will not be recorded in the Security log.

The **RTRV-EQPT** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-399. RTRV-MAP-RPR Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of an RPR IF. Refer to the AID Table in Appendix A for valid AIDs. This parameter is optional. Default value is "ALL."
<i>rid</i>	Ringlet Identifier. This parameter is optional. If not specified, information for both ringlets will be returned. Values:

Table 2-399. RTRV-MAP-RPR Input Parameters (cont 2 of 2)

Parameter Name	Description
	■ R0 ■ R1
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the Network Element (NE) fully complies with the **RTRV-MAP-RPR** request, the following normal completion response is returned.

```

sid date time
M ctag COMPLD
"aid:nodes=x,topostat=x,r0totalrsv=x,r1totalrsv=x"
"aid:rid:r0hops:spec_block"
<0 or more of the line above, one for each station up to and including
the first unreachable on R0>
"aid:rid:r1hops:spec_block"
<0 or more of the line above, one for each station up to and including
the first unreachable on R1>
<1 or more of this entire block for another aid>
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-400. RTRV-MAP-RPR Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of an RPR IF. Refer to the AID Table in Appendix A for valid AIDs.
<i>rid</i>	Ringlet Identifier. Specifies the ringlet for retrieval. Values:

Table 2-400. RTRV-MAP-RPR Output Parameters (cont 2 of 2)

Parameter Name	Description
	■ R0 ■ R1
<i>r0hops</i>	Ringlet0 Hops. The number of hops to a station reachable by ringlet 0. Value: an integer in the range -1 to 254. A value of -1 means not reachable. A value of 0 means "this station."
<i>r1hops</i>	Ringlet1 Hops. The number of hops to a station reachable by ringlet 1. Value: an integer in the range -1 to 254. A value of -1 means not reachable. A value of 0 means "this station."
<i>nodes</i>	Number of nodes (stations) reachable by at least one direction on the ring. Value: integer in the range 1 - 255.
<i>topostat</i>	RPR Topology Type Status. Values: ■ OPEN ■ CLOSED
<i>r0totalrsv</i>	Total Reserved Rate. The sum of class A0 bandwidth reserved around ringlet0. Value: an integer in the range 0 - 1200, in units of Mb/s.
<i>r1totalrsv</i>	Total Reserved Rate. The sum of class A0 bandwidth reserved around ringlet1. Value: an integer in the range 0 - 1200, in units of Mb/s.
<i>spec_block</i>	Specific parameter Block: The <i>spec_block</i> parameters are defined in the following table.

Table 2-401. RTRV-MAP-RPR Output *spec_block* Parameters (cont 1 of 2)

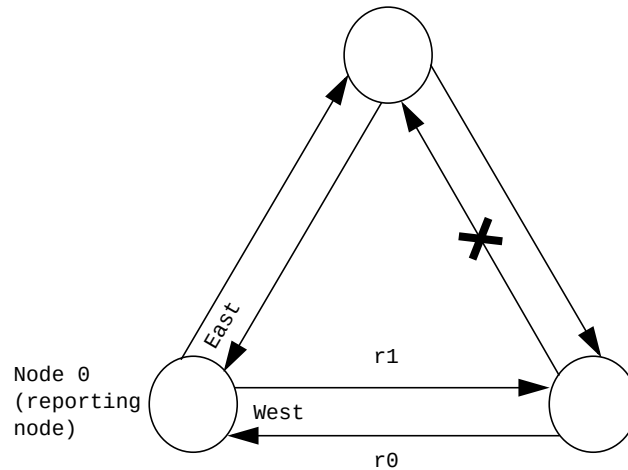
Parameter Name	Description
<i>macaddr</i>	RPR Station MAC Address.

Table 2-401. RTRV-MAP-RPR Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
	Value: 12 hexadecimal characters.
<i>jumbo</i>	Jumbo Frame Capability. Values: ■ YES (the station is provisioned for <i>mtu_size</i> greater than 1500. See RTRV-VCG-RPR) ■ NO <i>jumbo</i> is output only for the node referenced by <i>aid</i> (reporting node).
<i>rsv_a0</i>	Reserved Class A0 Add Rate. The subdivision of Class A reservation not supportable as Class A1. This is calculated by the RPR MAC. Value: an integer in the range 0 - 1200, in units of Mb/s.
<i>wprot_stat</i>	West Span Protection Status. Values: ■ NOREQ ■ WTR ■ MS ■ SD ■ SF ■ FS
<i>eprot_stat</i>	East Span Protection Status. Values: ■ NOREQ ■ WTR ■ MS ■ SD ■ SF ■ FS

EXAMPLE INPUT/OUTPUT

The following is an example output for a three-node ring and a single unidirectional failure on the furthest link:



RTRV-MAP-RPR:LT-PF-3000:d1-v1::123456;

IP 123456
<

```
LT-PF-3000 98-01-01 08:00:00
M 123456 COMPLD
"d1-v1:nodes=3,topostat=OPEN,r0totalrsv=3,r1totalrsv=2"
"d1-v1:R0:0:macaddr=003456786564,jumbo=YES,rsv_a0=2"
"d1-v1:R0:0:wprot_stat=NOREQ,eprot_stat=NOREQ"
"d1-v1:R0:1:macaddr=123ABC456DEF,rsv_a0=1"
"d1-v1:R0:1:wprot_stat=NOREQ,eprot_stat=NOREQ"
"d1-v1:R0:-1:macaddr=ABCDEF123456,rsv_a0=0"
"d1-v1:R0:-1:wprot_stat=NOREQ,eprot_stat=SF"
"d1-v1:R1:0:macaddr=003456786564,jumbo=YES,rsv_a0=2"
"d1-v1:R1:0:wprot_stat=NOREQ,eprot_stat=NOREQ"
"d1-v1:R1:1:macaddr=ABCDEF123456,rsv_a0=0"
"d1-v1:R1:1:wprot_stat=NOREQ,eprot_stat=SF"
"d1-v1:R1:-1:macaddr=123ABC456DEF,rsv_a0=1"
"d1-v1:R1:-1:wprot_stat=NOREQ,eprot_stat=NOREQ"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

RELATED TL1 MESSAGES

NAME

RTRV-NE-SECU: Retrieve Network Element Security

The **RTRV-NE-SECU** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 4.0

LOGIN PRIVILEGE

This command is available to users with Privileged, Administration, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-NE-SECU:*tid::ctag*;

DESCRIPTION

The **RTRV-NE-SECU** command retrieves security attributes associated with the NE at the system level, but not associated with any particular user ID.

Execution of this command will not be recorded in the Security log.

The **RTRV-NE-SECU** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-402. RTRV-NE-SECU Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. This is the name of the NE to which the command is addressed.
<i>ctag</i>	Correlation Tag.

OUTPUT FORMAT

If the NE fully complies with the request, the following output message is returned:

```
IP ctag
<

    sid date time
M  ctag COMPLD
    "usrage=x,intrvl=x,thrshld=x,age=x,pidwpd=x"
;
```

Starting in Release 1.0, if the NE fully complies with the request, the following output message is returned:

```
IP ctag
<

    sid date time
M  ctag COMPLD
    "usrage=x,intrvl=x,thrshld=x,age=x,pidwpd=x,pwmin=x,pwmax=x,pwreuse=x,
    aclstat=x"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The parameters listed there also apply to this command.

Table 2-403. RTRV-NE-SECU Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aclstat</i>	Access Control List Status. Enable or disable the access control list. Values: ENABLED and DISABLED
<i>usrage</i>	User ID Aging Period. If a UID has not been used during this time interval, it will be disabled. User ID aging does not apply to the three default logins. Values (in days): 0-999. A value of 0 disables user ID aging.

Table 2-403. RTRV-NE-SECU Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>intrvl</i>	Failed Login Attempts Aging Lockout Period. The time during which login attempts using that UID will not be allowed. This occurs when the number of consecutive invalid login attempts by a UID exceeds <i>thrshld</i> . When <i>intrvl</i> expires, login attempts will again be allowed from that UID. If this parameter is set to 0 (zero), the lockout feature is disabled. Values (in minutes): 0-99. T
<i>thrshld</i>	Failed Login Attempts Lockout Threshold. The maximum number of consecutive invalid login attempts that are allowed by a UID. If the count of invalid login attempts exceeds the threshold, the UID is locked out for <i>intrvl</i> period of time. If a login attempt is successful, the count of invalid login attempts by that UID is reset to zero. Values: 2-99.
<i>age</i>	Failed Login Attempts Lockout Aging Period. The time interval during which the number of invalid login attempts are counted. When the Lockout Aging Period expires, the counter of invalid login attempts by that UID is reset to zero. Values (in minutes): 1-999.
<i>pidwpd</i>	Minimum Waiting Period Before Changing A Password. Values (in days): 0 - 30 days.
<i>chg_pwd_stat</i>	Change password status. Enable or disable the requirement to change a password when it is first used by a new login ID or after a password is changed by a System Administrator. Values: ENABLE, DISABLE.
<i>pwmin</i>	Minimum password length. Range 6 to 18.
<i>pwmax</i>	Maximum password length. Range 10 to 20.
<i>pwreuse</i>	The number of most recently used passwords that are not allowed to be reused. The range is 5 to 15.

EXAMPLE INPUT/OUTPUT

The following example shows the output of a **RTRV-NE-SECU**:

```
RTRV-NE-SECU:LT-TID123::123456;  
  
IP 123456  
<  
  
    LT-TID123 03-07-18 01:10:00  
M 123456 COMPLD  
  "usrage=10,intrvl=10,thrshld=5,age=60,pidwpd=20"  
;
```

Starting in Release 5.1, the following example shows the output of a **RTRV-NE-SECU**:

```
RTRV-NE-SECU:LT-TID123::123456;  
  
IP 123456  
<  
  
    LT-TID123 05-04-27 11:16:00  
M 123456 COMPLD  
  "usrage=10,intrvl=10,thrshld=5,age=60,pidwpd=20,chg_pwd_stat=enable"  
;
```

Starting in Release 9.0, the following example shows the output of a **RTRV-NE-SECU**:

```
RTRV-NE-SECU:LT-TID123::123456;  
  
IP 123456  
<  
  
    LT-TID123 09-04-27 11:16:00  
M 123456 COMPLD  
  "usrage=10,intrvl=10,thrshld=5,age=60,pidwpd=20,chg_pwd_stat=enable,pwmin=6,  
    pwmax=10,pwreuse=5,aclstat=enabled"  
;
```

ERROR MESSAGES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

RELATED TL1 MESSAGES

ENT-USER-SECU

ED-USER-SECU

DLT-USER-SECU

RTRV-USER-SECU

ED-NE-SECU

NAME

RTRV - NODE: Retrieve Node

The **RTRV - NODE** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV - NODE - *modifier:tid::ctag;*

DESCRIPTION

The **RTRV - NODE** command retrieves control plane related parameters at the node level, as set by the **ENT - NODE** command.

Execution of this command will not be recorded in the Security log.

The **RTRV - NODE** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-404. RTRV - NODE Input Parameters

Parameter Name	Description
<i>modifier</i>	This is the command modifier for the RTRV - NODE command. The modifier is a required field, and must have one of the following values: Ⓢ ENNI This requests to provision control plane E-NNI related parameters.
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the network element (NE) fully complies with the request, the following response is returned:

```
sid date time
M ctag COMPLD
  "nodeid=x, spcid=x, rcid=x, raid=x, scnipaddr=x, l1routing=x"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-405. RTRV - NODE - ENNI Output Parameters (cont 1 of 2)

Parameter Name	Description of Output Parameters
<i>nodeid</i>	Node ID. It identifies a node in the transport topology. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The initial value 0.0.0.0 indicates an unprovisioned value.
<i>spcid</i>	Signaling Protocol Controller Identifier. An identifier that allows a signaling protocol controller to maintain signaling relationships with its downstream or upstream E-NNI peer. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The initial value 0.0.0.0 indicates an unprovisioned value.
<i>rcid</i>	Routing Controller (RC) ID. An identifier for E-NNI Level 1 RC, which is used as an OSPF Router ID. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The initial value 0.0.0.0 indicates an unprovisioned value.
<i>raid</i>	Routing Area ID. An OSPF routing area for E-NNI Level 1 RC. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The initial value 0.0.0.0 indicates an unprovisioned value.

Table 2-405. RTRV - NODE - ENNI Output Parameters (cont 2 of 2)

Parameter Name	Description of Output Parameters
<i>scnipaddr</i>	SCN IP address. An IPv4 address which is used as either signaling protocol controller SCN address, routing controller SCN address or both. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255. The initial value 0.0.0.0 indicates an unprovisioned value.
<i>l1routing</i>	Level 1 Routing Controller. It shows a node as E-NNI Level 1 Routing Controller or not. Valid values are ENABLED or DISABLED.

EXAMPLE INPUT/OUTPUT

If the NE fully complies with **RTRV - NODE - ENNI**, the following output message is returned:

```
RTRV - NODE - ENNI : LT - TID123 : : 123456 ;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
"nodeid=10.10.10.1, spcid=10.10.10.1, rcid=10.10.10.1, raid=1.1.1.1, scnipaddr  
=220.10.10.1, l1routing=enabled"  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if it receives a **RTRV-NODE** command with an invalid command ***modifier***:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

The NE returns the following error response if an ***aid*** value is entered:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier */
;
```

RELATED TL1 MESSAGES

ENT-NODE

NAME

RTRV-NTP: Retrieve NTP

The **RTRV-NTP** command is available beginning in

- Alcatel-Lucent 1665 DMX, Release 3.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-NTP: *tid*: [*aid*]: *ctag*;

DESCRIPTION

This command can be used to retrieve a NE's NTP parameters used by NTP client for clock adjustment and polling the NTP servers.

The related command **ED-NTP** can be used to provision the parameters.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-406. RTRV-NTP Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. Because this command applies to the NTP protocol on all DCCs and OSI LANs, this parameter can only have the value ALL or the parameter can be omitted, that is equivalent to the NULL value (default = ALL).
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<
    sid date time
M ctag COMPLD
": :TIMECHG=timechg, MINPINVL=minpinvl, MAXPINVL=maxpinvl, MAXADJ=maxadj"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command, also. Additional parameters that specifically apply to this command response are defined below.

Table 2-407. RTRV-NTP Output Parameters

Parameter Name	Description
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-408. RTRV-NTP Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>timechg</i>	Time Change Threshold. The <i>timechg</i> parameter is the threshold for determining when the clock adjustment is significant enough to generate a REPT DBCHG message. If the offset between the NE system clock and the NTP server is greater than this value a step adjustment will be made according to the offset and a REPT DBCHG message will be generated. The valid values are between 1 and 499 milliseconds, inclusive.

Table 2-408. RTRV-NTP Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>minpinvl</i>	Minimum Poll Interval. Minimum number of seconds between NE polls to NTP server. The valid values are powers of two between 16 and 16384 seconds, inclusive.
<i>maxpinvl</i>	Maximum Poll Interval. Maximum number of seconds between NE polls to NTP server. The valid values are powers of two between 16 and 16384 seconds, inclusive.
<i>maxadj</i>	Maximum Adjustment Threshold. Maximum number of milliseconds a clock can be adjusted by before the time change is regarded as significant enough to affect scheduled operations. The <i>maxadj</i> parameter is the threshold for determining when to generate a time change event to notify tasks that a significant time change that impacts their scheduled operations has occurred. An autonomous REPT EVT message is also generated. The crossing of the Maximum Adjustment Threshold affects scheduled operations similar to the ED-DAT command. The valid values are between 500 and 10000 milliseconds, inclusive.

EXAMPLE INPUT/OUTPUT

The following example retrieves an NE's NTP parameters::

```
RTRV-NTP:LT-TID123::123456;  
  
IP 123456  
<  
  
LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
  " :TIMECHG=400,MINPINVL=64,MAXPINVL=1024,MAXADJ=1000"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the **aid** value is invalid:

```
sid date time  
M ctag DENY  
  IIAC  
  /* Input, Invalid Access Identifier */  
;
```

RELATED TL1 MESSAGES

ENT-SYS

ED-NTP

ENT-NTP-SERVER

RTRV-NTP-STATE

RTRV-NTP-SERVER

DLT-NTP-SERVER

ED-DAT

NAME

RTRV-NTP-SERVER: Retrieve NTP Server list

The **RTRV-NTP-SERVER** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 3.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-NTP-SERVER: *tid*:[*aid*]:*ctag*;

DESCRIPTION

This command is used to retrieve entries in the NE's NTP server list.

The related command **ENT-NTP-SERVER** can be used to provision the servers in the list.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-409. RTRV-NTP-SERVER Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. Because this command applies to the NTP protocol on all DCC and OSI LANs, this parameter can only have the value <i>all</i> or <i>null</i> (default = <i>all</i>).
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<
  sid date time
M ctag COMPLD
["IPADDR=ipaddr"]
["IPADDR=ipaddr"]
["IPADDR=ipaddr"]
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command, also. Additional parameters that specifically apply to this command response are defined below

Table 2-410. RTRV-NTP-SERVER Output Parameters

Parameter Name	Description
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-411. RTRV-NTP-SERVER Output *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>ipaddr</i>	IP Address. This is the 32-bit IP address for the NTP server added to the NTP server list. It consists of four dot-separated decimal numbers ranging from 0 to 255.

EXAMPLE INPUT/OUTPUT

The following example retrieve an NE's NTP Server list:

```
RTRV-NTP-SERVER:LT-TID123::123456;  
  
IP 123456  
<  
  
    LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
    "::IPADDR=192.168.1.1"  
;
```

The following example retrieve an NE's NTP Server list which is empty:

```
RTRV-NTP-SERVER:LT-TID123::123456;  
  
IP 123456  
<  
  
    LT-TID123 01-10-30 22:25:30  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

The NE returns the following error response if the *aid* value is invalid:

```
    sid date time  
M ctag DENY  
  IIAC  
  /* Input, Invalid Access Identifier */  
;
```

RELATED TL1 MESSAGES

ENT-STYS

ED-NTP

ENT-NTP-SERVER

RTRV-NTP-STATE

DLT-NTP-SERVER

RTRV-NTP

ED-DAT

NAME

RTRV-NTP-STATE: Retrieve NTP State

The **RTRV-NTP-STATE** command is available beginning in

- Alcatel-Lucent 1665 DMX, Release 3.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-NTP-STATE: *tid*: [*aid*]: *ctag*;

DESCRIPTION

This command is used to retrieve the current state of the NTP instance on the NE i.e. when did the NE last synchronize, with which NTP server, how much adjustment it made.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-412. RTRV-NTP-STATE Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. Because this command applies to the NTP protocol on all DCC and OSI LANs, this parameter can only have the value <code>all</code> or null (default = <code>all</code>).
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<
  sid date time
M ctag COMPLD
": :STATUS=status, UTCOFFSET=utcoffset, LASTUPDATE-DATE=lastupdate-
date, LASTUPDATE-TIME=lastupdate-time, LASTDELTA=lastdelta, NTPSERVER=ntpserver"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command, also. Additional parameters that specifically apply to this command response are defined below.

Table 2-413. RTRV-NTP-STATE Output Parameters

Parameter Name	Description
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-414. RTRV-NTP-STATE Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>status</i>	NTP Status. This parameter describes the status of the NTP instance. Valid values are "ENABLED" or "DISABLED".
<i>utcoffset</i>	UTC Offset. This parameter specifies the UTC Offset. Valid values are between -24:00 and +24:00, exclusive.
<i>lastupdate-date</i>	Last Update Date. This parameter specifies the date of the most recent update made to the NE system clock by NTP. This parameter will be null if NTP is disabled or an NTP update has not occurred yet.

Table 2-414. RTRV-NTP-STATE Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>lastupdate-time</i>	Last Update Time. This parameter specifies the time of the most recent update made to the NE system clock by NTP. This parameter will be null if NTP is disabled or an NTP update has not occurred yet.
<i>lastdelta</i>	Last NTP Delta. This parameter specifies the delta of the most recent update made to the NE system clock by NTP. This parameter will be null if - NTP is disabled - an NTP update has not occurred yet - if this is the first NTP update since system and/or NTP startup. It is expressed in seconds and fractional seconds.
<i>ntpserver</i>	IP Address of Current NTP Server. This parameter specifies the IP address of the currently selected NTP server. This parameter will be null if NTP is disabled or has not selected an NTP server yet.

EXAMPLE INPUT/OUTPUT

The following example retrieves an NE's NTP client parameters:

```
RTRV-NTP-STATE:LT-TID123::123456;
```

```
IP 123456
<
```

```
LT-TID123 01-10-30 22:25:30
M 123456 COMPLD
": :STATUS=ENABLED,UTCOffset=0330, LASTUPDATE-DATE=01-10-
30, LASTUPDATE-TIME=22:25:30, LASTDELTA=5, NTPSERVER=192.168.1.1"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

The NE returns the following error response if the *aid* value is invalid:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access Identifier */
;
```

The NE returns the following error response if NTP is not enabled:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, NTP is not enabled */
;
```

RELATED TL1 MESSAGES

ENT-SYS

ED-NTP

ENT-NTP-SERVER

RTRV-NTP

RTRV-NTP-SERVER

DLT-NTP-SERVER

ED-DAT

NAME

RTRV-OCH: Retrieve provisioning for Optical WDM channels.

The **RTRV-OCH** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance, and Reports Only access.

INPUT FORMAT

RTRV-OCH:*tid:aid:ctag*;

DESCRIPTION

This command retrieves provisioning associated with an Optical channel. Optical Channels are accessible at the Optical Channel Multiplexer/Demultiplexer Circuit Packs (addressed using the port addresses of the OMDs).

Execution of this command, whether successful or denied, is recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-415. RTRV-OCH Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-415. RTRV-OCH Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. The <i>aid</i> determines the interface for which the provisioning is being requested. The <i>aid</i> is a required parameter. See Appendix A - AID Table for valid AIDs. Valid AIDs include: OCH AID. ALL
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **RTRV-OCH** command. If the requested entity does not exist, the NE will respond with a COMPLD message and an empty report.

```

sid date time
M ctag COMPLD
  "aid::spec_block:pst"
    .      .      .      .      .      .      .
    .      .      .      .      .      .      .
  "aid::spec_block:pst"
;

```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

Table 2-416. RTRV-OCH Output Parameters

Parameter Name	Description						
<i>aid</i>	Access Identifier. The <i>aid</i> determines the interface for which the provisioning is being reported. See Appendix A - AID Table for valid AIDs. Valid AIDs include: OCH AID						
<i>pst</i>	Primary State. This parameter reports the primary state for an optical channel. Valid values are: <table> <tr> <td>IS</td><td>In Service. In this state, alarm reporting and performance monitoring are enabled.</td></tr> <tr> <td>OOS-MA-AS</td><td>Out Of Service, Memory Administration, Assigned. This is known as AUTO. When a good signal is received, the optical channel state is automatically transitioned to IS. In this state, alarm reporting and performance monitoring are disabled.</td></tr> <tr> <td>OOS</td><td>Out Of Service. ("for Memory Administration" is implied). This is known as NMON (Not MONitored). In this state, alarm reporting and performance monitoring are disabled.</td></tr> </table>	IS	In Service. In this state, alarm reporting and performance monitoring are enabled.	OOS-MA-AS	Out Of Service, Memory Administration, Assigned. This is known as AUTO. When a good signal is received, the optical channel state is automatically transitioned to IS. In this state, alarm reporting and performance monitoring are disabled.	OOS	Out Of Service. ("for Memory Administration" is implied). This is known as NMON (Not MONitored). In this state, alarm reporting and performance monitoring are disabled.
IS	In Service. In this state, alarm reporting and performance monitoring are enabled.						
OOS-MA-AS	Out Of Service, Memory Administration, Assigned. This is known as AUTO. When a good signal is received, the optical channel state is automatically transitioned to IS. In this state, alarm reporting and performance monitoring are disabled.						
OOS	Out Of Service. ("for Memory Administration" is implied). This is known as NMON (Not MONitored). In this state, alarm reporting and performance monitoring are disabled.						
<i>spec_block</i>	The following table defines the <i>spec_block</i> output parameters.						

Table 2-417. RTRV-OCH Output *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tcamd</i>	TCA Mode. This parameter specifies whether TCA reporting is enabled or disabled for the OCH.

EXAMPLE INPUT/OUTPUT

The following example retrieves provisioning for an optical channel.

```
RTRV-OCH:LT-TID123:d1-9540:123456;  
  
IP 123456  
<  
  
LT-TID123 93-10-26 16:42:11  
M 123456 COMPLD  
d1-9540::TCAMD=ENABLE:OOS-MA-AS"  
;
```

The following example retrieves provisioning for all optical channels on the NE.

```
RTRV-OCH:LT-TID123:all:123456;  
  
IP 123456  
<  
  
LT-TID123 07-07-1 13:42:29  
M 123456 COMPLD  
d1-9520::TCAMD=ENABLE:OOS-MA-AS"  
d1-9530::TCAMD=ENABLE:OOS"  
d1-9540::TCAMD=ENABLE:IS"  
d1-9550::TCAMD=DISABLE:IS"  
d1-9560::TCAMD=ENABLE:IS"  
d1-9570::TCAMD=ENABLE:IS"  
d1-9580::TCAMD=ENABLE:IS"  
d1-9590::TCAMD=DISABLE:OOS"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **RTRV-OCH** command with an *aid* that is not valid, the following error response is returned:

```
sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

RELATED TL1 MESSAGES

ENT - OCH

NAME

RTRV - OSACMAP : Retrieve OS Application Context ID Map

The **RTRV - OSACMAP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV - OSACMAP:*tid:aid:ctag*;

DESCRIPTION

This command displays the Operation Systems Application Context Map (OSAC Map) information that is created by the **ENT - OSACMAP** command.

This information provides association information between OS application contexts and X.25 channel assignments.

Starting in Release 6.0, X.25 is not supported.

This command displays the OSAC Map information that is assigned to the CIT.

While this command is allowed at all network elements (NEs) in the subnetwork, only the table at the active gateway network element (GNE) node is valid. The maps at inactive GNE nodes can be displayed, but they have no effect.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-418. RTRV - OSACMAP Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to RTRV - HDR command for the input parameter syntax and description of this parameter.

Table 2-418. RTRV-OSACMAP Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. The <i>aid</i> can only have the value ALL.
<i>ctag</i>	Correlation tag. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the request, the normal completion response is as follows:

```
sid date time
M ctag COMPLD
  "cit-1::,ACID=x"
  "cit-2::,ACID=x"
  "x25:vc:SNPA=x,ACID=x"
  ...
;
```

Starting in Release 6.0, if the NE fully complies with the request, the normal completion response is as follows:

```
sid date time
M ctag COMPLD
  "cit-1::,ACID=x"
  "cit-2::,ACID=x"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command

also. Additional parameters that specifically apply to this command response are defined below:

Table 2-419. RTRV-OSACMAP Output Parameters

Parameter Name	Description
<i>vc</i>	This parameter is the address of a Synchronous X.25 port (ONLY). ■ PVC Permanent virtual circuit. ■ SVC Switched virtual circuit. Note: These values are reported only if the address is X25. Starting in Release 6.0, <i>vc</i> is not supported
<i>snpa</i>	SNPA address. This is the X.25 (ONLY) SubNetwork Point of Attachment address. It is either the PVC Logical Channel Number (LCN) or it is the SVC Data Terminal Equipment (DTE) calling address, which is 1 to 15 digits. Note: This parameter reported only if the address is X25. Up to nine VCs can be mapped to any combination of PVCs, and SVCs (i.e., the allocation of PVCs can be removed and replaced by SVCs). Starting in Release 6.0, <i>snpa</i> is not supported
<i>acid</i>	<i>acid</i> is a string of up to twenty-three alphanumeric characters, which is the Application Context ID to be assigned to a particular SNPA Address and to the CIT ports. Each OS has a value of ACID assigned. Default values exist for OS applications supported by the system. The supported applications types are: ■ TL1MAINTENANCE ■ TL1MEMORYADMINISTRATION ■ TL1PEERCOMM ■ TL1OTHER1 ■ TL1OTHER2 ■ TL1CR ■ TL1TEST Starting in Release 6.0, when <i>snpa</i> is not supported, the <i>acid</i> assigned to each CIT port will be returned.

The report is sorted first by interface type (X25, CIT), then by ***vc***, and then by ***snpa***.

Starting in Release 6.0, when X.25 is not supported, the report output is for only CIT-1 and CIT-2.

EXAMPLE INPUT/OUTPUT

```
rtrv-osacmap:LT-TID123:all:123456;  
  
IP 123456  
<  
  
LT-TID123 00-03-22 16:12:12  
M 123456 COMPLD  
"x25:PVC:SNPA=1,ACID=TL1PEERCOMM"  
"x25:PVC:SNPA=2,ACID=TL1CR"  
"x25:PVC:SNPA=3,ACID=TL1MEMORYADMINISTRATION"  
"cit-1::,ACID=TL10THER1"  
"cit-2::,ACID=TL1PEERCOMM"  
;
```

Starting in Release 6.0, the following is an example of the input and output:

```
rtrv-osacmap:LT-TID123:all:123456;  
  
IP 123456  
<  
  
LT-TID123 05-12-17 16:12:12  
M 123456 COMPLD  
"cit-1::,ACID=TL10THER1"  
"cit-2::,ACID=TL1PEERCOMM"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command also.

The NE returns the following error response if the ***aid*** value is missing or is invalid.

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess Identifier */
;
```

RELATED TL1 MESSAGES

ENT - OSACMAP

NAME

RTRV-OTPE: Retrieve provisioning for OTPE Ports.

The **RTRV-OTPE** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance, and Reports Only access.

INPUT FORMAT

RTRV-OTPE:*tid:aid:ctag*;

DESCRIPTION

This command retrieves the signal type of a specific OTPE (Optical Translator Port Entity) port within the Muxponder or Transponder pack. The OTPE port is sometimes also referred to as a Client port.

Execution of this command, whether successful or denied, is recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-420. RTRV-OTPE Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-420. RTRV-OTPE Input Parameters (cont 2 of 2)

Parameter Name	Description
aid	Access Identifier. The aid determines the interface for which the retrieve is being requested. The aid is a required parameter. See Appendix A - AID Table for valid AIDs. Valid AIDs include: Client Port AID. ALL
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **RTRV-OTPE** command. If the requested entity does not exist, the NE will respond with a COMPLD message and an empty report.

```

sid date time
M ctag COMPLD
  "aid::signaltype"
    .      .      .      .      .      .      .
    .      .      .      .      .      .      .
  "aid::signaltype"
;

```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

Table 2-421. RTRV-OTPE Output Parameters

Parameter Name	Description																		
<i>aid</i>	Access Identifier. The <i>aid</i> determines the interface for which the provisioning is being reported. See Appendix A - AID Table for valid AIDs. Valid AIDs include: Client Port AID.																		
<i>signaltype</i>	The OTPE Client Port Signal Type. This parameter specifies the type of client interface for the OTPE port on a Muxponder circuit pack. Values are: <table> <tr> <td>STNA</td><td>Signal Type Not Available</td></tr> <tr> <td>OC48</td><td>OC48 Signal</td></tr> <tr> <td>OC12</td><td>OC12 Signal</td></tr> <tr> <td>OC3</td><td>OC3 signal</td></tr> <tr> <td>1GE</td><td>Gigabit Ethernet</td></tr> <tr> <td>FC200</td><td>2G Fibre Channel</td></tr> <tr> <td>FC100</td><td>1G Fibre Channel</td></tr> <tr> <td>FICON</td><td>1G Fibre CONnection</td></tr> <tr> <td>FICON_EXP</td><td>2G Fibre CONnection EXPress</td></tr> </table>	STNA	Signal Type Not Available	OC48	OC48 Signal	OC12	OC12 Signal	OC3	OC3 signal	1GE	Gigabit Ethernet	FC200	2G Fibre Channel	FC100	1G Fibre Channel	FICON	1G Fibre CONnection	FICON_EXP	2G Fibre CONnection EXPress
STNA	Signal Type Not Available																		
OC48	OC48 Signal																		
OC12	OC12 Signal																		
OC3	OC3 signal																		
1GE	Gigabit Ethernet																		
FC200	2G Fibre Channel																		
FC100	1G Fibre Channel																		
FICON	1G Fibre CONnection																		
FICON_EXP	2G Fibre CONnection EXPress																		

EXAMPLE INPUT/OUTPUT

The following example retrieves provisioning for an OTPE Port associated with a Muxponder.

```
RTRV-OTPE:LT-TID123:d1-8:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 93-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
"d1-8::1GE"
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **RTRV-OTPE** command with an *aid* that is not valid, the following error response is returned:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier, AID is missing, wrong or  
inconsistent with modifier */  
;
```

RELATED TL1 MESSAGES

ENT-OTPE

NAME

RTRV-OTS: Retrieve provisioning for OTS ports.

The **RTRV-OTS** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance, and Reports Only access.

INPUT FORMAT

RTRV-OTS:*tid:aid:ctag*;

DESCRIPTION

This command retrieves provisioning associated with an OTS port. An OTS port is comprised of multiplexed Optical CHannels (OCH). It is referred to as an OTS to indicate that it is the Optical Transport Section layer of an OTN system.

An OTS port is associated with an OMD (Optical Mux/Demux) pack.

Execution of this command, whether successful or denied, is recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-422. RTRV-OTS Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-422. RTRV-OTS Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. The <i>aid</i> determines the interface for which the retrieve is being requested. The <i>aid</i> is a required parameter. See Appendix A - AID Table for valid AIDs. Valid AIDs include: OTS port AID. ALL
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **RTRV-OTS** command. If the requested entity does not exist, the NE will respond with a COMPLD message and an empty report.

```

sid date time
M ctag COMPLD
  "aid::spec_block:pst"
    . . . . .
    . . . . .
  "aid::spec_block:pst"
;

```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

Table 2-423. RTRV-OTS Output Parameters

Parameter Name	Description						
<i>aid</i>	Access Identifier. The <i>aid</i> determines the interface for which the provisioning is being reported. See Appendix A - AID Table for valid AIDs. Valid AIDs include: OTS port AID.						
<i>pst</i>	Primary State. This parameter reports the primary state for an OTS port. The <i>pst</i> applies to the input signal (demux side). It may also apply to the output signal (mux side) - TBD. Valid values are: <table> <tr> <td>IS</td><td>In Service. In this state, alarm reporting and performance monitoring are enabled.</td></tr> <tr> <td>OOS-MA-AS</td><td>Out Of Service, Memory Administration, Assigned. This is known as AUTO. When a good signal is received, the OTS port state is automatically transitioned to IS. In this state, alarm reporting and performance monitoring are disabled.</td></tr> <tr> <td>OOS</td><td>Out Of Service. ("for Memory Administration" is implied). This is known as NMON (Not MONitored). In this state, alarm reporting and performance monitoring are disabled.</td></tr> </table>	IS	In Service. In this state, alarm reporting and performance monitoring are enabled.	OOS-MA-AS	Out Of Service, Memory Administration, Assigned. This is known as AUTO. When a good signal is received, the OTS port state is automatically transitioned to IS. In this state, alarm reporting and performance monitoring are disabled.	OOS	Out Of Service. ("for Memory Administration" is implied). This is known as NMON (Not MONitored). In this state, alarm reporting and performance monitoring are disabled.
IS	In Service. In this state, alarm reporting and performance monitoring are enabled.						
OOS-MA-AS	Out Of Service, Memory Administration, Assigned. This is known as AUTO. When a good signal is received, the OTS port state is automatically transitioned to IS. In this state, alarm reporting and performance monitoring are disabled.						
OOS	Out Of Service. ("for Memory Administration" is implied). This is known as NMON (Not MONitored). In this state, alarm reporting and performance monitoring are disabled.						
<i>spec_block</i>	The following table defines the <i>spec_block</i> output parameters.						

Table 2-424. RTRV-OTS Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tcamd</i>	TCA Mode. This parameter specifies whether TCA reporting is enabled or disabled for the OTS port.
<i>tx_ftype</i>	Transmit Fiber Type. Valid values are:

Table 2-424. RTRV-OTS Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
	SSMF Single Mode Fiber
<i>rx_ftype</i>	Receive Fiber Type. Valid values are: SSMF Single Mode Fiber

EXAMPLE INPUT/OUTPUT

The following example retrieves provisioning for an OTS port associated with an OMD.

```
RTRV-OTS:LT-TID123:d1-ots:123456;

IP 123456
<

LT-TID123 93-10-26 16:42:11
M 123456 COMPLD
d1-ots::TCAMD=ENABLE,tx_ftype=SSMF,rx_ftype=SSMF:00S-MA-AS"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **RTRV-OTS** command with an *aid* that is not valid, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

RTRV-OTS
TL1 Message Details

RTRV-OTS
Alcatel-Lucent 1665 DMX, R9.0

RELATED TL1 MESSAGES
ENT - OTS

NAME

RTRV-OTU2: Retrieve provisioning for OTU2 ports.

The **RTRV-OTU2** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance, and Reports Only access.

INPUT FORMAT

RTRV-OTU2:*tid:aid:ctag*;

DESCRIPTION

This command retrieves provisioning associated with an OTU2 (Optical Channel Transport Unit 2 - 2 for 10G) port. The OTU2 port is accessible on the Muxponder or Transponder Circuit Pack.

Execution of this command, whether successful or denied, is recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-425. RTRV-OTU2 Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-425. RTRV-OTU2 Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. The <i>aid</i> determines the interface for which the retrieve is being requested. The <i>aid</i> is a required parameter. See Appendix A - AID Table for valid AIDs. Valid AIDs include: OTU2 Port AID. ALL
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **RTRV-OTU2** command. If the requested entity does not exist, the NE will respond with a COMPLD message and an empty report.

```

sid date time
M ctag COMPLD
  "aid::spec_block:pst"
    .      .      .      .      .      .      .
    .      .      .      .      .      .      .
  "aid::spec_block:pst"
;

```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

Table 2-426. RTRV-OTU2 Output Parameters

Parameter Name	Description						
<i>aid</i>	Access Identifier. The <i>aid</i> determines the interface for which the provisioning is being reported. See Appendix A - AID Table for valid AIDs. Valid AIDs include: OTU2 Port AID.						
<i>pst</i>	Primary State. This parameter reports the primary state for an OTU2 port. The <i>pst</i> applies to the input signal (demux side). It may also apply to the output signal (mux side) - TBD. Valid values are: <table> <tr> <td>IS</td><td>In Service. In this state, alarm reporting and performance monitoring are enabled.</td></tr> <tr> <td>OOS-MA-AS</td><td>Out Of Service, Memory Administration, Assigned. This is known as AUTO. When a good signal is received, the OTU2 port state is automatically transitioned to IS. In this state, alarm reporting and performance monitoring are disabled.</td></tr> <tr> <td>OOS</td><td>Out Of Service. ("for Memory Administration" is implied). This is known as NMON (Not MONitored). In this state, alarm reporting and performance monitoring are disabled.</td></tr> </table>	IS	In Service. In this state, alarm reporting and performance monitoring are enabled.	OOS-MA-AS	Out Of Service, Memory Administration, Assigned. This is known as AUTO. When a good signal is received, the OTU2 port state is automatically transitioned to IS. In this state, alarm reporting and performance monitoring are disabled.	OOS	Out Of Service. ("for Memory Administration" is implied). This is known as NMON (Not MONitored). In this state, alarm reporting and performance monitoring are disabled.
IS	In Service. In this state, alarm reporting and performance monitoring are enabled.						
OOS-MA-AS	Out Of Service, Memory Administration, Assigned. This is known as AUTO. When a good signal is received, the OTU2 port state is automatically transitioned to IS. In this state, alarm reporting and performance monitoring are disabled.						
OOS	Out Of Service. ("for Memory Administration" is implied). This is known as NMON (Not MONitored). In this state, alarm reporting and performance monitoring are disabled.						
<i>spec_block</i>	The following table defines the <i>spec_block</i> output parameters.						

Table 2-427. RTRV-OTU2 Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tcamd</i>	TCA Mode. This parameter specifies whether TCA reporting is enabled or disabled for the OTU2 port.

Table 2-427. RTRV-OTU2 Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>fectype</i>	Forward Error Correction Type. This parameter is a string denoting the Forward Error Correction used. Valid values are: EFEC Enhanced FEC - LUCENT Standard FEC

EXAMPLE INPUT/OUTPUT

The following example retrieves provisioning for an OTU2 port associated with a Muxponder pack.

```
RTRV-OTU2:LT-TID123:d1-9:123456;

IP 123456
<

LT-TID123 93-10-26 16:42:11
M 123456 COMPLD
d1-9::TCAMD=ENABLE,fectype=EFEC:00S-MA-AS;"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **RTRV-OTU2** command with an *aid* that is not valid, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

RTRV-OTU2
TL1 Message Details

RTRV-OTU2
Alcatel-Lucent 1665 DMX, R9.0

RELATED TL1 MESSAGES
ENT - OTU2

NAME

RTRV-PM: Retrieve Performance Monitoring

The **RTRV-PM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

Input format of **RTRV-PM** is as shown below.

RTRV-PM-modifier:tid:aid:ctag::[montype],[monlev],[locn],[dirn],[tmper],[mondatt],[montm];

Beginning in Release 3.0, the input format of **RTRV-PM** is as shown below.

RTRV-PM-modifier:tid:[aid]:ctag::[montype],[monlev],[locn],[dirn],[tmper],[mondatt],[montm];

DESCRIPTION

RTRV-PM commands are user initiated to request that a network element (NE) send its current set of performance monitoring (PM) data applicable to one, or more equipment units or facilities/signals within the NE.

Execution of this command will not be recorded in the Security log.

If main slots 1 and 2 are equipped with different pack types (that is, during an upgrade), the report will include data considered at the time as the valid system pack type.

INPUT PARAMETERS

The system will accept and limit the response to the **RTRV-PM** command to the specified facility type **rr**, (where **rr** is a facility type that the system supports in PM reports; for example, **T2** is not allowed), or it will include PM data for all valid facility types (**rr**), if **modifier = ALL**.

Table 2-428. RTRV-PM Input Parameters (cont 1 of 6)

Parameter Name	Description																																				
<i>modifier</i>	Command code Modifier: The command code modifier is expected to have "rr" or ALL with rr equal to one of the following <i>modifier</i> values: <table> <tr> <td>E1</td><td>This is for the E1 level external interfaces.</td></tr> <tr> <td>EC1</td><td>This is for the electrical STS1 level external interfaces.</td></tr> <tr> <td>OC3</td><td>This is for OC-3 level external interfaces.</td></tr> <tr> <td>OC12</td><td>This is for OC-12 level external interfaces.</td></tr> <tr> <td>OC48</td><td>This is for optical OC-48 level external interfaces.</td></tr> <tr> <td>OC192</td><td>This is for optical OC-192 level external interfaces.</td></tr> <tr> <td>STS1</td><td>This is for STS-1 channels.</td></tr> <tr> <td>STS3c</td><td>This is for STS-3c channels.</td></tr> <tr> <td>STS12c</td><td>This is for STS-12c channels.</td></tr> <tr> <td>STS48c</td><td>This is for STS-48c channels.</td></tr> <tr> <td>T1</td><td>This is for the DS1 level external interfaces.</td></tr> <tr> <td>T3</td><td>This is for the DS3 level external interfaces.</td></tr> <tr> <td>VT1</td><td>This is for dropped VT1.5 channels.</td></tr> <tr> <td>VC12</td><td>This is for dropped VC12 channels.</td></tr> <tr> <td>OCH</td><td>This is for optical channels.</td></tr> <tr> <td>OTS</td><td>This is for the optical transmission section.</td></tr> <tr> <td>ODU2</td><td>This is for optical channel data unit 2.</td></tr> <tr> <td>OTU2</td><td>This is for optical channel transport unit 2.</td></tr> </table>	E1	This is for the E1 level external interfaces.	EC1	This is for the electrical STS1 level external interfaces.	OC3	This is for OC-3 level external interfaces.	OC12	This is for OC-12 level external interfaces.	OC48	This is for optical OC-48 level external interfaces.	OC192	This is for optical OC-192 level external interfaces.	STS1	This is for STS-1 channels.	STS3c	This is for STS-3c channels.	STS12c	This is for STS-12c channels.	STS48c	This is for STS-48c channels.	T1	This is for the DS1 level external interfaces.	T3	This is for the DS3 level external interfaces.	VT1	This is for dropped VT1.5 channels.	VC12	This is for dropped VC12 channels.	OCH	This is for optical channels.	OTS	This is for the optical transmission section.	ODU2	This is for optical channel data unit 2.	OTU2	This is for optical channel transport unit 2.
E1	This is for the E1 level external interfaces.																																				
EC1	This is for the electrical STS1 level external interfaces.																																				
OC3	This is for OC-3 level external interfaces.																																				
OC12	This is for OC-12 level external interfaces.																																				
OC48	This is for optical OC-48 level external interfaces.																																				
OC192	This is for optical OC-192 level external interfaces.																																				
STS1	This is for STS-1 channels.																																				
STS3c	This is for STS-3c channels.																																				
STS12c	This is for STS-12c channels.																																				
STS48c	This is for STS-48c channels.																																				
T1	This is for the DS1 level external interfaces.																																				
T3	This is for the DS3 level external interfaces.																																				
VT1	This is for dropped VT1.5 channels.																																				
VC12	This is for dropped VC12 channels.																																				
OCH	This is for optical channels.																																				
OTS	This is for the optical transmission section.																																				
ODU2	This is for optical channel data unit 2.																																				
OTU2	This is for optical channel transport unit 2.																																				
<i>tid</i>	Target Identifier. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.																																				
<i>aid</i>	Access Identifier. The system will accept and limit the information included in the RTRV-PM response based on the <i>aid</i>, if any (initially), included in the command. The <i>aid</i> parameter will specify the <i>aid</i> for which PM data is requested. In addition to <i>aid</i> = ALL, the following <i>aid</i> types are valid:																																				

Table 2-428. RTRV-PM Input Parameters (cont 2 of 6)

Parameter Name	Description
<u>TL1 Command</u>	<u>Type of AID</u>
RTRV-PM-OCn	OCn line AID.
RTRV-PM-STSn	STSn ring channel AID Beginning in Release 5.0, if the aid addresses a specific STSn cross-connect, a report is generated for each constituent of that cross-connect. If the aid = ALL, a report is generated for each constituent of any cross-connected signal where the constituent rate matches the modifier (e.g. if modifier = STS3c, a report is generated for each constituent which has an accepted rate of STS3c, regardless of the cross-connected rate). See <i>crstat</i> in RTRV-rr. Beginning in Release 6.0, for all applications other than 1+1, the STSn logical ring channel AID is used. In a 1+1 application, a report may be requested for either side 1 or side 2 STSn ring channels.
RTRV-PM-T3	DS3 port AID
RTRV-PM-EC1	EC-1 port AID
RTRV-PM-E1	E1 port AID
RTRV-PM-T1	DS1 port AID
RTRV-PM-VT1	VT1.5 channel AID Beginning in Release 6.0, ring channel AIDs are used for all VT channels. For 1+1 or path-protected UPSR VT channels, either ring channel (side 1 or side 2) may be used when requesting the report, and the ring channel AID of the active path is used in the response. Beginning in Release 4.0, the VT1.5 ring channel AID is used for locked DS_n cross-connections. Beginning in Release 4.0, the VT1.5 ring channel AID is also used for VTs dropped from BLSRs.
RTRV-PM-VC12	VC12 channel AIDs

Table 2-428. RTRV-PM Input Parameters (cont 3 of 6)

Parameter Name	Description
	Beginning in Release 6.0, ring channel AIDs are used for all VC channels. For 1+1 or VC channels within a path-protected UPSR STS3c channel, either ring channel (side 1 or side 2) may be used when requesting the report, and the ring channel AID of the active path is used in the response. Beginning in Release 7.0, ring channel AID is also used for locked UPSR and 0x1 applications. RTRV-PM-OCH Optical channel AIDs RTRV-PM-OTS Optical Transmission Section AIDs RTRV-PM-ODU2 Optical Channel Data Unit 2 AIDs RTRV-PM-OTU2 Optical Channel Transport Unit 2 AIDs RTRV-PM-ALL Only ALL If the aid = ALL and <i>some</i> of the effectively addressed aids have applicable PM data, the system will respond normally with the applicable PM data. If the aid is single (no ALL in any of the valid aid fields), and the effectively addressed aid has no PM data, the system will return an error response. If the command code modifier is ALL, the aid may be NULL, and will default to ALL. Beginning in Release 9.0, in a multi-shelf DCS system, if ALL is entered, the NE returns all applicable PM data in the main shelf for entities of the type specified by the value of the command code modifier. To retrieve all applicable PM data in a subshelf for entities of the type specified by the value of the command code modifier, use {shelf}-ALL where {shelf} indicates the subshelf number. Beginning in Release 9.0, in a multi-shelf DCS system, NULL will default to ALL and applies to the main shelf.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
montype	Monitoring Type. The system will accept and limit the PM data included in the RTRV-PM response based on the montype, if any, included in the command. The supported values of montype are listed and described in Appendix B. The montype parameter will specify the montype for which PM data is requested.

Table 2-428. RTRV - PM Input Parameters (cont 4 of 6)

Parameter Name	Description
	If montype is NULL, the system will respond with all montypes applicable to the facility type and aid, if any (but, only initially), specified by the previous input parameter values. If the montype parameter value conflicts with the command code modifier, the system will not provide a normal command response If the command code modifier is ALL, the system will accept and limit the PM data included in the RTRV - PM response based on the montype, if any, included in the command. Monitor types for DS3 egress PM reporting, i.e., those with the "-EGR" suffix, are reported for DS3 port AIDs when modifier = T3 or ALL and a value for montype is not specified. When modifier = T1 or ALL and a value for montype is not specified, monitor types for DS1 egress PM reporting, i.e., those with the "-EGR" suffix, are reported for DS1 signals within a terminated channelized DS3 on an LNW20 circuit pack operating in portless mode (ENT - T3:eif=T3,pmd=PORTLESS). The AID that is reported is the same DS1 AID used for ported, channelized DS1 signals on the LNW20 (ENT - T3:eif=T3,pmd=PORTED, tribmd=CHAN). The "-EGR" parameters are also reported when montype specifies the equivalent non "EGR" parameter. However, "-EGR" cannot be specified as an input value for montype, and doing so will result in RTRV - PM being denied.
monlev	Monitor Level. The system will accept and limit the PM data included in the RTRV - PM response based on the monlev included in the command, if any. The monlev parameter has the format LEV-DIRN where valid values for LEV (level) are decimal numerals and valid values for DIRN (direction) are UP and DN. To be consistent with the maximum PM data counts in the system, the decimal numeral LEV will be supported up to a maximum of 7 positive integer characters. The input monlev threshold applies to all monlevs to be included in the RTRV - PM response. For example, if monlev = 1-UP, only monlevs equal to or greater than 1 will be reported. Another example is if monlev = 1-DN, only monlevs equal to or less than 1 would be reported. A NULL value for monlev is interpreted as if monlev = 1-UP . To comply with the intended use of the monlev parameter, the descriptions of the montype LBCL and LPT in Appendix B have been changed, specifically with respect to the applicable values of monval.

Table 2-428. RTRV-PM Input Parameters (cont 5 of 6)

Parameter Name	Description
	monlev does not apply to the analog optical power measurement montypes TOPRSH, TOPRL, and TOPRH. monlev does not apply to the analog optical power measurement montypes OPT, OPTL, and OPTH. monlev does not apply to the analog optical power measurement montypes OPR, OPRL and OPRH.
locn	Location. The system will accept and limit the PM data included in the RTRV-PM response based on the locn, if any, included in the command. ■ FEND Far End. This requests far-end PM data (DS1 and DS3 PM only). Beginning in Release 4.0, FEND is valid for all modifiers. ■ NEND Near End. This requests near-end PM data. When locn is NULL, the default for locn is NEND and FEND.
dirn	Direction. This indicates the direction in which the threshold was set. The value of direction must be NULL or NA (not applicable). If NULL, the default value is NA.
tmper	Time Period. This requests PM data for a specified time interval. This parameter must have one of the following values: ■ 15-MIN This requests PM data in 15-minute intervals. ■ 1-DAY This requests daily PM data. If tmper is NULL, the default value is 15-MIN.
mondatt	Monitoring Date. The parameter mondatt is used to determine the beginning day of the interval for which the PM data is to be reported. This parameter must have one of the following values: ■ ALL Retrieve PM data from all dates (yesterday and today) that are available in the NE. ■ MOY-DOM Date to start retrieving PM data. This is in the format of MOY-DOM, where MOY (month of year) ranges from 1-12 and DOM (day of month) ranges from 1 to 31. The only valid values are current day and previous day. ■ NULL Defaults to the current date

Table 2-428. RTRV-PM Input Parameters (cont 6 of 6)

Parameter Name	Description
montm	Monitoring Time. The parameter montm is used to determine the beginning of the interval for which the PM data is to be reported. If tmper is 1-DAY, then montm is not applicable. ■ ALL Retrieve PM data from all times that are available in the NE. i.e. for 15-min time periods, the last 8.25 hrs of data. ■ HOD-MOH Time to start retrieving PM data. This is in the format of HOD-MOH, where HOD (hour of day) ranges from 0-23 and MOH (minute of hour) ranges from 0 to 59. ■ NULL Defaults to the current HOD-MOH If tmper = 15-MIN and montm is a number that is not evenly divisible by 15, the system will not provide a normal command response.

The following table specifies the performance monitoring (PM) data that will be output based on the input values of the **tmper**, **mondatt** and **montm** input parameters.

Table 2-429. PM Output Data Based on **tmper**, **mondatt** and **montm** Input Parameters (cont 1 of 3)

TMPER	MONDAT	MONTM	Output PM Data
15-MIN	ALL	ALL	15-min. data from present time to 8.25 hours earlier than present time.
15-MIN	Current day or NULL	ALL	15-min. data from present time to previous midnight or to 8.25 hours earlier than present time, whichever is more recent.
15-MIN , or NULL	Previous day	ALL	15-min. data from previous midnight to 8 hours earlier than present time. If present time is later than 8:15 A.M., return error response (invalid montm).
15-MIN , or NULL	ALL	HOD-MOH - Effective value of montm is within 8.25 hours before current time.	Single 15-min. interval of data beginning at mondatt and montm .

Table 2-429. PM Output Data Based on *tmper*, *mondatt* and *montm* Input Parameters (cont 2 of 3)

TMPER	MONDAT	MONTM	Output PM Data
15-MIN, or NULL	ALL	HOD-MOH - Effective value of <i>montm</i> is more than 8.25 hours before current time, or is later than current time	Return error response <i>montm</i> (invalid).
15-MIN, or NULL	ALL	Null	Single 15-min. interval of current PM data
15-MIN, or NULL	Current day, or NULL	HOD-MOH - Effective value of <i>mondatt</i> and <i>montm</i> is within 8.25 hours before current time and is not in previous day.	Single 15-min. interval of data beginning at <i>mondatt</i> and <i>montm</i> .
15-MIN, or NULL	Current day, or NULL	HOD-MOH - Effective value of <i>mondatt</i> and <i>montm</i> is more than 8.25 hours before current time, is in previous day, or is later than current time.	Return error response <i>montm</i> (invalid).
15-MIN, or NULL	Current day, or NULL	Null	Single 15-min. interval of current PM data
15-MIN, or NULL	Previous day	HOD-MOH - Effective value of <i>mondatt</i> and <i>montm</i> is within 8.25 hours before current time and is in previous day.	Single 15-min. interval of data beginning at <i>mondatt</i> and <i>montm</i> .
15-MIN, or NULL	Previous day	HOD-MOH - Effective value of <i>mondatt</i> and <i>montm</i> is more than 8.25 hours before current time, or is not in previous day.	Return error response <i>montm</i> (invalid).
15-MIN, or NULL	Previous day	Null - The current time cannot be in a previous day.	Return error response (invalid <i>montm</i>).
15-MIN, or NULL	Any day other than current day or previous day	Any valid <i>montm</i>	Return error response (invalid <i>mondatt</i>)

Table 2-429. PM Output Data Based on *tmper*, *mondatt* and *montm* Input Parameters (cont 3 of 3)

TMPER	MONDAT	MONTM	Output PM Data
1-DAY	ALL, Current day, Previous day, or NULL	Any time other than Null	Return error response (invalid <i>montm</i>)
1-DAY	ALL	Not Applicable	Current and previous 1-day data
1-DAY	Current day, or NULL	Not Applicable	Current 1-day data
1-DAY	Previous day	Not Applicable	Previous 1-day data
1-DAY	Any day other than current day or previous day	Any valid <i>montm</i>	Return error response (invalid <i>mondatt</i>)

OUTPUT FORMAT

If there is no PM data to report, the following is displayed:

```
sid date time
M ctag COMPLD
;
```

If there is PM data to report, the following is displayed:

```
sid date time
M ctag COMPLD
"aid:aidtype:montype,monval,[vldty],[locn],[dirn],[tmper],
[mondatt],[montm]"
. . . . .
. . . . .
. . . . .
;
```

Note: This format is no longer valid after DMX Release 2.1 and DMXpress Release 1.1.

If there is PM data to report, the following is displayed.

```
sid date time
M  ctag COMPLD
   "aid,aidtype:montype,monval,[vldty],[locn],[dirn],[tmper],
   [mondatt],[montm]"
   . . . . .
   . . . . .
   . . . . .
;
```

The order of the output lines is described in the following sections.

The order of the outputted lines is:

1. By **aid** (in order corresponding to the shelf architecture, for example, for OC-N, by main OC-N line slots), by "function units" (OC-N line slots, EC-1 facilities, STS-1 path terminations, or DS3 facilities, in order as applicable), by "low-speed channels" (VT path terminations, DS1 facilities, if applicable),
2. By requested "time intervals" (starting with the current time interval),
3. By applicable "PM parameters" per **aid**.

For example, for an OC-N AID, all OC-N PM parameter values (followed by and including all applicable STS-N PM parameter values) are output sequentially for a requested time interval before the values for the previous time interval are output.

T3 ports, when cross-connected to an OLIU, show both the ingress and egress PM data. The egress PM data will be displayed using the **aid** of the cross-connected OLIU and **aidtype** T3.

DS1 signals within a channelized DS3 that's terminated on an LNW20 circuit pack in portless mode (**ENT - T3: eif=T3, pmd=PORTLESS**) will show the egress PM data. The egress PM data will be displayed using the same **aid** used for ported, channelized DS1 signals on the LNW20 (**ENT - T3: eif=T3, pmd=PORTED, tribmd=CHAN**). The **aidtype** will be T1.

OUTPUT PARAMETERS

Table 2-430. RTRV-PM-rr Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>ctag</i>	Correlation Tag. This is included in the command by the user and is repeated by the NE in the response to allow the user to associate the command and response messages.
The following parameter values shall be included and/or repeated as applicable to the PM data reported in each separate line in the body of the response:	
<i>aid</i>	Access Identifier. The <i>aid</i> parameter contains the <i>aid</i> of the facility/signal for which PM data is being reported. For T3 signals, ingress DS3 parameters are reported using the DS3 port AID. Egress DS3 parameters are reported using the STS cross-connection AID, e.g. the STS-1 channel AID in UPSR applications and the STS-1 ring channel AID in BLSR applications. The STS AID may not be used to request the T3 report. Beginning in Release 1.0, egress DS3 parameters are reported using the DS3 port AID, and the parameter has a suffix of "-EGR". Beginning in Release 5.0, for STSn signals, <i>aid</i> is the address of the accepted-rate constituent (see <i>crstat</i> in RTRV-rr).
<i>aidtype</i>	AID Type. The <i>aidtype</i> field is the same as the valid values of the command code modifier. Beginning in Release 5.0, for STSn signals, <i>aidtype</i> is the rate of the accepted-rate constituent (see <i>crstat</i> in RTRV-rr). Note that <i>aidtype</i> may not match the request modifier.
<i>montype</i>	Monitoring Type. This field is the applicable entry from Appendix B.
<i>monval</i>	Monitoring Value. This field will contain the measured value of the parameter specified in montype .
<i>vldty</i>	Validity. The <i>vldty</i> indicator, which has one of the following values: ■ NULL Data is complete. Data has been accumulated over the subject time period. ■ NA Not Available. Data is not available, including counts not available because of trouble conditions that cause performance monitoring to be suspended.

Table 2-430. RTRV-PM-rr Output Parameters (cont 2 of 2)

Parameter Name	Description
	■ PRTL Partial data. Data is partial, accumulated over some portion of the subject time period, including counts that overflow their registers and counts that are corrupt. This may occur if a INIT-SYS or a ED-DAT command is entered, or if the addressed circuit pack has recently been inserted or removed. The <i>vlqty</i> parameter may also have the value PRTL if the time is reset. The current bins are marked PRTL when the time is reset.
<i>locn</i>	Location. The <i>locn</i> parameter is NULL for near-end parameters, and FEND for far-end parameters..
<i>dirn</i>	Direction. The <i>dirn</i> parameter will always be NULL or NA.
<i>tmper</i>	Time Period. This displays PM data for a specified time interval. This parameter will have one of the following values: ■ 15-MIN PM data in 15-minute intervals. ■ 1-DAY Daily PM data.
<i>mondatt</i>	Monitoring Date. The <i>mondatt</i> parameter contains the date of the beginning of the performance monitoring period specified in <i>tmper</i> . If that is the current date, then <i>mondatt</i> is NULL.
<i>montm</i>	Monitoring Time. The <i>montm</i> parameter will contain the time of day of the beginning of the performance monitoring period specified in <i>tmper</i> . If <i>tmper</i> is 1-DAY, then <i>montm</i> is NULL.

EXAMPLE INPUT/OUTPUT

If *none* of the requested PM data is available due to equipage or provisioning, the system will not provide a normal command response.

If *only some* of the requested PM data is available due to the equipage and provisioning, the system will provide a normal command response with the supported PM data only.

The following is an example of a **RTRV-PM-T3** when the T3 port is cross-connected to an OLIU in a UPSR or 1+1 configuration:

```
RTRV-PM-T3:LT-TID123:b-1:123456::,0-UP,,,,ALL;

IP 123456
<

LT-TID123 93-10-26 16:42:11
M 123456 COMPLD
  "b-1,T3:CVL,0,PRTL,,15-MIN,11-20,14-00"
  "b-1,T3:ESL,0,PRTL,,15-MIN,11-20,14-00"
  "b-1,T3:SESL,0,PRTL,,15-MIN,11-20,14-00"
  "b-1,T3:SAS-P,0,PRTL,,15-MIN,11-20,14-00"
  "b-1,T3:CVP,0,PRTL,,15-MIN,11-20,14-00"
  "b-1,T3:ESP,0,PRTL,,15-MIN,11-20,14-00"
  "b-1,T3:SESP,0,PRTL,,15-MIN,11-20,14-00"
  "b-1,T3:UASP,0,PRTL,,15-MIN,11-20,14-00"
  "m-1-2,T3:SAS-P,0,PRTL,,15-MIN,11-20,14-00"
    "m-1-2,T3:CVP,0,PRTL,,15-MIN,11-20,14-00"
  "m-1-2,T3:ESP,0,PRTL,,15-MIN,11-20,14-00"
  "m-1-2,T3:SESP,0,PRTL,,15-MIN,11-20,14-00"
  "m-1-2,T3:UASP,0,PRTL,,15-MIN,11-20,14-00"
;
```

The previous example is no longer valid, beginning in Release 6.0.

Beginning in Release 6.0, the following is an example of a **RTRV-PM-T3** when the T3 port is cross-connected to an OLIU in any configuration:

```
RTRV-PM-T3:LT-TID123:b-1:123456::,0-UP,,,,ALL;
```

```
IP 123456
```

```
<
```

```
LT-TID123 93-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
"b-1,T3:CVL,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:ESL,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:SESL,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:SAS-P,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:CVP,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:ESP,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:SESP,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:UASP,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:SAS-P,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:CVP,0,PRTL,FEND,,15-MIN,11-20,14-00"
```

```
"b-1,T3:ESP,0,PRTL,FEND,,15-MIN,11-20,14-00"
```

```
"b-1,T3:SESP,0,PRTL,FEND,,15-MIN,11-20,14-00"
```

```
"b-1,T3:UASP,0,PRTL,FEND,,15-MIN,11-20,14-00"
```

```
"b-1,T3:SAS-P-EGR,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:CVP-EGR,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:ESP-EGR,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:SESP-EGR,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:UASP-EGR,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:SAS-P-EGR,0,PRTL,,15-MIN,11-20,14-00"
```

```
"b-1,T3:CVP-EGR,0,PRTL,FEND,,15-MIN,11-20,14-00"
```

```
"b-1,T3:ESP-EGR,0,PRTL,FEND,,15-MIN,11-20,14-00"
```

```
"b-1,T3:SESP-EGR,0,PRTL,FEND,,15-MIN,11-20,14-00"
```

```
"b-1,T3:UASP-EGR,0,PRTL,FEND,,15-MIN,11-20,14-00"
```

```
;
```

The following is an example of a **RTRV-PM-T3** when the T3 port is cross-connected to an OLIU in a BLSR configuration:

```
RTRV-PM-T3:LT-TID123:b-1:123456::,0-UP,, ,ALL;

IP 123456
<

LT-TID123 93-10-26 16:42:11
M 123456 COMPLD
"b-1,T3:CVL,0,PRTL,, ,15-MIN,11-20,14-00"
"b-1,T3:ESL,0,PRTL,, ,15-MIN,11-20,14-00"
"b-1,T3:SESL,0,PRTL,, ,15-MIN,11-20,14-00"
"b-1,T3:SAS-P,0,PRTL,, ,15-MIN,11-20,14-00"
"b-1,T3:CVP,0,PRTL,, ,15-MIN,11-20,14-00"
"b-1,T3:ESP,0,PRTL,, ,15-MIN,11-20,14-00"
"b-1,T3:SESP,0,PRTL,, ,15-MIN,11-20,14-00"
"b-1,T3:UASP,0,PRTL,, ,15-MIN,11-20,14-00"
"m1-1-26,T3:SAS-P,0,PRTL,, ,15-MIN,11-20,14-00"
"m1-1-26,T3:CVP,0,PRTL,, ,15-MIN,11-20,14-00"
"m1-1-26,T3:ESP,0,PRTL,, ,15-MIN,11-20,14-00"
"m1-1-26,T3:SESP,0,PRTL,, ,15-MIN,11-20,14-00"
"m1-1-26,T3:UASP,0,PRTL,, ,15-MIN,11-20,14-00"
;
```

The previous example is no longer valid, beginning in Release 6.0.

Beginning in Release 5.0, the following example shows a report for an STS12c cross-connect where the received constituents consist of four STS3cs, and the requested parameter is CVP.

```
RTRV-PM-ST12C:LT-TID123:m1-1-1:82::CVP,0-UP,, ,1-DAY,;
IP 82
>

LT-TID123 04-07-22 21:08:22
M 82 COMPLD
"m1-1-1,STS3C:CVP,22,PRTL,, ,1-DAY,07-22"
"m1-1-4,STS3C:CVP,3,PRTL,, ,1-DAY,07-22"
"m1-1-7,STS3C:CVP,0,PRTL,, ,1-DAY,07-22"
"m1-1-10,STS3C:CVP,0,PRTL,, ,1-DAY,07-22"
;
```

Beginning in Release 5.0, the following example shows an STS3c report where the requested *aid* is m1-all, there is one STS12c cross-connect on the mains, and the received constituents within that cross-connect consist of four STS3cs, and the requested parameter is CVP.

```
RTRV-PM-STS3C:LT-TID123:m1-all:82::CVP,0-UP,,,1-DAY,;
IP 82
>

LT-TID123 04-07-22 21:08:22
M 82 COMPLD
"m1-1-1,STS3C:CVP,22,PRTL,,,1-DAY,07-22"
"m1-1-4,STS3C:CVP,3,PRTL,,,1-DAY,07-22"
"m1-1-7,STS3C:CVP,0,PRTL,,,1-DAY,07-22"
"m1-1-10,STS3C:CVP,0,PRTL,,,1-DAY,07-22"
;
```

The following is an example of a **RTRV-PM-T1** for an LNW20 operating in portless mode:

```
RTRV-PM-T1:LT-TID123:d-1-1-1:123456::,0-UP,,,ALL;
IP 123456
<

LT-TID123 07-10-26 16:42:11
M 123456 COMPLD
"d-1-1-1,T1:CVP-EGR,0,PRTL,,,15-MIN,11-20,14-00"
"d-1-1-1,T1:ESP-EGR,0,PRTL,,,15-MIN,11-20,14-00"
"d-1-1-1,T1:SESP-EGR,0,PRTL,,,15-MIN,11-20,14-00"
"d-1-1-1,T1:UASP-EGR,0,PRTL,,,15-MIN,11-20,14-00"
"d-1-1-1,T1:SAS-P-EGR,0,PRTL,,,15-MIN,11-20,14-00"
"d-1-1-1,T1:CVP-EGR,0,PRTL,FEND,,15-MIN,11-20,14-00"
"d-1-1-1,T1:ESP-EGR,0,PRTL,FEND,,15-MIN,11-20,14-00"
"d-1-1-1,T1:SESP-EGR,0,PRTL,FEND,,15-MIN,11-20,14-00"
"d-1-1-1,T1:UASP-EGR,0,PRTL,FEND,,15-MIN,11-20,14-00"
"d-1-1-1,T1:SAS-P-EGR,0,PRTL,FEND,,15-MIN,11-20,14-00"
;
```

The following is an example of **RTRV-PM-OCH**:

```
RTRV-PM-OCH:LT-TID123:d1-9530:123456::,,,,,15-MIN;

IP 123456
<

LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
"d1-9530,OCH:OPT,-20.8,PRTL,,,15-MIN,11-20,14-00"
"d1-9530,OCH:OPTL,-21.2,PRTL,,,15-MIN,11-20,14-00"
"d1-9530,OCH:OPTH,-20.4,PRTL,,,15-MIN,11-20,14-00"
;
```

The following is an example of **RTRV-PM-OTS**:

```
RTRV-PM-OTS:LT-TID123:a1-ots:123456::,,,,,15-MIN;

IP 123456
<

LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
"a1-ots,OTS:TOPRSH,10.2,PRTL,,,15-MIN,11-20,14-00"
"a1-ots,OTS:TOPRL,9.5,PRTL,,,15-MIN,11-20,14-00"
"a1-ots,OTS:TOPRH,10.9,PRTL,,,15-MIN,11-20,14-00"
;
```

The following is an example of **RTRV-PM-OTU2**:

```
RTRV-PM-OTU2:LT-TID123:d2-9:123456::,,,,,15-MIN;

IP 123456
<

LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
"d2-9,OTU2:BBE,45,PRTL,,,15-MIN,11-20,14-00"
"d2-9,OTU2:ES,0,PRTL,,,15-MIN,11-20,14-00"
"d2-9,OTU2:SES,0,PRTL,,,15-MIN,11-20,14-00"
"d2-9,OTU2:UAS,0,PRTL,,,15-MIN,11-20,14-00"
"d2-9,OTU2:FECC,0,PRTL,,,15-MIN,11-20,14-00"
"d2-9,OTU2:OPT,-20.8,PRTL,,,15-MIN,11-20,14-00"
"d2-9,OTU2:OPTL,-21.7,PRTL,,,15-MIN,11-20,14-00"
"d2-9,OTU2:OPTH,-20.1,PRTL,,,15-MIN,11-20,14-00"
"d2-9,OTU2:OPR,5.3,PRTL,,,15-MIN,11-20,14-00"
"d2-9,OTU2:OPRL,5.1,PRTL,,,15-MIN,11-20,14-00"
"d2-9,OTU2:OPRH,5.7,PRTL,,,15-MIN,11-20,14-00"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **RTRV-PM** command.

If a **RTRV-PM** command contains an invalid command code **modifier**, the following ICNV error response is returned:

```
sid date time
M  ctag DENY
   ICNV
   /* Input, Command Not Valid, invalid modifier */
;
```

Starting in Release 7.1, if a **RTRV-PM** command has an **aid** of a variable rate port and a command code **modifier** that is not consistent with the provisioned signal type of the port (see **ENT-rr:signaltype** and **ENT-OTPE:signaltype**), the following error response is returned:

```
sid date time
M  ctag DENY
   IENE
   /* Input, Entity Not Exists */
;
```

If the **RTRV-PM** command has an **aid** value that is invalid or conflicts with the command code **modifier**, the following IIAC error response is returned:

```
sid date time
M  ctag DENY
   IIAC
   /* Input, Invalid ACcess identifier */
;
```

If a **RTRV-PM** command contains a value not supported by the system, the following IDNV error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid MONTYPE */
;
```

When the command code **modifier** = **ALL**, any valid **montype** is allowed, and should **not** be considered as conflicting with the command code modifier.

If the system receives a **RTRV-PM** command with a **montype** parameter value that conflicts with the command code **modifier**, the following IDNC error response is returned:

```
sid date time
M ctag DENY
  IDNC
  /* Input, Data Not Consistent, MONTYPE value not valid for input
  command code modifier */
;
```

If the system receives a **RTRV-PM** command with an invalid **monlev** parameter value, the following IDNV error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid MONLEV */
;
```

If the system receives a **RTRV-PM** command with an invalid **locn** parameter value, the following IDNV error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, LOCN = NEND, FEND (T1 and T3 only) or null */
;
```

Beginning in Release 4.0, the above message is replaced with:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, LOCN = NEND, FEND or null */
;
```

If the system receives a **RTRV-PM** command with an invalid **dirn** parameter value, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, DIRN = NA or null */
;
```

If the system receives a **RTRV-PM** command with **tmper** = any value other than **NULL**, **15-MIN** or **1-DAY**, the following IDNV error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid TMPER */
;
```

If the system receives a **RTRV-PM** command with an invalid **mondatt**, the following IDNV error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid MONDAT */
;
```


If the system receives a **RTRV-PM** command with **tmper = 15-MIN** and **montm** is a number that is not evenly divisible by 15 or an invalid **montm**, the following IDNC error response is returned:

```
sid date time
M  ctag DENY
   IDNC
   /* Input, Data Not Consistent, invalid MONTM */
;
```

If the system receives a **RTRV-PM** command with **tmper = 1-DAY** and a non-null **montm**, the following IDNC error response is returned:

```
sid date time
M  ctag DENY
   IDNC
   /* Input, Data Not Consistent, invalid MONTM */
;
```

If the system receives a **RTRV-PM-ALL** command, with the following parameter values:

- **aid = ALL**
- **montype = ALL**
- **monlev = 0-UP**
- **locn = NEND or NULL**
- **tmper = 15-MIN**
- **montm = ALL** (meaning, for 15-min... the last 8.25 hrs of data)
- **mondatt = ALL**

the following ICNV error response requesting further limitations is returned.:

```
sid date time
M  ctag DENY
   ICNV
   /* Input, Command Not Valid, requested PM data must be limited further */
;
```

If the system receives an otherwise valid **RTRV-PM** command, but the **aid** addresses a facility that is **not** equipped to support the requested PM data; the following ENPM error response is returned:

```
sid date time
M ctag DENY
  ENPM
/* Equipage, Not equipped for requested PM */
;
```

This case covers requests with valid **aids** but for which the necessary system hardware is **not** equipped; thus, the requesting OS user cannot correct this situation remotely (presuming the equipage are as intended).

If the system receives an otherwise valid **RTRV-PM** command, but the **aid** addresses a facility that is **not** provisioned (based on PM-related provisioning and/or cross-connect provisioning) to support the requested PM data, the following SROF error response is returned:

```
sid date time
M ctag DENY
  SROF
/* Status, Not provisioned for requested PM */
;
```

Note: As of DMX Release 3.0 and XPRESS Release 2.0, this error response will no longer be displayed for this condition.

If the system receives a **RTRV-PM** command with valid input parameter values, but **none** of the requested PM data is available (for example, because the system just started operating, or none of the requested PM data is available), the following SDNR error response is returned:

```
sid date time
M ctag DENY
  SDNR
/* Status, Data Not Ready, none of requested PM data is available */
;
```

If the system receives a **RTRV-PM** command with any extra (beyond the input format specification above) **NULL** or non-**NULL** command parameter blocks (:),

parameters (,), or termination characters (;), the following IISP error response is returned:

```
sid date time
M ctag DENY
IISP
/* Input, Invalid Syntax or Punctuation */
;
```

If the system starts to respond to a valid **RTRV-PM** command but the system's TL1 command response output buffer overflows, the system will output the content of the buffer then terminate the response with the following SABL error response:

```
sid date time
M ctag DENY
SABL
/* Status, ABorTed, response aborted, output buffer overflow */
;
```

This error response follows the more (>) at the end of the available PM data and uses the same header information as the **RTRV-PM** response.

If the port specified is not provisioned in the system, the following IENE error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists */
;
```

If the location specified does not match the **montype** specified, the following IDNC error response is returned:

```
sid date time
M ctag DENY
IDNC
/* Input, Data Not Consistent, LOCN = NEND or NULL */
;
```

If a **RTRV-PM** request is entered and cross-connects have not been provisioned, the following SNVS error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, cross-connects not provisioned */
;
```

When a **RTRV-PM** request is entered and the port/channel is not in service, the following SNVS error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, Line/Port/Channel not in service */
;
```

When a **RTRV-PM** request is entered and PM is disabled, the following SNVS error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, PM disabled */
;
```

When a **RTRV-PM** request is entered and a Transmission Test is running, the following SNVS error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, transmission test running */
;
```

When a **RTRV-PM** request is entered and the *montype* entered is not valid for the port as provisioned, the following SNVS error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, MONTYPE inconsistent with provisioned port */
;
```

When a **RTRV-PM** request is entered and the *locn* entered is not valid for the port as provisioned, the following SNVS error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, LOCN inconsistent with provisioned port */
;
```

When a **RTRV-PM** request is entered and a Transmission Test is running or a facility or terminal loopback on the addressed entity is present, the following SNVS error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, transmission test running or loopback exists */
;
```

Beginning in Release 4.0, if the *modifier* is T3, then *locn* = **FEND** is only allowed if *frame* = **CBIT** (set via the **ENT-T3** command). When a **RTRV-PM** request is entered with *locn* = **FEND** and the T3 *frame* is **M13**, the following SNVS error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, LOCN inconsistent with provisioned port */
;
```

RTRV-PM
TL1 Message Details

RTRV-PM
Alcatel-Lucent 1665 DMX, R9.0

RELATED TL1 MESSAGES

RTRV - PMSCHED

SCHED - PMREPT

SET - TH

NAME

RTRV-PM-TCA: Retrieve Performance Monitoring-Threshold Crossing Alerts

The **RTRV-PM-TCA** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

Input format of **RTRV-PM-TCA** is as shown below.

RTRV-PM-TCA: *tid:aid:ctag;*

DESCRIPTION

This command displays a history of the total number of threshold crossing alerts (TCAs), by aid and aidtype.

A TCA occurs when a performance-monitoring counter exceeds a factory/ software/user-set threshold.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-431. RTRV-PM-TCA Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access identifier. This identifies the facility for which threshold levels are being retrieved. The <i>aid</i> can only have the value ALL . Beginning in Release 9.0, in a multi-shelf DCS system, if ALL is entered, the NE returns the TCAs for the main shelf. To retrieve the TCAs for the subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number.

Table 2-431. RTRV-PM-TCA Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>ctag</i>	Correlation tag. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

The following normal completion response is returned.

If the NE fully complies with the request, the following normal completion response is returned:

```

sid date time
M ctag COMPLD
  "aid[,aidtype]:spec_block"
;
```

The following normal completion response is also returned:

```

sid date time
M ctag COMPLD
  "aid:section=x,line=x,sts1path=x,ds3path=x,ds3line=x"
    .      .      .      .
    .      .      .      .
    .      .      .      .
  "aid:section=x,line=x,sts1path=x,ec1path=x,ec1line=x"
    .      .      .      .
    .      .      .      .
    .      .      .      .
  "aid:section=x,line=x,sts1path=x,ds3path=x,ds3line=x"
  "aid,VT1:tca=x"
    .      .      .      .
    .      .      .      .
    .      .      .      .
  "aid,VT1:tca=x"
  "aid,T1:tca=x"
    .      .      .      .
    .      .      .      .
    .      .      .      .
  "aid,T1:tca=x"
;
```


Beginning in release 3.0, the following two normal completion responses are returned:

```
sid date time
M ctag COMPLD
  "aid,aidtype:spec_block"
;
```

The following normal completion response is also returned:

```
sid date time
M ctag COMPLD
  "aid,aidtype:<see format below for aidtype>"
  "aid,aidtype:<see format below for aidtype>"
  <repeat as applicable, in order given below>
;
```

The output is sorted by *aidtype*, beginning with main slots, and followed by function slots, in the following order, and with the format shown. If the format for a parameter has an equal sign followed by an 'x', then the parameter is valid, and a number is output instead of the 'x'. If there is no 'x' after the equal sign, then the parameter is invalid for the *aidtype*, and no number is output.

Output order:

```
— OC192:  "aid,OC192:section=x, line=x, path="
— OC48:   "aid,OC48:section=x, line=x, path="
— OC12:   "aid,OC12:section=x, line=x, path="
— OC3:    "aid,OC3:section=x, line=x, path="
— EC1:    "aid,EC1:section=x, line=x, path="
— STS1:   "aid,STS1:section=, line=, path=x"
— STS3c:  "aid,STS3c:section=, line=, path=x"
— STS12c: "aid,STS12c:section=, line=, path=x"
— STS48c: "aid,STS48c:section=, line=, path=x"
— T3:     "aid,T3:section=, line=x, path=x"
— VT1:    "aid,VT1:section=, line=, path=x"
— VC12:   "aid,VC12:section=, line=, path=x"
— T1:     "aid,T1:section=, line=x, path=x"
— E1:     "aid,E1:section=, line=x, path=x"
— FE:     "aid,FE:ethernet=x"
— 1GE:    "aid,1GE:ethernet=x"
```

- 10GE: "aid,10GE:ethernet=x"
- VCG: "aid,VCG:ethernet=x"
- DATA: "aid,DATA:data=x"
- LAG: "aid,LAG:ethernet=x"
- OCH: "aid,OCH:opt_power=x"
- OTS: "aid,OTS:opt_power=x"
- ODU2: "aid,ODU2:path=x"
- OTU2: "aid,OTU2:,section=x,opt_power=x"

OUTPUT PARAMETERS

The output report shows the address and types of parameters that are generating TCAs.

Table 2-432. RTRV - PM - TCA Output Parameters (cont 1 of 2)

Parameter Name	Description																				
<i>aid</i>	Access Identifier. The <i>aid</i> field will contain the <i>aid</i> of the facility/signal for which PM data is being reported.																				
<i>aidtype</i>	AID Type. This gives the facility type of the signal for which the TCA is being reported. The following are the possible values for this parameter: <table> <tr> <td>E1</td><td>This is for the E1 level external interfaces.</td></tr> <tr> <td>EC1</td><td>This is for the electrical STS1 level external interfaces.</td></tr> <tr> <td>OC3</td><td>This is for OC-3 level external interfaces.</td></tr> <tr> <td>OC12</td><td>This is for OC-12 level external interfaces.</td></tr> <tr> <td>OC48</td><td>This is for optical OC-48 level external interfaces.</td></tr> <tr> <td>OC192</td><td>This is for optical OC-192 level external interfaces.</td></tr> </table> Beginning in Release 5.0, for STSn signals, a report is generated at the accepted rate for each constituent of a cross-connected signal. See <i>crstat</i> in RTRV-rr. <table> <tr> <td>STS1</td><td>This is for STS-1 channels.</td></tr> <tr> <td>STS3c</td><td>This is for STS-3c channels.</td></tr> <tr> <td>STS12c</td><td>This is for STS-12c channels.</td></tr> <tr> <td>STS48c</td><td>This is for STS-48c channels.</td></tr> </table>	E1	This is for the E1 level external interfaces.	EC1	This is for the electrical STS1 level external interfaces.	OC3	This is for OC-3 level external interfaces.	OC12	This is for OC-12 level external interfaces.	OC48	This is for optical OC-48 level external interfaces.	OC192	This is for optical OC-192 level external interfaces.	STS1	This is for STS-1 channels.	STS3c	This is for STS-3c channels.	STS12c	This is for STS-12c channels.	STS48c	This is for STS-48c channels.
E1	This is for the E1 level external interfaces.																				
EC1	This is for the electrical STS1 level external interfaces.																				
OC3	This is for OC-3 level external interfaces.																				
OC12	This is for OC-12 level external interfaces.																				
OC48	This is for optical OC-48 level external interfaces.																				
OC192	This is for optical OC-192 level external interfaces.																				
STS1	This is for STS-1 channels.																				
STS3c	This is for STS-3c channels.																				
STS12c	This is for STS-12c channels.																				
STS48c	This is for STS-48c channels.																				

Table 2-432. RTRV-PM-TCA Output Parameters (cont 2 of 2)

Parameter Name	Description
T1	This is for the DS1 level external interfaces.
T3	This is for the DS3 level external interfaces.
VT1	This is for dropped VT1.5 channels.
VC12	This is for dropped VC12 channels.
FE	This is for the Ethernet FE ports.
1GE	This is for the Ethernet 1GE ports.
10GE	This is for the Ethernet 10 GE ports.
VCG	This is for Ethernet VCG ports. This is also for DATA VCG ports.
DATA	This is for DATA ports.
LAG	This is for LAG ports.
OCH	This is for optical channels.
OTS	This is for the optical transmission section.
ODU2	This is for optical channel data unit 2.
OTU2	This is for optical channel transport unit 2.
<i>spec_block</i>	Specific block. The parameters are listed and explained in the <i>spec_block</i> table below.

Table 2-433. RTRV-PM-TCA Output *spec_block* Parameters (cont 1 of 3)

Parameter Name	Descriptions of Spec Block Parameters
	For each of the parameters listed below there is one or more parameter values listed.
<i>section</i>	This shows the total number of TCAs associated with section performance monitoring parameters. Refer to Appendix B for the valid <i>montypes</i> .
<i>line</i>	This shows the total number of TCAs associated with line performance monitoring parameters. Refer to Appendix B for the valid <i>montypes</i> .
<i>path</i>	This shows the total number of TCAs associated with path performance monitoring parameters. Refer to Appendix B for the valid <i>montypes</i> .

Table 2-433. RTRV-PM-TCA Output *spec_block* Parameters (cont 2 of 3)

Parameter Name	Descriptions of Spec Block Parameters
<i>ethernet</i>	This shows the total number of TCAs associated with Ethernet and Spanning Tree Protocol performance monitoring parameters. Refer to Appendix B for the valid <i>montypes</i> .
<i>data</i>	This shows the total number of TCAs associated with Data performance monitoring parameters. Refer to Appendix B for the valid <i>montypes</i> .
<i>opt_power</i>	This shows the total number of TCAs associated with the analog optical power monitoring parameters. Refer to Appendix B for the valid <i>montypes</i> .
<i>sts1path</i>	This shows the total number of TCAs associated with STS-1 path performance monitoring parameters. Refer to Appendix B for the valid <i>montypes</i> . Beginning in release 3.0, the <i>sts1path</i> parameter will not be displayed.
<i>sts3path</i>	This shows the total number of TCAs associated with STS-3c path performance monitoring parameters. Refer to Appendix B for the valid <i>montypes</i> . Beginning in release 3.0, the <i>sts3path</i> parameter will not be displayed.
<i>sts12path</i>	This shows the total number of TCAs associated with STS-12c path performance monitoring parameters. Refer to Appendix B for the valid <i>montypes</i> . Beginning in release 3.0, the <i>sts12path</i> parameter will not be displayed.
<i>sts48path</i>	This shows the total number of TCAs associated with STS-48c path performance monitoring parameters. Refer to Appendix B for the valid <i>montypes</i> . Beginning in release 3.0, the <i>sts48path</i> parameter will not be displayed.
<i>ds3path</i>	This shows the total number of TCAs associated with DS3 path performance monitoring parameters incoming from the fiber and the DSX-3. Path TCAs for the DS3 signal incoming from the fiber will be displayed with a channel address (for example, m-1-10). Refer to Appendix B for the valid <i>montypes</i> . Beginning in release 3.0, the <i>ds3path</i> parameter will not be displayed.
<i>ds3line</i>	This shows the total number of TCAs for DS3 line performance monitoring parameters. Refer to Appendix B for the valid <i>montypes</i> . Beginning in release 3.0, the <i>ds3line</i> parameter will not be displayed.
<i>tca</i>	This column indicates the total number of TCAs associated with the addressed signal. This parameter is used to indicate the total number of VT1 or DS1 TCAs and is used only if <i>aidtype</i> equals T1 or VT1.

Table 2-433. RTRV-PM-TCA Output *spec_block* Parameters (cont 3 of 3)

Parameter Name	Descriptions of Spec Block Parameters
	Beginning in release 3.0, the <i>tca</i> parameter will not be displayed.

A greater-than symbol (>) following a count indicates that the register has overflowed and that the indicated count is the register maximum.

A hyphen (-) indicates that the count for that parameter is not available due to a trouble condition.

A 'blank' space indicates that the report field does not apply.

A question mark (?) following a count indicates that the count includes data for less than the full counting interval. This may occur if a reset or **ED-DAT** command is entered into the system or if the circuit pack is inserted or removed. If the count is both overflowed and incomplete, only the greater-than symbol (>) appears.

EXAMPLE INPUT/OUTPUT

The following is an example of a **RTRV-PM-TCA** report:

Beginning in release R3.0, this format is no longer valid.

```
RTRV-PM-TCA:LT-DMX:all:123456;

IP 123456
<
  LT-DMX 94-03-22 16:12:12
M 123456 COMPLD
  "main-1:section=2, line=3, sts1path=, ds3path=, ds3line="
  "c-1-1, T1:tca=35"
  "c-1-2, T1:tca=0"
  "c-2-3, T1:tca=1"
  "c-2-4, T1:tca=0"
  "m-1-3-1-1, VT1:tca=35"
  "m-1-3-3-4, VT1:tca=0"
  "m-1-3-4-4, VT1:tca=0"
  "m-1-3-5-4, VT1:tca=0"
;
```

Beginning in release 3.0, the following is an example of a **RTRV-PM-TCA** report:

```
RTRV-PM-TCA:LT-DMX:all:123456;

IP 123456
<
  LT-DMX 94-03-22 16:12:12
M 123456 COMPLD
  "main-1,OC48:section=2,line=3,path="
  "c-1-1,T3:section=,line=3,path=35"
  "c-1-2,T3:section=,line=0,path=0"
  "c-2-3,T3:section=,line=1,path=1"
  "c-2-4,T3:section=,line=0,path=0"
  "m-1-3-1-1,VT1:section=,line=,path=1"
  "m-1-3-3-4,VT1:section=,line=,path=0"
  "m-1-3-4-4,VT1:section=,line=,path=0"
  "m-1-3-5-4,VT1:section=,line=,path=0"
;

```

Beginning in release 4.0, the following is an example of a **RTRV-PM-TCA** report:

```
RTRV-PM-TCA:LT-DMX:all:123456;

IP 123456
<
  LT-DMX 94-03-22 16:12:12
M 123456 COMPLD
  "main-1,OC48:section=2,line=3,path="
  "c-1-1,T3:section=,line=3,path=35"
  "c-1-2,T3:section=,line=0,path=0"
  "c-2-3,T3:section=,line=1,path=1"
  "c-2-4,T3:section=,line=0,path=0"
  "m-1-3-1-1,VT1:section=,line=,path=1"
  "m-1-3-3-4,VT1:section=,line=,path=0"
  "m-1-3-4-4,VT1:section=,line=,path=0"
  "m-1-3-5-4,VT1:section=,line=,path=0"
  "b-1-1,E1:section=,line=2,path=12"
  "b-1-2,E1:section=,line=0,path=0"
  "b-2-3,E1:section=,line=1,path=1"
  "c-24,FE:ethernet=0"
  "d-1,1GE:ethernet=2"
  "d-2,1GE:ethernet=2"
;

```

Beginning in Release 6.0, the following is an example of a **RTRV-PM-TCA** report:

```
RTRV-PM-TCA:LT-NE:all:123456;

IP 123456
<
  LT-NE 06-03-22 16:12:12
M 123456 COMPLD
  "main-1,OC12:section=2,line=3,path="
  "a-1-1,T1:section=,line=3,path=35"
  "a-1-2,T1:section=,line=0,path=0"
  "a-2-3,T1:section=,line=1,path=1"
  "a-2-4,T1:section=,line=0,path=0"
  "m1-1-3-1-1,VT1:section=,line=,path=1"
  "m1-1-3-3-4,VT1:section=,line=,path=0"
  "m1-1-3-4-4,VT1:section=,line=,path=0"
  "m1-1-3-5-4,VT1:section=,line=,path=0"
  "g-24,FE:ethernet=0"
  "d-1,1GE:ethernet=2"
  "d-2,1GE:ethernet=2"
;
```

Beginning in Release 7.1, the following is an example of a **RTRV-PM-TCA** report for an NE equipped with LNW785 and LNW705 DWDM circuit packs:

```
RTRV-PM-TCA:LT-NE:all:123456;

IP 123456
<
  LT-NE 08-04-18 16:12:12
M 123456 COMPLD
  "main-1,OC48:section=2,line=3,path="
  "main-2,OC48:section=0,line=35,path="
  "fn-b-2-3,OC12:section=0,line=0,path="
  "fn-b-2-1,OC3:section=0,line=0,path="
  "b2-8,1GE:ethernet=0"
  "b2-v8,VCG:ethernet=0"
  "b2-2,DATA:data=0"
  "b2-5,DATA:data=0"
  "b2-7,DATA:data=0"
  "g1-9,OTU2:section=0,opt_power=0"
  "g1-9-1,ODU2:path=0"
  "b1-9520,OCH:opt_power=0"
  "b1-9530,OCH:opt_power=0"
  "b1-9540,OCH:opt_power=0"
  "b1-9550,OCH:opt_power=0"
  "b1-9560,OCH:opt_power=0"
  "b1-9570,OCH:opt_power=0"
  "b1-9580,OCH:opt_power=0"
  "b1-ots,OTS:opt_power=0"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the ***aid*** value is missing, or invalid.

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid ACcess identifier */
;
```

RELATED TL1 MESSAGES

REPT PM

RTRV-PM

RTRV-PMSCHED

SET-TH

NAME

RTRV - PMSCHED : Retrieve Performance Monitoring Schedule

The **RTRV - PMSCHED** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

Input format of **RTRV - PMSCHED** is as shown below.

RTRV - PMSCHED-*modifier*.*tid*[:*aid*]:*ctag*;

DESCRIPTION

RTRV - PMSCHED commands can be initiated to retrieve the active performance-monitoring (PM) report schedule from the network element (NE). The scheduled active PM reports are the same reports previously specified with **SCHED - PMREPT** commands.

In general, the **RTRV - PMSCHED** output parameter values correspond to the **SCHED - PMREPT** input parameter values.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-434. RTRV - PMSCHED Input Parameters (cont 1 of 4)

Parameter Name	Description
<i>modifier</i>	This is the command code modifier, and must have one of the following values: E1 This is for the E1 level external interfaces. EC1 This is for the electrical STS1 level external interfaces.

Table 2-434. RTRV - PMSCHED Input Parameters (cont 2 of 4)

Parameter Name	Description
	OC3 This is for OC-3 level external interfaces. OC12 This is for OC-12 level external interfaces. OC48 This is for optical OC-48 level external interfaces. OC192 This is for optical OC-192 level external interfaces. STS1 This is for STS-1 channels. STS3c This is for STS-3c channels. STS12c This is for STS-12c channels. STS48c This is for STS-48c channels. T1 This is for the DS1 level external interfaces. T3 This is for the DS3 level external interfaces. VT1 This is for dropped VT1.5 channels. VC12 This is for dropped VC12 channels. OCH This is for optical channels. OTS This is for the optical transmission section. The following modifier values apply only to the LNW705 DWDM circuit pack: ODU2 This is for optical channel data unit 2. OTU2 This is for optical channel transport unit 2.
tid	Target Identifier. Refer to RTRV - HDR command for the input parameter syntax and a description of this parameter.
aid	Access Identifier. This is the address of the line, channel, or port for which a scheduled PM report is requested. See Appendix A for the AID formats/rules. The value of aid can be any access identifier for which PM data is collected. If modifier = ALL, the aid value must be ALL or NULL (default = ALL).

Table 2-434. RTRV - PMSCHED Input Parameters (cont 3 of 4)

Parameter Name	Description																																		
	Beginning in Release 9.0, in a multi-shelf DCS system, if ALL is entered, the NE returns the main shelf scheduled PM report for entities of the type specified by the value of the command code modifier. To retrieve a subshelf scheduled PM report for entities of the type specified by the value of the command code modifier, use {shelf}-ALL where {shelf} indicates the subshelf number. Beginning in Release 9.0, in a multi-shelf DCS system, NULL will default to ALL and applies to the main shelf. In addition to aid = ALL, the following aid types are valid: <table> <tr> <th><u>TL1 Command</u></th><th><u>Type of AID</u></th></tr> <tr> <td>RTRV - PMSCHED - OCn</td><td>OCn line AID.</td></tr> <tr> <td>RTRV - PMSCHED - STSn</td><td>STSn ring channel AID</td></tr> <tr> <td>RTRV - PMSCHED - T3</td><td>DS3 port AID</td></tr> <tr> <td>RTRV - PMSCHED - EC1</td><td>EC-1 port AID</td></tr> <tr> <td>RTRV - PMSCHED - E1</td><td>E1 port AID</td></tr> <tr> <td>RTRV - PMSCHED - T1</td><td>DS1 port AID</td></tr> <tr> <td>RTRV - PMSCHED - VT1</td><td>VT1.5 channel AID</td></tr> <tr> <td></td><td>Beginning in Release 6.0, the VT1.5 ring channel AID is used</td></tr> <tr> <td>RTRV - PMSCHED - VC12</td><td>VC12 channel AIDs.</td></tr> <tr> <td></td><td>Beginning in Release 6.0, the VC12 ring channel AID is used.</td></tr> <tr> <td>RTRV - PMSCHED - OCH</td><td>Optical channel AID.</td></tr> <tr> <td>RTRV - PMSCHED - OTS</td><td>Optical transmission section AID.</td></tr> <tr> <td>RTRV - PMSCHED - ODU2</td><td>Optical channel data unit 2 AID.</td></tr> <tr> <td>RTRV - PMSCHED - OTU2</td><td>Optical channel transport unit 2 AID.</td></tr> <tr> <td>RTRV - PMSCHED - ALL</td><td>Only ALL</td></tr> <tr> <td></td><td>Beginning in Release 9.0, in a multi-shelf DCS system, only ALL or NULL is allowed for the main shelf. For the subshelf, only {shelf}-ALL is allowed, where {shelf} indicates the subshelf number.</td></tr> </table>	<u>TL1 Command</u>	<u>Type of AID</u>	RTRV - PMSCHED - OCn	OCn line AID.	RTRV - PMSCHED - STSn	STSn ring channel AID	RTRV - PMSCHED - T3	DS3 port AID	RTRV - PMSCHED - EC1	EC-1 port AID	RTRV - PMSCHED - E1	E1 port AID	RTRV - PMSCHED - T1	DS1 port AID	RTRV - PMSCHED - VT1	VT1.5 channel AID		Beginning in Release 6.0, the VT1.5 ring channel AID is used	RTRV - PMSCHED - VC12	VC12 channel AIDs.		Beginning in Release 6.0, the VC12 ring channel AID is used.	RTRV - PMSCHED - OCH	Optical channel AID.	RTRV - PMSCHED - OTS	Optical transmission section AID.	RTRV - PMSCHED - ODU2	Optical channel data unit 2 AID.	RTRV - PMSCHED - OTU2	Optical channel transport unit 2 AID.	RTRV - PMSCHED - ALL	Only ALL		Beginning in Release 9.0, in a multi-shelf DCS system, only ALL or NULL is allowed for the main shelf. For the subshelf, only {shelf}-ALL is allowed, where {shelf} indicates the subshelf number.
<u>TL1 Command</u>	<u>Type of AID</u>																																		
RTRV - PMSCHED - OCn	OCn line AID.																																		
RTRV - PMSCHED - STSn	STSn ring channel AID																																		
RTRV - PMSCHED - T3	DS3 port AID																																		
RTRV - PMSCHED - EC1	EC-1 port AID																																		
RTRV - PMSCHED - E1	E1 port AID																																		
RTRV - PMSCHED - T1	DS1 port AID																																		
RTRV - PMSCHED - VT1	VT1.5 channel AID																																		
	Beginning in Release 6.0, the VT1.5 ring channel AID is used																																		
RTRV - PMSCHED - VC12	VC12 channel AIDs.																																		
	Beginning in Release 6.0, the VC12 ring channel AID is used.																																		
RTRV - PMSCHED - OCH	Optical channel AID.																																		
RTRV - PMSCHED - OTS	Optical transmission section AID.																																		
RTRV - PMSCHED - ODU2	Optical channel data unit 2 AID.																																		
RTRV - PMSCHED - OTU2	Optical channel transport unit 2 AID.																																		
RTRV - PMSCHED - ALL	Only ALL																																		
	Beginning in Release 9.0, in a multi-shelf DCS system, only ALL or NULL is allowed for the main shelf. For the subshelf, only {shelf}-ALL is allowed, where {shelf} indicates the subshelf number.																																		

Table 2-434. RTRV - PMSCHED Input Parameters (cont 4 of 4)

Parameter Name	Description
ctag	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If there are no scheduled PM reports to output, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If there are PM report schedules to report, the following output report is also returned:

```
sid date time
M ctag COMPLD
"aid,aidtype:reptinvl,reptdat,repttm,[numinvl],[montype],
monlev,[locn],dirn,tmper,
tmofst[,inhmode]"
. . . . .
. . . . .
. . . . .
"aid,aidtype:reptinvl,reptdat,repttm,[numinvl],[montype],
monlev,[locn],dirn,tmper,
tmofst[,inhmode]"
;
```

OUTPUT PARAMETERS

Table 2-435. RTRV-PMSCHED Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address for which the PM report schedule is reported.
<i>aidtype</i>	Access Identifier Type. AID Type. The <i>aidtype</i> field is the same as the valid values of the command code modifier.
<i>reptinvl</i>	Report Interval. This specifies how often the scheduled PM report is generated, and may have one of the following values: ■ 15-MIN This indicates that the PM report is generated every 15 minutes (for <i>tmper</i> = 15-MIN only). ■ {1-24}-HR This indicates that the PM report is generated every 1 to 24 hours. ■ 1-DAY This indicates that the PM report is generated every day (for <i>tmper</i> = 1-DAY only).
<i>reptdat</i>	Report Date. This specifies the date for the <i>next</i> PM report (REPT PM command). This has the format MM-DD (month-day), where MM ranges from 1 to 31.
<i>repttm</i>	Report Time. This specifies the time of day for the <i>next</i> PM report (REPT PM). This has the format HH-MM (hours-minutes), where HH ranges from 0 to 23 and MM ranges from 0 to 59.
<i>numinvl</i>	Number of report Intervals. This specifies the number of PM reports (REPT PM) <i>remaining</i> to be generated. If PM reporting is scheduled to continue indefinitely, <i>numinvl</i> is null.
<i>montype</i>	Monitored parameter Type. This is the PM parameter type for which reporting is being scheduled. The default is for all applicable (based on the modifier) <i>montype</i> values to be reported.
<i>monlev</i>	Monitored level. This has the format LEV-DIRN. The LEV value may be a decimal numeral. DIRN may have one of the following values: ■ DN This requests PM data be reported for <i>monval</i> values equal to or less than the value of LEV. ■ UP This requests PM data be reported for <i>monval</i> values equal to or greater than LEV.

Table 2-435. RTRV-PMSCHED Output Parameters (cont 2 of 2)

Parameter Name	Description
	<i>monlev</i> does not apply to the analog optical power measurements <i>montypes</i> TOPRSH, TOPRL, TOPRH, OPR, OPRL, OPRH, OPT, OPTL and OPTH.
<i>locn</i>	Location. This indicates the location of the PM data that is reported, and may have one of the following values: ■ FEND Far End. This requests far-end PM data. ■ NEND Near End. This indicates near-end PM data. ■ NULL This indicates both NEND and FEND PM data.
<i>dirn</i>	Direction. This parameter always has the value NA (not applicable).
<i>tmper</i>	Time period. This indicates the time interval of the PM data. This parameter will have one of the following values: ■ 15-MIN This requests PM data in 15-minute intervals. ■ 1-DAY This requests daily PM data.
<i>tmofst</i>	Time offset. This parameter specifies the start time of the time period (<i>tmper</i>) for which PM data is to be reported, by subtracting the <i>tmofst</i> from the time of the most recently completed time period (<i>tmper</i>). This has the format DD-HH-MM (day-hours-minutes). If <i>tmper</i> = 1-DAY, allowable values of <i>tmofst</i> are 0-0-0 and 1-0-0 only. If <i>tmper</i> = 15-MIN, allowable values of <i>tmofst</i> are 0-{0-7}-{0,15,30,45} and 0-8-0. If the <i>tmofst</i> is 0-0-0, the NE reports the PM data accumulated during the <i>current</i> time period (<i>tmper</i>). The NE supports parameter grouping, with single ampersands (&), of non-null <i>tmofst</i> values to allow PM reports to be scheduled at intervals (<i>reptinvl</i>) greater than 15 minutes and still include all 15-minute PM data accumulated during the report interval (<i>reptinvl</i>).
<i>inhmode</i>	Inhibit Mode. This indicates if the scheduled PM report is currently inhibited by an INH-MSG command. This parameter is null (default = ALW [allowed]) unless PM reporting is inhibited, in which case <i>inhmode</i> = INH.

EXAMPLE INPUT/OUTPUT

The following is an example of **RTRV - PMSCHED** input/output (I/O):

```
RTRV-PMSCHED-T3:TID123:b-1:123456;  
TID123 00-10-26 16:42:11  
M 123456 COMPLD  
"line-all, T3:1-HR, 10-26, 17-05, 1, CVL, 1-UP, NEND, NA,  
15-MIN, 0-1-0&0-0-45&0-0-30&0-0-15"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **RTRV-PMSCHED** command.

If the NE receives a **RTRV-PMSCHED** command with a command code modifier other than those listed as allowable for the input parameter **modifier**, the following ICNV error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

If the NE receives a **RTRV-PMSCHED** command with an **aid** value that is invalid, omitted (except when **modifier = ALL**), or that conflicts with the command code modifier, the following IIAC error response is returned:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier */  
;
```

RELATED TL1 MESSAGES

REPT PM

RTRV-PMSCHED
TL1 Message Details

RTRV-PMSCHED
Alcatel-Lucent 1665 DMX, R9.0

RTRV - PM

SCHED - PMREPT

NAME

RTRV-PORTMNTC: Retrieve Port Maintenance Control Status

The **RTRV-PORTMNTC** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-PORTMNTC-modifier:tid:[aid]:ctag[:::[spec_block]];

DESCRIPTION

The **RTRV-PORTMNTC** command retrieves the port maintenance control status of ports and lines in the network element.

Execution of this command is not recorded in the Security log.

The **RTRV-PORTMNTC** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-436. RTRV-PORTMNTC Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>modifier</i>	Modifier. This indicates the interface type on which the command is to act. Values include: ■ EC1 ■ ENET ■ DATA ■ OC3 ■ OC12

Table 2-436. RTRV-PORTMNTC Input Parameters (cont 2 of 2)

Parameter Name	Description
	■ OC48 ■ OC192 ● OTU2 ■ T1 ■ E1 ■ T3 ■ ALL If <i>modifier</i>=ALL is specified, then the value of <i>aid</i> is assumed to be ALL, regardless of the specified value of <i>aid</i>.
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> indicates the interface AID for which the port maintenance information is being requested. If <i>modifier</i> is not ALL, then <i>aid</i> is required. <i>aid</i> can be an individual port or line or it can be a range of ports or lines. See Appendix A - AID Table for valid AIDs. Beginning in Release 9.0, if <i>modifier</i>=ALL, <i>aid</i> may be omitted, in which case its value defaults to ALL (as defined below). If <i>modifier</i>=ALL and <i>aid</i> is specified, the only accepted values are ALL and {shelf}-ALL. Valid AID types are: ALL In a multi-shelf DCS system, ALL retrieves the port maintenance status for all ports on the main shelf only. To retrieve the port maintenance status for all ports in a subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number. port AID line AID
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The following are the <i>spec_block</i> parameters.

Table 27. RTRV-PORTMNTC *spec_block* Input Parameters

Parameter Name	Description of <i>spec_block</i> Parameters
type	Port maintenance control status type. This parameter is used to limit the output of the RTRV-PORTMNTC command. The values are ALL Return the port maintenance control status of all specified ports and lines. This is the default value. INHIBITED Return the port maintenance control status of the specified ports and lines with a control status of INHIBITED. ALLOWED Return the port maintenance control status of the specified ports and lines with a control status of ALLOWED.

OUTPUT FORMAT

After receiving the **RTRV-PORTMNTC** command, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "aid:rate:spec_block"
  .
  .
  "aid:rate:spec_block"
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for the **RTRV-HDR** command.

Table 2-437. RTRV-PORTMNTC Output Parameters

Parameter Name	Description
<i>aid</i>	Access Identifier. This parameter indicates the port or line AID for which the port maintenance information is being retrieved.
<i>rate</i>	Rate indicates the interface type of the <i>aid</i>. Values include: ■ EC1 ■ FE-LAN This value may be returned if <i>modifier</i> is ENET. ■ GE-LAN This value may be returned if <i>modifier</i> is ENET. ■ DATA ■ OC3 ■ OC12 ■ OC48 ■ OC192 ⊗ OTU2 ■ T1 ■ E1 ■ T3
<i>spec_block</i>	The following table contains the <i>spec_block</i> parameters and values.

Table 2-438. RTRV-PORTMNTC Output *spec_block* Parameters

Parameter Name	Description of <i>spec_block</i> Parameters				
<i>portmntc</i>	Port Maintenance control status. The values are: <table> <tr> <td>INHIBITED</td><td>Port maintenance is inhibited on this port or line.</td></tr> <tr> <td>ALLOWED</td><td>Port maintenance is allowed on this port or line.</td></tr> </table>	INHIBITED	Port maintenance is inhibited on this port or line.	ALLOWED	Port maintenance is allowed on this port or line.
INHIBITED	Port maintenance is inhibited on this port or line.				
ALLOWED	Port maintenance is allowed on this port or line.				

EXAMPLE INPUT/OUTPUT

The following example retrieves the port maintenance control status on a T1 port:

```
RTRV-PORTMNTC-T1:LT-TID:d-1-1:123456;  
LT-TID 07-01-01 08:00:00  
M 123456 COMPLD  
"d-1-1:T1:PORTMNTC=INHIBITED"  
;
```

The following example retrieves the port maintenance control status of all T3 ports:

```
RTRV-PORTMNTC-T3:LT-TID:all:123456;  
LT-TID 07-01-01 08:00:00  
M 123456 COMPLD  
"b-1:T3:PORTMNTC=INHIBITED"  
"b-2:T3:PORTMNTC=ALLOWED"  
"b-3:T3:PORTMNTC=ALLOWED"  
"b-4:T3:PORTMNTC=INHIBITED"  
"b-5:T3:PORTMNTC=INHIBITED"  
"b-6:T3:PORTMNTC=ALLOWED"  
"b-7:T3:PORTMNTC=INHIBITED"  
"b-8:T3:PORTMNTC=INHIBITED"  
"b-9:T3:PORTMNTC=ALLOWED"  
"b-10:T3:PORTMNTC=INHIBITED"  
"b-11:T3:PORTMNTC=ALLOWED"  
"b-12:T3:PORTMNTC=INHIBITED"  
"d-1:T3:PORTMNTC=ALLOWED"  
"d-2:T3:PORTMNTC=ALLOWED"  
"d-3:T3:PORTMNTC=ALLOWED"  
"d-4:T3:PORTMNTC=ALLOWED"  
"d-5:T3:PORTMNTC=INHIBITED"  
"d-6:T3:PORTMNTC=INHIBITED"  
"d-7:T3:PORTMNTC=ALLOWED"  
"d-8:T3:PORTMNTC=ALLOWED"  
"d-9:T3:PORTMNTC=ALLOWED"  
"d-10:T3:PORTMNTC=INHIBITED"  
"d-11:T3:PORTMNTC=INHIBITED"  
"d-12:T3:PORTMNTC=INHIBITED"  
;
```

The following example retrieves the port maintenance control status of all ports and lines for which port maintenance is allowed:

```
RTRV-PORTMNTC-ALL:LT-TID:all:123456::type=allowed;  
LT-TID 07-01-01 08:00:00  
M 123456 COMPLD  
"main-1-1:OC12:PORTMNTC=ALLOWED"  
"a-1-3:T1:PORTMNTC=ALLOWED"  
"a-2-4:T1:PORTMNTC=ALLOWED"  
"a-6-2:T1:PORTMNTC=ALLOWED"  
"b-1:T3:PORTMNTC=ALLOWED"  
"b-6:T3:PORTMNTC=ALLOWED"  
"b-7:T3:PORTMNTC=ALLOWED"  
"b-8:T3:PORTMNTC=ALLOWED"  
"b-9:T3:PORTMNTC=ALLOWED"  
"growth-1-1:OC12:PORTMNTC=ALLOWED"  
"growth-2-2:OC12:PORTMNTC=ALLOWED"  
;
```

The following example retrieves the port maintenance control status of all ports and lines for which port maintenance is allowed in a subshelf:

```
RTRV-PORTMNTC-ALL:LT-TID:2-all:123456::type=allowed;  
LT-TID 07-01-01 08:00:00  
M 123456 COMPLD  
"2-main-1-1:OC12:PORTMNTC=ALLOWED"  
"2-main-1-2:OC12:PORTMNTC=ALLOWED"  
"2-a-1-1-1:T1:PORTMNTC=ALLOWED"  
"2-a-1-1-2:T1:PORTMNTC=ALLOWED"  
"2-a-1-1-3:T1:PORTMNTC=ALLOWED"  
"2-a-1-1-4:T1:PORTMNTC=ALLOWED"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives a **RTRV-PORTMNTC** command with a **modifier** other than that supported by the NE, the following error response is returned:

```
sid date time
M ctag DENY
  ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

If the NE receives a **RTRV-PORTMNTC** command with a **modifier** other than that supported by the NE, the following error response is returned:

```
sid date time
M ctag DENY
  ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

If the NE receives a **RTRV-PORTMNTC** command with an **aid** that is not valid or without an **aid** if **modifier** does not equal **ALL** or with an **aid** value that is invalid for the modifier provided (for example, the **aid** referring to a different type of entity than is specified by **modifier**), the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong or
inconsistent with modifier */
;
```

If the NE receives a **RTRV-PORTMNTC** command with a valid **aid** value, but one for which the corresponding equipment is provisioned to be unequipped, the following error response is returned:

```
sid date time
M ctag DENY
  ENEQ
/* Equipage, Not EQuipped */
;
```

If an NE receives a **RTRV-PORTMNTC** command with an ***type*** value other than **ALL**, **INHIBITED** or **ALLOWED**, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid TYPE value */
;
```

RELATED TL1 MESSAGES

OPR-LPBK

RLS-LPBK

RTRV-LPBK

ENT-SYS

RTRV-SYS

TEST-TRMSN

ALW-PORTMNTC

INH-PORTMNTC

NAME

RTRV-PROTN-ACC: Retrieve Protection Access

The **RTRV-PROTN-ACC** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 3.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-PROTN-ACC: *tid:aid:ctag::prototype[, [nuttype][, timeslot]];*

DESCRIPTION

The **RTRV-PROTN-ACC** command retrieves the NUT (non-preemptible unprotected traffic) information for all channels of a BLSR.

Execution of this command will not be recorded in the Security log.

The **RTRV-PROTN-ACC** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-439. RTRV-PROTN-ACC Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. See Appendix A - AID Tables. This is the access identifier for a 2F (BLSR) protection group. Beginning in Release 6.0, a line-pair aid will no longer be accepted as the identifier of a linear protection group. Instead the aid of the line in slot 1 becomes the identifier.

Table 2-439. RTRV-PROTN-ACC Input Parameters

Parameter Name	Description
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>protype</i>	Protection Type. Value(s): ■ 2F
<i>nuttype</i>	NUT Type Value(s): ■ LOCAL Retrieve Local NUT parameters. ■ OPER Retrieve Operational NUT parameters. ■ ALL Retrieve Local NUT parameters and, when supported, operational NUT parameters. (Default)
<i>timeslot</i>	Timeslot: Timeslot number for which the attribute is retrieved. Omission of this parameter results in retrieval for all timeslots. Value(s): ■ 1 ... 48 for OC-48 BLSR protection group ■ 1 ... 192 for OC-192 BLSR protection group ■ ALL (default) all timeslots on specified protection group

OUTPUT FORMAT

If there are no conditions to report, the following report is output:

```
IP ctag
<

sid date time
M ctag COMPLD
;
```

If there are conditions to report, the following report is output:

```

sid date time
M ctag COMPLD
  "aid, nuttype: spec_block"
    ....
    ....
  "aid, nuttype: spec_block"
;

```

In NEs where automatic ring discovery is disabled (see *ard* in **RTRV-PROTN-GRP**), the response does not contain operational NUT information.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command. Additional parameters that specifically apply to this command response are defined in the table below. The parameter values are included/repeated as applicable to the condition reported in each of the lines in the body of the response message.

Table 2-440. RTRV-PROTN-ACC Output Parameters

Parameter Name	Description
<i>aid</i>	Access Identifier. The <i>aid</i> is a BLSR protection group AID. See the AID table in OSEG Appendix A. Beginning in Release 6.0, a line-pair aid will no longer be accepted as the identifier of a linear protection group. Instead the aid of the line in slot 1 becomes the identifier.
<i>nuttype</i>	NUT Type: This is the type of retrieved protection attributed of the addressed timeslot. Values: ■ LOCAL Local NUT parameters ■ OPER Operational NUT parameters
<i>spec_block</i>	The following are the <i>spec-block</i> parameters.

Table 2-441. RTRV-PROTN-ACC Output *spec_block* Parameters

Parameter	Description	Value
<i>net</i>	Network Element Title. This is the name of the node that has its <i>nutatr</i> set to not-protected/non-preemptible.	Values: ■ Target Identifier. Refer to the RTRV-HDR command for the parameter syntax and description of this parameter ■ NONE No node has requested this timeslot to be non-preempt.
<i>nutatr</i>	NUT Attribute: This is the protection attribute of the addressed timeslot.	Values: ■ PROT protected ■ NOTPR not protected ■ TNOTP temp not protected ■ PREE preemptible ■ NPREE not preemptible ■ TNPRE temp not preemptible
<i>timeslot</i>	Timeslot: Timeslot number for which the attribute is set.	Values: ■ 1 ... 48 for OC-48 BLSR protection group ■ 1 ... 192 for OC-192 BLSR protection group

EXAMPLE INPUT/OUTPUT

The following example retrieves the local non-preemptible unprotected traffic (NUT) attributes of an OC-48 2F BLSR protection group:

```
RTRV-PROTN-ACC:LT-DMX:main-1:123456::2F, LOCAL;  
LT-DMX 02-01-22 08:00:00  
M 123456 COMPLD  
"main-1, LOCAL:nutatr=NOTPR,net=LT-DMX,timeslot=1"  
"main-1, LOCAL:nutatr=PROT,net=NONE,timeslot=2"  
...  
"main-1, LOCAL:nutatr=TNOTP,net=LT-DMX,timeslot=24"  
...  
"main-1, LOCAL:nutatr=NPREE,net=LT-DMX,timeslot=25"  
"main-1, LOCAL:nutatr=PREE,net=NONE,timeslot=26"  
...  
"main-1, LOCAL:nutatr=TNPRE,net=LT-DMX,timeslot=48"  
;
```

Beginning in Release 6.0, the previous example is replaced by the following one, reflecting the fact that the line pair aid is no longer supported as a BLSR protection group aid.

```
RTRV-PROTN-ACC:LT-DMX:main-1-1:123456::2F, LOCAL;  
LT-DMX 02-01-22 08:00:00  
M 123456 COMPLD  
"main-1-1, LOCAL:nutatr=NOTPR,net=LT-DMX,timeslot=1"  
"main-1-1, LOCAL:nutatr=PROT,net=NONE,timeslot=2"  
...  
"main-1-1, LOCAL:nutatr=TNOTP,net=LT-DMX,timeslot=24"  
...  
"main-1-1, LOCAL:nutatr=NPREE,net=LT-DMX,timeslot=25"  
"main-1-1, LOCAL:nutatr=PREE,net=NONE,timeslot=26"  
...  
"main-1-1, LOCAL:nutatr=TNPRE,net=LT-DMX,timeslot=48"  
;
```

The following example retrieves the operational non-preemptible unprotected traffic (NUT) attributes of an OC-192 2F BLSR protection group:

```
RTRV-PROTN-ACC:LT-DMX1:main-1:123456::2F,OPER;
LT-DMX 02-01-22 08:00:00
M 123456 COMPLD
"main-1,OPER:nutatr=NOTPR,net=LT-DMX1,timeslot=1"
"main-1,OPER:nutatr=PROT,net=NONE,timeslot=2"
...
"main-1,OPER:nutatr=TNOTP,net=LT-DMX2,timeslot=96"
...
"main-1,OPER:nutatr=NPREE,net=LT-DMX3,timeslot=97"
"main-1,OPER:nutatr=PREE,net=NONE,timeslot=98"
...
"main-1,OPER:nutatr=TNPRE,net=LT-DMX1,timeslot=192"
;
```

Beginning in Release 6.0, the previous example is replaced by the following one, reflecting the fact that the line pair aid is no longer supported as a BLSR protection group aid.

```
RTRV-PROTN-ACC:LT-DMX1:main-1-1:123456::2F,OPER;
LT-DMX 02-01-22 08:00:00
M 123456 COMPLD
"main-1-1,OPER:nutatr=NOTPR,net=LT-DMX1,timeslot=1"
"main-1-1,OPER:nutatr=PROT,net=NONE,timeslot=2"
...
"main-1-1,OPER:nutatr=TNOTP,net=LT-DMX2,timeslot=96"
...
"main-1-1,OPER:nutatr=NPREE,net=LT-DMX3,timeslot=97"
"main-1-1,OPER:nutatr=PREE,net=NONE,timeslot=98"
...
"main-1-1,OPER:nutatr=TNPRE,net=LT-DMX1,timeslot=192"
;
```

The following example retrieves the local and operational non-preemptible unprotected traffic (NUT) attributes of an OC-48 2F BLSR protection group:

```
RTRV-PROTN-ACC:LT-DMX1:main-1:123456::2F,ALL;  
LT-DMX 02-01-22 08:00:00  
M 123456 COMPLD  
"main-1,LOCAL:nutatr=NOTPR,net=LT-DMX1,timeslot=1"  
"main-1,OPER:nutatr=NOTPR,net=LT-DMX,timeslot=1"  
"main-1,LOCAL:nutatr=PROT,net=NONE,timeslot=2"  
"main-1,OPER:nutatr=PROT,net=NONE,timeslot=2"  
...  
"main-1,LOCAL:nutatr=PROT,net=NONE,timeslot=24"  
"main-1,OPER:nutatr=TNOTP,net=LT-DMX2,timeslot=24"  
...  
"main-1,LOCAL:nutatr=NPREE,net=LT-DMX1,timeslot=25"  
"main-1,OPER:nutatr=NPREE,net=LT-DMX1,timeslot=25"  
"main-1,LOCAL:nutatr=PREE,net=NONE,timeslot=26"  
"main-1,OPER:nutatr=PREE,net=NONE,timeslot=26"  
...  
"main-1,LOCAL:nutatr=PREE,net=NONE,timeslot=48"  
"main-1,OPER:nutatr=TNPRE,net=LT-DMX2,timeslot=48"  
;
```

Beginning in Release 6.0, the previous example is replaced by the following one, reflecting the fact that the line pair aid is no longer supported as a BLSR protection group aid.

```
RTRV-PROTN-ACC:LT-DMX1:main-1-1:123456::2F,ALL;
  LT-DMX 02-01-22 08:00:00
M 123456 COMPLD
  "main-1-1,LOCAL:nutatr=NOTPR,net=LT-DMX1,timeslot=1"
  "main-1-1,OPER:nutatr=NOTPR,net=LT-DMX,timeslot=1"
  "main-1-1,LOCAL:nutatr=PROT,net=NONE,timeslot=2"
  "main-1-1,OPER:nutatr=PROT,net=NONE,timeslot=2"
  ...
  "main-1-1,LOCAL:nutatr=PROT,net=NONE,timeslot=24"
  "main-1-1,OPER:nutatr=TNOTP,net=LT-DMX2,timeslot=24"
  ...
  "main-1-1,LOCAL:nutatr=NPREE,net=LT-DMX1,timeslot=25"
  "main-1-1,OPER:nutatr=NPREE,net=LT-DMX1,timeslot=25"
  "main-1-1,LOCAL:nutatr=PREE,net=NONE,timeslot=26"
  "main-1-1,OPER:nutatr=PREE,net=NONE,timeslot=26"
  ...
  "main-1-1,LOCAL:nutatr=PREE,net=NONE,timeslot=48"
  "main-1-1,OPER:nutatr=TNPRE,net=LT-DMX2,timeslot=48"
;
```

ERROR RESPONSES

Refer to the error responses in **RTRV-HDR**. The error response listed there may also apply.

If the system receives an **RTRV-PROTN-ACC** command in which one or more of the input parameter values does not belong to the set of allowable parameter values for that specific parameter, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid */
;
```


If the system receives an **RTRV-PROTN-ACC** command in which the specified **aid** is not the aid of a BLSR protection group, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, not a 2F protection group */
;
```

If the system receives an **RTRV-PROTN-ACC** command in which the **aid** is missing or invalid, the command shall be denied and the following error response shall be returned.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess Identifier, AID is missing or wrong */
;
```

Beginning in Release 5.1, the previous error response is replaced with the following one.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess Identifier, AID is wrong or missing */
;
```

RELATED TL1 MESSAGES

ED-PROTN-ACC

NAME

RTRV-PROTN-GRP: Retrieve Protection Group

The **RTRV-PROTN-GRP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-PROTN-GRP : *tid:[aid]:ctag::prototype;*

Beginning in Release 2.1, the following input format is applicable:

RTRV-PROTN-GRP : *tid:[aid]:ctag::prototype[, rid];*

DESCRIPTION

The **RTRV-PROTN-GRP** command retrieves protection group information. The information is retrieved for the groups that have been created via **ENT-rr** and also for groups that were automatically created by the system.

Input parameters for **RTRV-PROTN-GRP** identify the type of protection group that is of interest and also a specific member (or perhaps a range of members) of that protection group. If the specified member does not belong to a protection group, then the command returns COMPLD, but contains no information about the protection group. This means that the AID is unprotected.

Execution of this command will not be recorded in the Security log.

In response to the **RTRV-PROTN-GRP** command the NE shall not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-442. RTRV - PROTN - GRP Input Parameters (cont 1 of 4)

Parameter Name	Description								
<i>tid</i>	Target Identifier. Refer to RTRV - HDR command for the input parameter syntax and description of this parameter.								
<i>aid</i>	Access Identifier. See "Appendix A - AID Tables". This is the access identifier for a protection group. The <i>aid</i> is a required parameter and must reference a valid entity of the NE in order to be accepted. ALL [default] In a multi-shelf DCS system, ALL retrieves protection groups on the main shelf only. To retrieve information about all protection groups in a specific subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number. Beginning in Release 6.0, a line-pair aid will no longer be accepted as the identifier of a line protection group. Instead the aid of the line in slot 1 becomes the identifier. Protection Group AID format as a function of <i>prototype</i> parameter <table> <tr> <td><i>prototype</i></td><td>Protection Group AID format</td></tr> <tr> <td>■ 1+1</td><td>Line protection group</td></tr> <tr> <td>■ 1+1_OPTM</td><td>Line protection group</td></tr> <tr> <td>■ 1+1_BIDIR</td><td>Line protection group</td></tr> </table>	<i>prototype</i>	Protection Group AID format	■ 1+1	Line protection group	■ 1+1_OPTM	Line protection group	■ 1+1_BIDIR	Line protection group
<i>prototype</i>	Protection Group AID format								
■ 1+1	Line protection group								
■ 1+1_OPTM	Line protection group								
■ 1+1_BIDIR	Line protection group								

Table 2-442. RTRV-PROTN-GRP Input Parameters (cont 2 of 4)

Parameter Name	Description
	■ UPSR STS-n channel VT1.5 channel Beginning in Release 6.0, channel aids are no longer supported. STS-n ring channel VT1.5 ring channel A UPSR protection type is synonymous with a path protection group. A path protection group aid is the channel aid or ring channel aid of the path protection group output. In releases supporting atomic cross-connections, a path protection group aid is the <i>dest_aid</i> of a 1WAYPR cross-connection. In cases where a path protection group is bridged to more than one output, the protection group will be identified by more than one aid. ■ 2F Line protection group For a BLSR protection group either the <i>aid</i> or <i>rid</i>, must be specified. If both are specified the only permissible value of <i>aid</i> is ALL. ■ ALL If <i>prototype=ALL</i> then the only permissible value of <i>aid</i> is ALL Beginning in Release 6.0, if <i>prototype=ALL</i>, any valid protection group AID, as defined above, is permissible. In response, the NE returns the information for the protection group(s) identified by the specified <i>aid</i>. In a multi-shelf DCS system, <i>aid=ALL</i> retrieves protection groups on the main shelf only. To retrieve information about all protection groups in a specific subshelf, use <i>aid={shelf}-ALL</i> where {shelf} indicates the subshelf number.
ctag	Correlation Tag. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-442. RTRV - PROTN - GRP Input Parameters (cont 3 of 4)

Parameter Name	Description
<i>prototype</i>	Protection Type. Values: ■ 1+1 Unidirectional 1+1 optical line protection (See <i>application</i> parameter in ENT - RR.) ■ 1+1_OPTM Optimized bidirectional 1+1 optical line protection (See <i>application</i> parameter in ENT - RR.) ■ 1+1_BIDIR Bidirectional 1+1 optical line protection (See <i>application</i> parameter in ENT - RR.) ■ UPSR UPSR Path protected; designates that the optical line pair is provisioned to UPSR protection mode. (See <i>application</i> parameter in ENT - RR.) ■ 1+1EQPT 1+1EQPT (for Electrical and Optical Equipment protection) ; indicates that the equipment protection mode is 1+1. <i>prototype=1+1EQPT</i> is applicable only to OC-n packs in the main, and LS electrical packs. It is not applicable to LS OC-n packs. Beginning in Release 7.1, <i>prototype=1+1EQPT</i> is also applicable to Ethernet packs operating in PROT mode (see <i>prot_state</i> parameter in RTRV - EQPT.) ■ 2F 2-Fiber BLSR optical line protection (See <i>application</i> parameter in ENT - RR.) ■ ALL all protection group types Beginning in Release 6.0, if <i>prototype=ALL</i>, any valid protection group AID, as defined above, is permissible. In response, the NE returns the information for the protection group(s) identified by the specified <i>aid</i>.

Table 2-442. RTRV-PROTN-GRP Input Parameters (cont 4 of 4)

Parameter Name	Description
<i>rid</i>	Ring Identification name. Storage and retrieval of the <i>rid</i> is case sensitive, but actual use of the <i>rid</i> to determine the corresponding protection group is case insensitive. Value: The ring ID parameter is a quoted text string of up to 15 characters consisting of 7-bit hex values of [20-7E] (i.e., printable ASCII characters found in the English language), with the following exceptions: ; (semicolon) is not allowed, and " (double quote) and \ (backslash) must be preceded by a backslash. If this parameter is specified, then the command will operate on the protection group associated with that ring ID. Beginning in Release 3.1, the " (double quote) and \ (backslash) characters are not allowed within the quoted text string. For a BLSR protection group either the <i>rid</i> or the <i>aid</i> must be specified. If both are specified the only permissible value of <i>aid</i> is ALL. This parameter is applicable to the following protection group types as specified by the <i>protype</i> parameter. ■ 2F

OUTPUT FORMAT

The following normal completion response is returned.

```

sid date time
M ctag COMPLD
  "aid:[spec_block]"
  ...
  ...
  "aid:[spec_block]"
;
```

If the entity specified by **aid** is not a member of a protection group, but does exist, then the following response is returned. This means that the **aid** is unprotected.

```
sid date time
M ctag COMPLD
;
```

Note: specifying a protection group type constrains the type of AID that can belong to that group. If the AID type and protection group type are inconsistent, then **RTRV-PROTN-GRP** may be denied.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section for a normal completion response. The parameters listed there also apply to the **RTRV-PROTN-GRP** command.

Table 2-443. RTRV-PROTN-GRP Output Parameters (cont 1 of 2)

Parameter Name	Description								
<i>aid</i>	Access Identifier: This is the access identifier of the protection group. If the input AID is not in a protection group, then no <i>spec_block</i> parameter values will be printed. This means that the AID is unprotected. Protection Group AID format as a function of <i>protype</i> parameter: <table> <tr> <td><i>protype</i></td><td>Protection Group AID format</td></tr> <tr> <td>■ 1+1</td><td>Line pair Beginning in Release 6.0, a line-pair aid will no longer be reported as the identifier of a line protection group. Instead the aid of the line in slot 1 becomes the identifier.</td></tr> <tr> <td>■ 1+1_OPTM</td><td>Line pair Beginning in Release 6.0: slot1 line aid</td></tr> <tr> <td>■ 1+1_BIDIR</td><td>Line pair Beginning in Release 6.0: slot1 line aid</td></tr> </table>	<i>protype</i>	Protection Group AID format	■ 1+1	Line pair Beginning in Release 6.0, a line-pair aid will no longer be reported as the identifier of a line protection group. Instead the aid of the line in slot 1 becomes the identifier.	■ 1+1_OPTM	Line pair Beginning in Release 6.0: slot1 line aid	■ 1+1_BIDIR	Line pair Beginning in Release 6.0: slot1 line aid
<i>protype</i>	Protection Group AID format								
■ 1+1	Line pair Beginning in Release 6.0, a line-pair aid will no longer be reported as the identifier of a line protection group. Instead the aid of the line in slot 1 becomes the identifier.								
■ 1+1_OPTM	Line pair Beginning in Release 6.0: slot1 line aid								
■ 1+1_BIDIR	Line pair Beginning in Release 6.0: slot1 line aid								

Table 2-443. RTRV-PROTN-GRP Output Parameters (cont 2 of 2)

Parameter Name	Description
	■ UPSR STS-n channel VT1.5 channel Beginning in Release 6.0, channel aids are no longer supported. STS-n ring channel VT1.5 ring channel In cases where a path protection group is bridged to more than one output, the protection group will be identified by more than one aid. ■ 1+1EQPT Slot pair ■ 2F Line pair Beginning in Release 6.0: slot1 line aid
<i>spec_block</i>	The following are the <i>spec_block</i> parameters

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 1 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
<i>actunit</i>	Active unit. This parameter is applicable to the following protection group types as specified by the <i>protype</i> parameter. ■ 1+1 ■ 1+1_OPTM ■ 1+1_BIDIR ■ UPSR ■ 1+1EQPT	Line AID Line AID (of the active section) Line AID (of the active line) STS-n ring channel AID VT1.5 ring channel AID Slot AID

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 2 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
<i>apsrcv</i>	Received Automatic Protection Switch request. <i>apsrcv</i> identifies the automatic protection switch information in the received K1 and K2 bytes. The values are based on the last stable K1, K2 values captured in hardware. With the exception of <i>mode</i>, the fields of the <i>apsrcv</i> parameter are not updated during an AIS-L condition. The format of the parameter is <i>apsrcv</i>="request,action,primary ,mode" Beginning in Release 5.1, the format of the <i>apsrcv</i> parameter is <i>apsrcv</i>="request,action,primary ,architecture,mode" Where:	The format of the entries is VALUE (description)

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 3 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
	<i>request</i> indicates the switch request based on the received K1 bits [1-4]. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 1+1_OPTM ■ 1+1_BIDIR	FS (Forced Switch) SF (Signal Fail) SD (Signal Degrade) WTR (Wait to Rename) RR (Reverse Request) NR (No Request) 15 (Unused Code) 13 (Unused Code) 11 (Unused Code) 9 (Unused Code) 8 (Unused Code) 7 (Unused Code) 5 (Unused Code) 4 (Unused Code) 3 (Unused Code) 1 (Unused Code) LO (Lockout) FS (Forced Switch) SF (Signal Fail) SD (Signal Degrade) MS (Manual Switch) WTR (Wait to Restore) EX (Exercise) RR (Reverse Request) DNR (Do not Revert) NR (No Request) 13 (Unused Code) 11 (Unused Code) 9 (Unused Code) 7 (Unused Code) 5 (Unused Code) 3 (Unused Code)

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 4 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
	<i>action</i> indicates the value received in K1 bits [5-8]. These bits specify the channel requesting the switch action. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 1+1_OPTM 0 (No request) 1 (switch away from working section 1) 2 (switch away from working section 2) 3 (unexpected value) ... 15 (unexpected value) ■ 1+1_BIDIR 0 (null channel) 1 (switch away from working channel 1) 2 (unexpected value) ... 15 (unexpected value) <i>primary</i> indicates the value received in K2 bits [1-4]. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 1+1_OPTM These bits indicate the primary section 0 (unexpected value) 1 (working section 1) 2 (working section 2) 3 (unexpected value) ... 15 (unexpected value) ■ 1+1_BIDIR These bits indicate the number of the channel bridged to the protection line. 0 (null channel) 1 (working channel 1) 2 (unexpected value) ... 15 (unexpected value) Note, in a 1+1 protection group, the working channel is always physically bridged to the protection line, but it is only reported as such under specific conditions. Note, there is no primary line in the 1+1_BIDIR application. This field is reused for different purposes depending upon the application.	

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 5 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
	<i>architecture</i> indicates the APS switching architecture based on the received K2 bit 5. The <i>architecture</i> parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 1+1_OPTM ■ 1+1_BIDIR	1+1 (K2 bit 5 = 0) 1:n (K2 bit 5 = 1)

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 6 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
	<i>mode</i> indicates the APS mode based on the received K2 bit 5. The <i>mode</i> parameter is applicable to the following protection group types as specified by the <i>protype</i> parameter. ■ 1+1_OPTM Beginning in Release 5.1, the function of the <i>mode</i> field is replaced by the <i>architecture</i> field as described above and the <i>mode</i> field is redefined as follows. <i>mode</i> indicates the APS mode or a non-APS status, based on the received K2 bits 6-8. The mode parameter is applicable to the following protection group types as specified by the <i>protype</i> parameter. ■ 1+1_OPTM ■ 1+1_BIDIR Beginning in Release 6.0, <i>apsrcv</i>=NA (Not Available) is reported if a signal fail (SF) condition exists on the protection input.	1+1 (K2 bit 5 = 0) 1:n (K2 bit 5 = 1) AIS-L (7) RDI-L (6) BIDIR (5 - unexpected) UNI (4 - unexpected) 3 (unexpected) 2 (unexpected) 1 (unexpected) 0 AIS-L (7) RDI-L (6) BIDIR (5) UNI (4) 3 (unexpected) 2 (unexpected) 1 (unexpected) 0 (unexpected)

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 7 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
<i>apstx</i>	Transmitted Automatic Protection Switch request. <i>apstx</i> identifies the automatic protection switch information in the transmitted K1 and K2 bytes. The format of the parameter is <i>apstx</i>=\<i>request,action,primary ,mode</i>\ Beginning in Release 5.1, the format of the <i>apstx</i> parameter is <i>apstx</i>=\<i>request,action,primary ,architecture,mode</i>\ Where: <i>request</i> indicates the switch request as transmitted in K1 bits [1-4]. This parameter is applicable to the following protection group types as specified by the <i>protype</i> parameter. ■ 1+1_OPTM ■ 1+1_BIDIR Beginning in Release 5.2, the following values are supported.	The format of the entries is VALUE (description) FS (Forced Switch) SF (Signal Fail) SD (Signal Degrade) WTR (Wait to Rename) RR (Reverse Request) NR (No Request) LO (Lockout) FS (Forced Switch) SF (Signal Fail) SD (Signal Degrade) MS (Manual Switch) DNR (Do not Revert) RR (Reverse Request) NR (No Request) LO (Lockout) FS (Forced Switch) SF (Signal Fail) SD (Signal Degrade) MS (Manual Switch) WTR (Wait-to-Restore) DNR (Do not Revert) RR (Reverse Request) NR (No Request)

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 8 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
	<i>action</i> indicates the value transmitted in K1 bits [5-8]. These bits specify the channel requesting the switch action. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 1+1_OPTM 0 (No request) 1 (switch away from working section 1) 2 (switch away from working section 2) ■ 1+1_BIDIR 0 (null channel) 1 (switch away from working channel 1) <i>primary</i> indicates the value transmitted in K2 bits [1-4]. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 1+1_OPTM These bits indicate the primary section 1 (working section 1) 2 (working section 2) ■ 1+1_BIDIR These bits indicate the number of the channel bridged to the protection line. 0 (null channel) 1 (working channel 1) Note, in a 1+1 protection group, working channel 1 is always physically bridged to the protection line, but it is only reported as such under specific conditions. Note, there is no primary line in the 1+1_BIDIR application. This field is reused for different purposes depending upon the application.	

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 9 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
	<i>architecture</i> indicates the APS switching architecture as transmitted in K2 bit 5. The <i>architecture</i> parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 1+1_OPTM ■ 1+1_BIDIR <i>mode</i> indicates the APS mode as transmitted in K2 bit 5. The <i>mode</i> parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 1+1_OPTM Beginning in Release 5.1, the function of the <i>mode</i> field is replaced by the <i>architecture</i> field as described above and the <i>mode</i> field is redefined as follows. <i>mode</i> indicates the APS mode or a non-APS status, as transmitted in K2 bits 6-8. The mode parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 1+1_OPTM For 1+1_OPTM, these 3 bits are used only for line status and may differ between the two lines; the secondary section's value is reported.	1+1 (K2 bit 5 = 0) 1+1 (K2 bit 5 = 0) AIS-L (7) RDI-L (6) 0

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 10 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
	■ 1+1_BIDIR For 1+1_BIDIR, reporting of the APS mode may be preempted by the insertion of AIS-L or RDI-L. As a result, the value transmitted on the two lines may differ; the PROTECTION line's value is reported.	AIS-L (7) RDI-L (6) BIDIR (5) UNI (4)
<i>ard</i>	Automatic Ring Discovery. If <i>ard</i> is enabled, the automatic ring discovery algorithm will assign NodeID values to each node in the ring and construct the necessary ring map information. All nodes in the ring must be Lucent or Alcatel-Lucent nodes. If disabled, the user will assign the NodeID value and supply the ring map information to each node on the ring for the BLSR protocol to operate. (See ED-MAP-RING and SET-MAP-RING.) This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F When <i>ard</i>=DISABLE, ring circuit audits (see <i>rcae</i>) and automatic squelch map generation (see <i>rcmode</i>) are disabled regardless of the provisioned <i>rcae</i> and <i>rcmode</i> values.	ENABLE, DISABLE
<i>cst</i>	Constituent Signal Type. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 1+1 ■ 1+1_OPTM ■ 1+1_BIDIR	OC3, OC12 or OC48 OC192 OC3, OC12, OC48, OC192 OC3, OC12, OC48, OC192

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 11 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
	■ UPSR	VT1 STS1 STS3c STS12c STS48c
	■ 1+1EQPT	28DS1, 28DS1PM, 12DS3EC1, OC-48, 2OC-12, 4OC-3 Beginning in Release 3.0, the values 2OC-12 and 4OC-3 are no longer supported. OC-192 12TMUX 48TMUXDS3EC1 56DS1E1, 48DS3EC1, OC-12 OC3/OC12/OC48 OC-48/OC-192 96SWITCH 100/1G FS

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 12 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
<i>eapschst</i>	East incoming APS message, Channel Status. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F Beginning in Release 6.0, AISL is reported if a signal fail (SF) condition exists on the East input.	The format of following entries is VALUE (description) IDLE (Idle) BRIDGED (Bridged) BANDS (Bridged & Switched) XTRFC (Extra Traffic) NOTUSED (Not Used) RDIL (RDI-L) AISL (AIS-L)
<i>eapsdnid</i>	East incoming APS message, Destination nid. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F Beginning in Release 6.0, NA is reported if a signal fail (SF) condition exists on the East input.	{0-15} NA (Not Available)
<i>eapsprotn</i>	East incoming APS message, Protection. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F Beginning in Release 6.0, NA is reported if a signal fail (SF) condition exists on the East input.	The format of following entries is VALUE (description): 0 (Short) 1 (Long) NA (Not Available)

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 13 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
<i>eapssnid</i>	East incoming APS message, Source nid. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F Beginning in Release 6.0, NA is reported if a signal fail (SF) condition exists on the East input.	See <i>eapsdnid</i>. NA (Not Available)
<i>eapssw</i>	East incoming APS message, Switch priority. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F Beginning in Release 6.0, NA is reported if a signal fail (SF) condition exists on the East input.	The format of following entries is VALUE (description) LPS (LP - Span) FSR (FS - Ring) SFR (SF - Ring) SDR (SD - Ring) MSR (MS - Ring) WTR (Wait to Restore) RRR (RR - Ring) NR (No Request) RRS (Reverse Request - Span) NA (Not Available)
<i>east</i>	East group member. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F	port AID
<i>elprotnsw</i>	East Last Protection Switch attempt. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F	SUCCESS, DENY, FAILURE

Table 2-444. RTRV - PROTN - GRP Output *spec_block* Parameters (cont 14 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
<i>eswreq</i>	East Switch Request state. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F Some values may not be available for a particular release.	The format of following entries is VALUE (description) LPS (LP - Span) FSR (FS - Ring) SFR (SF - Ring) SDR (SD - Ring) MSR (MS - Ring) WTR (Wait to Restore) RRR (RR - Ring) NR (No Request)
<i>ivtbaalmvl</i>	Inconsistent VT BLSR Access Alarm Level: <i>ivtbaalmvl</i> indicates the alarm reporting level of the Inconsistent VT BLSR Access alarm. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F	The format of following entries is VALUE (description) NA (Not Alarmed) NR (Not Reported)
<i>pgrate</i>	Protection Group Rate. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F	OC48 OC192
<i>prototype</i>	Protection Type.	1+1 UPSR 1+1EQPT 2F 1+1_OPTM 1+1_BIDIR

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 15 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
<i>rcae</i>	Ring Circuit Audit Enable. <i>rcae</i> enables/disables ring circuit audits for all cross-connections to the specified BLSR protection group. By default ring circuit audits are enabled when a BLSR protection group is established. This parameter is applicable to the following protection group types as specified by the <i>protype</i> parameter. ■ 2F When automatic ring discovery is disabled (<i>ard</i>=DISABLE), ring circuit audits are disabled, regardless of the provisioned <i>rcae</i> value.	ENABLE, DISABLE
<i>rcamode</i>	Ring Circuit Alarm Mode. <i>rcamode</i> enables/disables the reporting of ring circuit audit alarms for all cross-connections to the specified BLSR protection group. Note, ring circuit audit alarms are not reported if <i>rcae</i> is disabled. By default ring circuit alarm reporting is enabled when a BLSR protection group is established. This parameter is applicable to the following protection group types as specified by the <i>protype</i> parameter. ■ 2F	ENABLE, DISABLE

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 16 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
<i>rcmode</i>	Ring Circuit Mode. <i>rcmode</i> enables or disables automatic squelch map generation for all cross-connections to the specified BLSR protection group. Setting <i>rcmode</i>=AUTO enables automatic squelch map generation. Setting <i>rcmode</i>=MANUAL disables automatic squelch map generation. When disabled, squelch map information (<i>loca</i> and <i>locz</i>) must be entered manually as part of the ENT-CRS-rr command. By default automatic squelch map generation is enabled when a BLSR protection group is established. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F When automatic ring discovery is disabled (<i>ard</i>=DISABLE), automatic squelch map generation is disabled, regardless of the provisioned <i>rcmode</i> value.	AUTO, MANUAL
<i>rid</i>	Ring Identification name. Retrieval of the <i>rid</i> is case sensitive. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F	The ring ID parameter is a quoted text string of up to 15 characters consisting of 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language), with the following exceptions: ; (semicolon) is not allowed, and " (double quote) and \ (backslash) must be preceded by a backslash. Beginning in Release 3.1, the " (double quote) and \ (backslash) characters are not allowed within the quoted text string.

Table 2-444. RTRV - PROTN - GRP Output *spec_block* Parameters (cont 17 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
<i>ringndst</i>	Ring Node APS State. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 2F	IDLE, SWITCHING, PASSTHROUGH, SUSPENDED-IDLE, SUSPENDED-SWITCHING, SUSPENDED-PASSTHROUGH
<i>rme</i>	Revertive Mode Enable. <i>rme</i> enables or disables revertive operation for the specified protection group. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 1+1 ■ 1+1_BIDIR	ENABLE, DISABLE ENABLE, DISABLE
<i>side1</i>	Working Group Member. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 1+1 ■ 1+1_OPTM ■ 1+1_BIDIR ■ UPSR ■ 1+1EQPT	line AID line AID line AID STS-n ring channel (line) AID VT1.5 ring channel (line) AID circuit pack slot AID

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 18 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
<i>side2</i>	Working Group Member. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 1+1 ■ 1+1_OPTM ■ 1+1_BIDIR ■ UPSR ■ 1+1EQPT	line AID line AID line AID STS-n ring channel (line) AID VT1.5 ring channel (line) AID circuit pack AID
<i>swreq</i>	Switch Request state. This parameter is applicable to the following protection group types as specified by the <i>prototype</i> parameter. ■ 1+1 ■ UPSR ■ 1+1EQPT ■ 1+1_OPTM For 1+1 optimized line protection groups <i>swreq</i> indicates the primary section status or failures on the secondary section. ■ 1+1_BIDIR	See swreq table. See swreq table. See swreq table. See swreq table. See swreq table.
<i>wapschst</i>	West incoming APS message, Channel Status.	See <i>eapschst</i> .
<i>wapsdnid</i>	West incoming APS message, Destination nid.	See <i>eapsdnid</i> .
<i>wapsprotn</i>	West incoming APS message, Protection.	See <i>eapsprotn</i> .
<i>wapssnid</i>	West incoming APS message, Source nid.	See <i>eapssnid</i> .
<i>wapssw</i>	West incoming APS message, Switch Priority.	See <i>eapssw</i> .
<i>west</i>	West group member.	See <i>east</i> .

Table 2-444. RTRV-PROTN-GRP Output *spec_block* Parameters (cont 19 of 19)

Parameter Name	Descriptions of Spec_Block Parameters	Value
<i>wlprotnsw</i>	West Last Protection Switch attempt.	See <i>elprotnsw</i> .
<i>wsreq</i>	West Switch Request state.	See <i>eswreq</i> .
<i>wtr</i>	Wait to Restore. This parameter is applicable to the following protection group types as specified by the <i>protype</i> parameter. ■ 2F ■ 1+1 ■ 1+1_BIDIR	The units of <i>wtr</i> are minutes. 0-12 and 99 (representing infinity or non-revertive) 0-12 For a 1+1 protection group, <i>wtr</i>=5 is reported if <i>rme</i>=DISABLE. 0-12 For a 1+1_BIDIR protection group, <i>wtr</i>=5 is reported if <i>rme</i>=DISABLE.

Table 2-445. *swreq* values for *protype*=1+1

Protection Group Type	LO	FS	SF	SD	MS	WTR	DNR	NR
1+1 (optical)	Yes	Yes	Yes	Yes				Yes
Beginning in Release 3.0.1, MS is a supported <i>swreq</i> value for 1+1 (optical) protection groups as indicated below.								
1+1 (optical)	Yes	Yes	Yes	Yes	Yes			Yes
Beginning in Release 5.2, DNR and WTR are supported <i>swreq</i> values for 1+1 (optical) protection groups, as indicated below.								
1+1 (optical)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 2-446. *swreq* values for *prototype*=UPSR

Protection Group Type	LO	FS	SF	SD	MS	NR
UPSR			Yes	Yes		Yes
Beginning in Release 3.1 UPSR protection groups will support the following values of <i>swreq</i> .						
UPSR	Yes	Yes	Yes	Yes	Yes	Yes

Table 2-447. *swreq* values for *prototype*=1+1EQPT

Protection Group Type	AL	INHBT	FS	EQPT FAILED	NR
1+1EQPT (LS)		Yes	Yes	Yes	Yes
	Beginning in Release 3.0 1+1EQPT protection is no longer supported for LS OC-n interfaces				
Beginning in Release 3.1, on packs supporting DS3 interfaces swreq=AL will be supported for 1+1EQPT protection groups as indicated below.					
1+1EQPT (LS)	Yes ^a	Yes	Yes	Yes	Yes
1+1EQPT (HS)				Yes	Yes
Beginning in Release 3.1 swreq=AL (autolock) is supported on the HS 1+1EQPT protection group as indicated below.					
1+1EQPT (HS)	Yes			Yes	Yes

a. Autolock is supported on packs supporting DS3 interfaces.

Table 2-448. *swreq* values for *protype*=1+1_OPTM

Protection Group Type	LO ^a	SSF ^b	FOP ^b	FS	SF	SD	WTR	RENAME ^c	NR
1+1_OPTM	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

- a. LO (lockout) for 1+1_OPTM means that the current state of the entire protection group is locked and carries no information about the current request on either line. Information on the present switch request state can be obtained from the *request* field of the *apstx* parameter.
- b. SSF and FOP indicate failures of the secondary section. These values are included because they take precedence over failures of the primary section and all external switch requests, with the exception of the lockout, when determining the selector position.
- c. The RENAME state is normally only a transient state and therefore does not appear in the response. However under certain far-end lockout and reset conditions, the rename state may be a persistent state.

Table 2-449. SWREQ values for *protype*=1+1_BIDIR

Protection Group Type	LO	FS	SF	SD	MS	WTR	EX	DNR	NR
1+1_BIDIR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The following values are not necessarily applicable to all products.

- AL: Autolock
- INHBT: Inhibit protection switching
- LO: Lockout protection switching
- SSF: Secondary Section Failure
- FOP: Failure of Protocol
- FS: Forced Switch
- SF: Signal Fail
- SD: Signal Degrade
- MS: Manual Switch
- WTR: Wait to Rename/Restore
- EX: Exerciser
- RENAME: Rename
- DNR: Do Not Revert
- NR: No Request

EXAMPLE INPUT/OUTPUT

Per standards, the order of the parameters within the spec_block of the command response is arbitrary. The order of these parameters in the following examples represents one possible ordering. The actual order may be different.

The following example retrieves **1+1EQPT** protection group information.

```
RTRV-PROTN-GRP:TID-123:all:123456::1+1eqpt;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
"main:protype=1+1eqpt,cst=0C-48,side1=main-1,side2=main-  
2,actunit=main-1,swreq=nr"  
;
```

The following example retrieves **1+1** optical protection group information.

```
RTRV-PROTN-GRP:TID-123:all:123456::1+1;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
"fn-a-1:protype=1+1,cst=0C3,side1=fn-a-1-1,side2=fn-a-2-1,actunit=  
fn-a-2-1,swreq=fs"  
;
```

Beginning in Release 5.2, the response to the retrieval of a **1+1** optical protection group will also contain the *rme* and *wtr* parameters as shown below.

```
RTRV-PROTN-GRP:TID-123:all:123456::1+1;
TID-123 98-01-01 08:00:00
M 123456 COMPLD
"fn-a-1:protype=1+1,cst=OC3,side1=fn-a-1-1,side2=fn-a-2-1,actunit=
fn-a-2-1,rme=enable,swreq=fs,wtr=10"
;
```

Beginning in Release 6.0, the linear protection group identified by a line-pair aid in the previous example is identified by a slot 1 line aid as shown below.

```
RTRV-PROTN-GRP:TID-123:all:123456::1+1;
TID-123 98-01-01 08:00:00
M 123456 COMPLD
"fn-a-1-1:protype=1+1,cst=OC3,side1=fn-a-1-1,side2=fn-a-2-1,actunit=
fn-a-2-1,rme=enable,swreq=fs,wtr=10"
;
```

Beginning in Release 6.0, all path protection groups are reported using logical ring channel aids. Consequently, unless otherwise specified, the following UPSR examples should be considered invalid in Release 6.0.

The following example retrieves STS-n UPSR protection group information.

```
RTRV-PROTN-GRP:TID-123:all:123456::UPSR;
TID-123 98-01-01 08:00:00
M 123456 COMPLD
"m-1-1:protype=upsr,cst=sts1,side1=b1-1-1,side2=b2-1-1,actunit=
b1-1-1,swreq=sf"
"m-1-30:protype=upsr,cst=sts1,side1=b1-1-30,side2=b2-1-30,actunit=
b1-1-30,swreq=sf"
"m-1-41:protype=upsr,cst=sts1,side1=b1-1-41,side2=b2-1-41,actunit=
b1-1-41,swreq=sf"
"b-1-1:protype=upsr,cst=sts1,side1=m1-1-1,side2=m2-1-1,actunit=
m1-1-2,swreq=sf"
"b-1-30:protype=upsr,cst=sts1,side1=m1-1-30,side2=m2-1-30,actunit=
m1-1-30,swreq=sf"
"b-1-41:protype=upsr,cst=sts1,side1=m1-1-41,side2=m2-1-41,actunit=
m1-1-41,swreq=sf"
;
```

The following example retrieves VT1.5 UPSR protection group information.

```
RTRV-PROTN-GRP:TID-123:all:123456::UPSR;
TID-123 98-01-01 08:00:00
M 123456 COMPLD
"m-1-1-1-1:protype=upsr,cst=vt1,side1=b1-1-1-1-1,side2=b2-1-1-1-1,
actunit=b1-1-1-1-1,swreq=nr"
"m-1-4-1-1:protype=upsr,cst=vt1,side1=b1-1-1-1-2,side2=b2-1-1-1-2,
actunit=b1-1-1-1-2,swreq=sf"
"m-1-8-1-1:protype=upsr,cst=vt1,side1=b1-1-2-1-3,side2=b2-1-2-1-3,
actunit=b1-1-41,swreq=nr"
"b-1-1-1-1:protype=upsr,cst=vt1,side1=m1-1-1-1-1,side2=m2-1-1-1-1,
actunit=m1-1-1-1-1,swreq=sd"
"b-1-1-1-2:protype=upsr,cst=vt1,side1=m1-1-4-1-1,side2=m2-1-4-1-1,
actunit=m1-1-4-1-1,swreq=nr"
"b-1-2-1-3:protype=upsr,cst=vt1,side1=m1-1-8-1-1,side2=m2-1-8-1-1,
actunit=m2-1-8-1-1,swreq=sf"
;
```

The following UPSR examples are valid beginning in Release 6.0.

The following example retrieves STS-n UPSR protection group information.

```
RTRV-PROTN-GRP:TID-123:all:123456::UPSR;
TID-123 98-01-01 08:00:00
M 123456 COMPLD
"m1-1-1:protype=upsr,cst=sts1,side1=g1-1-1,side2=g2-1-1,actunit=
g1-1-1,swreq=sf"
"m2-1-1:protype=upsr,cst=sts1,side1=g1-1-1,side2=g2-1-1,actunit=
g1-1-1,swreq=sf"
"g1-1-1:protype=upsr,cst=sts1,side1=m1-1-1,side2=m2-1-1,actunit=
m1-1-2,swreq=sf"
"g2-1-1:protype=upsr,cst=sts1,side1=m1-1-1,side2=m2-1-1,actunit=
m1-1-2,swreq=sf"
;
```


The following example retrieves VT1.5 UPSR protection group information.

```
RTRV-PROTN-GRP:TID-123:all:123456::UPSR;
TID-123 98-01-01 08:00:00
M 123456 COMPLD
"m1-1-1-1-1:prototype=upsr,cst=vt1,side1=d1-1-1-1-1,side2=d2-1-1-1-1,
actunit=d1-1-1-1-1,swreq=nr"
"m2-1-1-1-1:prototype=upsr,cst=vt1,side1=d1-1-1-1-1,side2=d2-1-1-1-1,
actunit=d1-1-1-1-1,swreq=nr"
"d1-1-1-1-1:prototype=upsr,cst=vt1,side1=m1-1-1-1-1,side2=m2-1-1-1-1,
actunit=m1-1-1-1-1,swreq=sd"
"d2-1-1-1-1:prototype=upsr,cst=vt1,side1=m1-1-1-1-1,side2=m2-1-1-1-1,
actunit=m1-1-1-1-1,swreq=sd"
;
```

The following example retrieves BLSR protection group (main-1) information for a DMX NE.

```
RTRV-PROTN-GRP:TID-123:main-1:123456::2F;
TID-123 02-01-01 08:00:00
M 123456 COMPL
"main-1:prototype=2F,pgrate=0C48,east=main-2-1,west=main-1-
1,wtr=5,rid=\"JERSEY\",ringndst=IDLE,elprotnsw=SUCCESS,wlprotnsw=SUCCE
SS,eswreq=NR,wsreq=NR,eapssw=NR,eapsdnid=1,eapssnid=2,eapsprotn=0,eap
schst=IDLE,wapssw=NR,wapsdnid=1,wapssnid=0,wapsprotn=0,wapschst=IDLE"
;
```

Beginning in Release 3.0, the previous example is replaced by the following and includes support for automatic ring discovery.

```
RTRV-PROTN-GRP:TID-123:main-1:123456::2F;
TID-123 02-01-01 08:00:00
M 123456 COMPL
"main-1:prototype=2F,pgrate=0C48,east=main-2-1,west=main-1-
1,wtr=5,rid=\"JERSEY\",ard=ENABLE,ringndst=IDLE,elprotnsw=SUCCESS,wlpr
otnsw=SUCCESS,eswreq=NR,wsreq=NR,eapssw=NR,eapsdnid=1,eapssnid=2,eaps
protn=0,eapschst=IDLE,wapssw=NR,wapsdnid=1,wapssnid=0,wapsprotn=0,waps
chst=IDLE"
;
```

Beginning in Release 3.1, the previous example is replaced by the following and includes support for circuit audits and automatic squelch map generation.

```
RTRV-PROTN-GRP:TID-123:main-1:123456::2F;
TID-123 02-01-01 08:00:00
M 123456 COMPL
"main-1:prototype=2F,pgrate=0C48,east=main-2-1,west=main-1-
1,wtr=5,rid="JERSEY",ard=ENABLE,ringndst=IDLE,elprotnsw=SUCCESS,wlpr
otnsw=SUCCESS,eswreq=NR,wsreq=NR,eapssw=NR,eapsdnid=1,eapssnid=2,eaps
protn=0,eapschst=IDLE,wapssw=NR,wapsdnid=1,wapssnid=0,wapsprotn=0,waps
chst=IDLE,rcae=ENABLE,rcamode=ENABLE,rcmode=AUTO"
;
```

Beginning in Release 4.0, the previous example is replaced by the following and includes support for Invalid VT BLSR alarm level provisioning.

```
RTRV-PROTN-GRP:TID-123:main-1:123456::2F;
TID-123 02-01-01 08:00:00
M 123456 COMPL
"main-1:prototype=2F,pgrate=0C48,east=main-2-1,west=main-1-
1,wtr=5,rid="JERSEY",ard=ENABLE,ringndst=IDLE,elprotnsw=SUCCESS,wlpr
otnsw=SUCCESS,eswreq=NR,wsreq=NR,eapssw=NR,eapsdnid=1,eapssnid=2,eaps
protn=0,eapschst=IDLE,wapssw=NR,wapsdnid=1,wapssnid=0,wapsprotn=0,waps
chst=IDLE,rcae=ENABLE,rcamode=ENABLE,rcmode=AUTO,ivtbaalmvl=NA"
;
```

Beginning in Release 6.0, the linear protection group identified by a line-pair aid in the previous example is identified by a slot 1 line aid as shown below.

```
RTRV-PROTN-GRP:TID-123:main-1-1:123456::2F;
TID-123 02-01-01 08:00:00
M 123456 COMPL
"main-1-1:prototype=2F,pgrate=0C48,east=main-2-1,west=main-1-
1,wtr=5,rid="JERSEY",ard=ENABLE,ringndst=IDLE,elprotnsw=SUCCESS,wlpr
otnsw=SUCCESS,eswreq=NR,wsreq=NR,eapssw=NR,eapsdnid=1,eapssnid=2,eaps
protn=0,eapschst=IDLE,wapssw=NR,wapsdnid=1,wapssnid=0,wapsprotn=0,waps
chst=IDLE,rcae=ENABLE,rcamode=ENABLE,rcmode=AUTO,ivtbaalmvl=NA"
;
```

The following example retrieves **1+1_OPTM** optical protection group information.

```
RTRV-PROTN-GRP:TID-123:all:123456::1+1_OPTM;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
"fn-d-1:prototype=1+1_OPTM,cst=OC3,side1=fn-d-1-1,side2=fn-d-2-1,  
actunit=fn-d-2-1,apsrcv=\"WTR,1,1,1+1\",apstx=\"RR,1,1,1+1\",  
swreq=WTR"  
;
```

Note, the *wtrename* parameter is not reported in the response to the **RTRV-PROTN-GRP** command. It is a system level parameter which is reported in the response to the **RTRV-SYS** command.

Beginning in Release 5.1, the response to the previous example includes additional information in the *apsrcv* and *apstx* parameters as shown.

```
RTRV-PROTN-GRP:TID-123:all:123456::1+1_OPTM;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
"fn-d-1:prototype=1+1_OPTM,cst=OC3,side1=fn-d-1-1,side2=fn-d-2-1,  
actunit=fn-d-2-1,apsrcv=\"WTR,1,1,1+1,0\",  
apstx=\"RR,1,1,1+1,0\",swreq=WTR"  
;
```

Beginning in Release 6.0, the linear protection group identified by a line-pair aid in the previous example is identified by a slot 1 line aid as shown below.

```
RTRV-PROTN-GRP:TID-123:all:123456::1+1_OPTM;  
TID-123 98-01-01 08:00:00  
M 123456 COMPLD  
"fn-d-1-1:prototype=1+1_OPTM,cst=OC3,side1=fn-d-1-1,side2=fn-d-2-1,  
actunit=fn-d-2-1,apsrcv=\"WTR,1,1,1+1,0\",  
apstx=\"RR,1,1,1+1,0\",swreq=WTR"  
;
```

The following example retrieves **1+1_BIDIR** optical protection group information.

```
RTRV-PROTN-GRP:TID-123:all:123456::1+1_BIDIR;
TID-123 98-01-01 08:00:00
M 123456 COMPLD
"fn-d-1:prototype=1+1_BIDIR,cst=OC3,side1=fn-d-1-1,side2=fn-d-2-1,
actunit=fn-d-2-1,apsrcv=\"DNR,1,1,1+1,BIDIR\",
apstx=\"RR,1,1,1+1,BIDIR\",swreq=DNR"
;
```

Beginning in Release 5.2, the response to the retrieval of a **1+1_BIDIR** optical protection group will also contain the *rme* and *wtr* parameters as shown below.

```
RTRV-PROTN-GRP:TID-123:all:123456::1+1_BIDIR;
TID-123 98-01-01 08:00:00
M 123456 COMPLD
"fn-d-1:prototype=1+1_BIDIR,cst=OC3,side1=fn-d-1-1,side2=fn-d-2-1,
actunit=fn-d-2-1,apsrcv=\"WTR,1,1,1+1,BIDIR\",
apstx=\"RR,1,1,1+1,BIDIR\",rme=ENABLE,swreq=WTR,wtr=10"
;
```

Beginning in Release 6.0, the linear protection group identified by a line-pair aid in the previous example is identified by a slot 1 line aid as shown below.

```
RTRV-PROTN-GRP:TID-123:all:123456::1+1_BIDIR;
TID-123 98-01-01 08:00:00
M 123456 COMPLD
"fn-d-1-1:prototype=1+1_BIDIR,cst=OC3,side1=fn-d-1-1,side2=fn-d-2-1,
actunit=fn-d-2-1,apsrcv=\"WTR,1,1,1+1,BIDIR\",
apstx=\"RR,1,1,1+1,BIDIR\",rme=ENABLE,swreq=WTR,wtr=10"
;
```

The following example retrieves the main **1+1** optical protection group information from subshelf #2.

```
RTRV-PROTN-GRP:TID123:2-main-1-1:123456::1+1;
TID123 10-12-01 08:00:00
M 123456 COMPLD
"2-main-1-1:protype=1+1,cst=0C12,side1=2-main-1-1,side2=2-main-2-
1,actunit=2-main-1-1,swreq=nr"
;
```

The following example retrieves the **1+1EQPT** protection group information for FNA in subshelf #2.

```
RTRV-PROTN-GRP:TID123:2-fn-a:123456::1+1EQPT;
TID123 10-12-01 08:00:00
M 123456 COMPLD
"2-fn-a:protype=1+1EQPT,cst=56DS1E1,side1=2-fn-a-1,
side2=2-fn-a-2,actunit=2-fn-a-1,swreq=nr"
;
```

ERROR RESPONSES

Refer to the error responses in **RTRV-HDR**. The error responses listed there may also apply.

In system releases for which the only permissible value of **aid** is ALL, if an **aid** other than "ALL" is entered, then the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid */
;
```

If the system receives a **RTRV-PROTN-GRP** command in which both the **aid** and **rid** are specified and the value of **aid** is not ALL, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, inconsistent aid and rid */
;
```

If the system received a **RTRV-PROTN-GRP** command in which the specified **aid** and **prototype** parameters are not consistent then the following error response is returned.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, aid not consistent with prototype */
;
```

If the system received a **RTRV-PROTN-GRP** command in which the specified **aid** is not a valid protection group AID then the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, not a valid protection group aid */
;
```

Beginning in Release 5.1, if the system receives a **RTRV-PROTN-GRP** command in which the both **rid** and **aid** are specified, but the value of **aid** is not ALL, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, aid must be ALL when rid is specified */
;
```

If the system receives a **RTRV-PROTN-GRP** command in which **rid** is specified but is not applicable to the protection group type specified in the **protype** parameter, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, rid not allowed for specified protype */
;
```

If the system receives a **RTRV-PROTN-GRP** command in which the specified **rid** is not enclosed in quotes, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, rid is not quoted */
;
```

RELATED TL1 MESSAGES

ED-MAP-RING

ED-PROTN-GRP

ENT-rr

SET-MAP-RING

NAME

RTRV - RADIUS - SERVER: Retrieve RADIUS Server

The **RTRV - RADIUS - SERVER** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged or Administration access.

INPUT FORMAT

RTRV - RADIUS - SERVER:*tid::ctag;*

DESCRIPTION

The **RTRV - RADIUS - SERVER** command retrieves RADIUS servers' information on the NE, as provisioned by the **ENT - RADIUS - SERVER** command.

Execution of this command will not be recorded in the Security log.

The **RTRV - RADIUS - SERVER** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-450. RTRV - RADIUS - SERVER Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the network element (NE) fully complies with the request, the following response is returned, with the ordering of primary server entry followed by the secondary server entry if both entries exist:

```
sid date time
M ctag COMPLD
["ipaddr=x,port=x,role=x,secret=x"]
["ipaddr=x,port=x,role=x,secret=x"]
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-451. RTRV - RADIUS - SERVER Output Parameters

Parameter Name	Description of Output Parameters
<i>ipaddr</i>	IP Address. It indicates the IP address of the RADIUS server. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255.
<i>port</i>	Port Number. It indicates the UDP port number for RADIUS. The valid values are integers of 1 to 65535.
<i>role</i>	Role. It indicates the role of the RADIUS server, functioning as a primary server or a secondary server. Valid values are PRIMARY and SECONDARY .
<i>secret</i>	Secret. The shared secret between the RADIUS client and the RADIUS server. It is a string of 1 to 128 characters.

EXAMPLE INPUT/OUTPUT

If the NE fully complies with **RTRV-RADIUS-SERVER**, the following output

```
RTRV-RADIUS-SERVER:LT-TID123::123456;

IP 123456
<

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
"ipaddr=210.10.10.1,port=1812,role=primary,secret=wer#76%ioplk>897"
"ipaddr=210.10.10.2,port=1812,role=secondary,secret=a54321U#76%^fghm"
;
```

message is returned:

If the NE fully complies with **RTRV-RADIUS-SERVER**, the following output message is returned if there is no RADIUS server provisioned:

```
RTRV-RADIUS-SERVER:LT-TID123::123456;

LT-TID123 00-10-26 16:42:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if an **aid** value is entered:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier */
;
```

RTRV-RADIUS-SERVER
TL1 Message Details

RTRV-RADIUS-SERVER
Alcatel-Lucent 1665 DMX, R9.0

RELATED TL1 MESSAGES

ENT - RADIUS - SERVER

DLT - RADIUS - SERVER

ENT - SYS

RTRV - SYS

NAME

RTRV-RC-NEIGHBOR: Retrieve Routing Controller Neighbor

The **RTRV-RC-NEIGHBOR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-RC-NEIGHBOR:*tid::ctag*;

DESCRIPTION

The **RTRV-RC-NEIGHBOR** command retrieves all neighboring E-NNI Level 1 Routing Controllers (RCs) of the local node, as set by the **ENT-RC-NEIGHBOR** command.

Execution of this command will not be recorded in the Security log.

The **RTRV-RC-NEIGHBOR** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-452. RTRV-RC-NEIGHBOR Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the network element (NE) fully complies with the request, the following response is returned:

```
sid date time
M ctag COMPLD
  "remrcid=x,remrcscn=x"
  .....
  "remrcid=x,remrcscn=x"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-453. RTRV-RC-NEIGHBOR Output Parameters

Parameter Name	Description of Output Parameters
<i>remrcid</i>	Remote Routing Controller Identifier. The RC ID of a neighboring routing controller. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255.
<i>remrcscn</i>	Remote Routing Controller SCN IP address. The SCN IP address of a neighboring routing controller. It has an IPv4 address format which consists of four dot-separated decimal numbers ranging from 0 to 255.

EXAMPLE INPUT/OUTPUT

If the NE fully complies with **RTRV-RC-NEIGHBOR**, the following output message

```
RTRV-RC-NEIGHBOR:LT-TID123::123456;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
  "remrcid=10.10.10.1,remrcscn=220.10.10.1"  
;
```

is returned:

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if an **aid** value is entered:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier */  
;
```

RELATED TL1 MESSAGES

ENT-RC-NEIGHBOR

DLT-RC-NEIGHBOR

NAME

RTRV - ROUTE - SCN: Retrieve manual IP route(s) for Signaling Communications Network (SCN)

The **RTRV - ROUTE - SCN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-ROUTE-SCN:*tid:[aid]:ctag;*

DESCRIPTION

The **RTRV - ROUTE - SCN** command retrieves the manual IP route(s) for the Signaling Communications Network (SCN), as set by the **ENT - ROUTE - SCN** command. SCN is a data communications network for carrying optical control plane signaling and routing messages.

Execution of this command will not be recorded in the Security log.

The **RTRV - ROUTE - SCN** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-454. RTRV-ROUTE-SCN Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> value may be ALL or null. Specifying the <i>aid</i> is optional.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the network element (NE) fully complies with the request, the following response is returned:

```

sid date time
M ctag COMPLD
"dest_ip=x.x.x.x,dest_mask=x.x.x.x,outgoing_intf=x[,nexthop_ip=
x.x.x.x]"
.      .      .
.      .      .
"dest_ip=x.x.x.x,dest_mask=x.x.x.x,outgoing_intf=x[,nexthop_ip=
x.x.x.x]"
;
```

The output entries are sorted on the **dest_ip** by increasing values and then on the **dest_mask** length (i.e. number of bit set to 1) by decreasing values.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-455. RTRV-ROUTE-SCN Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
dest_ip	Destination IP address. This indicates a destination IP address. It consists of four dot-separated decimal numbers ranging from 0 to 255. The combination of this parameter, dest_mask and outgoing_intf identifies an unique manual route entry.
dest_mask	Destination IP Subnet Mask. This indicates the 32-bit IP subnet mask, consisting of four dot-separated decimal numbers ranging from 0 to 255.
outgoing_intf	Outgoing Interface. This indicates the outgoing interface used to send the IP packets to the destination IP address. It specifies a LAN or DCC AID address.

Table 2-455. RTRV-ROUTE-SCN Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>nexthop_ip</i>	Next Hop IP Address. This is the IP address of the next hop (router) to reach the destination IP address. It consists of four dot-separated decimal numbers ranging from 0 to 255. It is not reported if the outgoing interface is a DCC.

EXAMPLE INPUT/OUTPUT

The following example shows **RTRV-ROUTE-SCN** results:

```
RTRV-ROUTE-SCN:LT-TID123::123456;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
  "dest_ip=192.200.10.1,dest_mask=255.255.255.255,outgoing_intf=dcc-m-1"  
  "dest_ip=198.100.20.10,dest_mask=255.255.255.0,outgoing_intf=LAN-3,  
  nexthop_ip=198.100.20.20"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the *aid* value is invalid:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier */  
;
```

RTRV-ROUTE-SCN
TL1 Message Details

RTRV-ROUTE-SCN
Alcatel-Lucent 1665 DMX, R9.0

RELATED TL1 MESSAGES

ENT - ROUTE - SCN

DLT - ROUTE - SCN

NAME

RTRV-RPR: Retrieve Resilient Packet Ring (RPR)

The **RTRV-RPR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-RPR:*tid:[aid]:ctag*;

DESCRIPTION

The **RTRV-RPR** command retrieves the attributes of an RPR Span or RPR Interface (IF). An RPR instance consists of an IF containing the common part, and two directional Spans.

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

This command applies to the following packs:

- LNW78

INPUT PARAMETERS

Table 2-456. RTRV-RPR Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-456. RTRV-RPR Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of an RPR Span port. When this is also an RPR IF, both Span and IF parameters are retrieved. Refer to the AID Table in Appendix A for valid AIDs. This parameter is optional. Default value is "ALL"
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the Network Element (NE) fully complies with the **RTRV-RPR** request, the following normal completion response is returned.

```
sid date time
M ctag COMPLD
"aid::spec_block"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-457. RTRV-RPR Output Parameters

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of an RPR Span VCG. When this is also an RPR IF, both Span and IF parameters are retrieved. Refer to the AID Table in Appendix A for valid AIDs.
<i>spec_block</i>	Specific parameter Block: The <i>spec_block</i> parameters are defined in the following table. All parameters are RPR IF unless indicated as RPR Span.

Table 2-458. RTRV-RPR Output *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description
<i>enh_brdgmd</i>	Enhanced Bridging Mode. When enabled, the RPR bridge learns RPR node addresses to obtain spatial-reuse. When disabled, 802.17 standard "basic" bridging is used. Values: ■ ENABLE ■ DISABLE
<i>atd_tmr</i>	Attribute Discovery (ATD) Timer. The period between ATD messages. Value: an integer in the range 1 - 200, representing 50 millisecond units.
<i>prot_wtr</i>	RPR Protection Wait-to-Restore. The protected state is maintained for the duration of this timer after a fault clears. Value: an integer in the range 0 - 1440, representing seconds.
<i>prot_fasttmr</i>	RPR Protection Fast Timer. The interval between fast Topology and Protection messages. Value: an integer in the range 1 - 20, representing milliseconds.
<i>prot_slowtmr</i>	RPR Protection Slow Timer. The interval between slow Topology and Protection messages. Value: an integer in the range 1 - 200, representing 50 millisecond units.
<i>prot_hotmr</i>	RPR Protection Holdoff Timer. The delay after an external defect occurs, to allow a lower layer to protect, before RPR protection is invoked. Note that to hold off for defects severe enough to cause keep-alive timeout, <i>prot_katmr</i> should be set to the same value or higher. Value: an integer in the range 0 - 250, representing milliseconds.
<i>prot_katmr</i>	RPR Protection Keep AliveTimer. The time after which a span is declared failed if no Single-Choke Fairness message is received. Value: an integer in the range 2 - 50, representing milliseconds. Starting in Release 7.0: Value: an integer in the range 2 - 250, representing milliseconds.
<i>ptqsize</i>	Primary Transit Queue Size.

Table 2-458. RTRV-RPR Output *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description
	Value: an integer in the range 2000 - 51200, in number of bytes.
<i>stqsize</i>	Secondary Transit Queue Size. Value: an integer in the range 2000 - 4194304, in number of bytes.
<i>stqfullthr</i>	Secondary Transit Queue Full Threshold. The STQ occupancy above which secondary transit traffic has priority over any add traffic. Value: an integer in the range 2000 - 4194304, in number of bytes.
<i>tstab_tmr</i>	Topology Stability Timer. The period for determining topology stabilization. Value: an integer in the range 10 - 100, in milliseconds.
<i>fair_agec</i>	Fairness Age Coefficient. Controls the amount of history kept in a rate estimator. Value: an integer in the range 0 - 4, representing the logarithm of the actual coefficient.
<i>fair_ageint</i>	Fairness Aging Interval. The period between rate calculations, determined by the line rate. Value: an integer in the range 100 - 400, in microseconds.
<i>fair_ramp</i>	Fairness Ramp Coefficient. The coefficient for ramping a rate. Value: an integer in the range 4 - 9, representing the logarithm of the actual coefficient.
<i>fair_lp</i>	Fairness Low Pass Coefficient. The relative weight of low-pass filter rate counters in successive aging intervals. Value: an integer in the range 4 - 11, representing the logarithm of the actual coefficient.
<i>fair_advert</i>	Fairness Advertisement Ratio. The ratio between bandwidth for fairness control messages and total link capacity. Value: an integer in the range 1 - 40, in units of 0.00025.
<i>fair_stqhi</i>	Fairness STQ High Threshold. Maximum STQ occupancy above which fairness-eligible add frames are no longer admitted to the ring. Value: an integer in the range 0 - 1000, representing tenths of percent of <i>stqfullthr</i> .
<i>fair_stqlo</i>	Fairness STQ Low Threshold. STQ occupancy above which congestion on the outbound link is imminent.

Table 2-458. RTRV-RPR Output *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description
	Value: an integer in the range 0 - 1000, representing tenths of percent of <i>fair_stghi</i> .
<i>fair_maxrate</i>	Fairness Maximum Add Rate. The maximum rate that fairness-eligible (best-effort) traffic can be added to each ringlet. This is an RPR Span parameter. Value: an integer in the range 0 - 1200, in units of Mb/s. Values over the line rate are interpreted as line rate.
<i>rsv_a</i>	Reserved Class A Add Rate. The maximum rate that Class A traffic is allowed to be added to each ringlet. It controls the Class A shaper. This is an RPR Span parameter. Value: an integer in the range 0 - 1200, in units of Mb/s.
<i>rsv_a0</i>	Reserved Class A0 Add Rate. The subdivision of Class A reservation not supportable as Class A1. This is calculated by the RPR MAC. This is an RPR Span parameter. Value: an integer in the range 0 - 1200, in units of Mb/s.
<i>rsv_b</i>	Reserved Class B Add Rate. The maximum rate that Class B traffic is allowed to be added to each ringlet. It controls the Class B shaper. This is an RPR Span parameter. Value: an integer in the range 0 - 1200, in units of Mb/s.
<i>nbr_vld</i>	Span neighbor valid. This is an RPR Span parameter. Values: ■ YES (the neighbor MAC address is known to be correct) ■ NO (the neighbor cannot communicate, its address is last known)

EXAMPLE INPUT/OUTPUT

The following is an example output for an IF VCG:

RTRV-RPR:TID123:d1-v1:123456;

IP 123456

<

LT-PF-3000 98-01-01 08:00:00

M 123456 COMPLD

"d1-v1::enh_brdgmd=ENABLE,atd_tmr=20,tstab_tmr=40"

"d1-v1::ptqsize=5000,stqsize=262144,stqfullthr=260144"

"d1-v1::prot_wtr=0,prot_fasttmr=10,prot_slowtmr=20"

"d1-v1::prot_katmr=3,fair_agec=2,fair_ageint=100,fair_ramp=6"

"d1-v1::fair_lp=6,fair_advert=5,fair_stqhi=250,fair_stqlo=500"

"d1-v1::rsv_a=0,rsv_b=0,rsv_a0=0,nbr_vld=YES"

;

Starting in Release 7.0, the following is an example output for an IF VCG:

RTRV-RPR:TID123:d1-v1:123456;

IP 123456

<

LT-PF-3000 98-01-01 08:00:00

M 123456 COMPLD

"d1-v1::enh_brdgmd=ENABLE,atd_tmr=20,tstab_tmr=40"

"d1-v1::ptqsize=5000,stqsize=262144,stqfullthr=260144"

"d1-v1::prot_wtr=0,prot_fasttmr=10,prot_slowtmr=20,prot_htmr=0"

"d1-v1::prot_katmr=3,fair_agec=2,fair_ageint=100,fair_ramp=6"

"d1-v1::fair_lp=6,fair_advert=5,fair_stqhi=250,fair_stqlo=500"

"d1-v1::rsv_a=0,rsv_b=0,rsv_a0=0,nbr_vld=YES,fair_maxrate=1200"

;

The following is an example output for a span VCG:

RTRV-RPR:TID123:d1-v2:123456;

IP 123456

<

LT-PF-3000 98-01-01 08:00:00

M 123456 COMPLD

"d1-v2::rsv_a=0,rsv_b=0,rsv_a0=0,nbr_vld=YES,fair_maxrate=1200"

;

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

RELATED TL1 MESSAGES

ED-RPR, ED-VCG-RPR, RTRV-VCG-RPR

NAME

RTRV-rr: Retrieve rr

The **RTRV-rr** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance, and Reports Only access.

INPUT FORMAT

RTRV-modifier:*tid:aid:ctag*;

DESCRIPTION

The **RTRV-rr** command can be initiated by a user to retrieve the currently provisioned parameter values for specific types of transmission object entities in the NE. This command retrieves all parameter settings that are provisionable via the **ENT-rr** command pertaining to the addressed NE, reported one line per entity.

Beginning in Release 3.1, the user may view the **tcamd** parameter without the existence of a channel state.

Beginning in Release 3.1, the **pmmd** parameter is longer supported.

Beginning in Release 4.0, any statement about 1+1 applications applies to both **1+1** and **1+1_OPTM**, unless explicitly stated otherwise (or specifying the differences between the two).

Beginning in Release 5.1, any statement about 1+1 applications also applies to **1+1_BIDIR**, unless explicitly stated otherwise (or specifying the differences between the applications).

Beginning in Release 7.1, this command also applies to lines associated with client ports set to one of the OCn values (see **RTRV-OTPE:signaltype**). Some OCn parameters do not apply; see the individual parameter descriptions for exceptions.

Execution of this command is not recorded in the Security log.

The **RTRV-rr** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-459. RTRV-rr Input Parameters (cont 1 of 3)

Parameter Name	Description
<i>modifier</i>	This is the message modifier for the RTRV-rr message and has one of the following values: ■ T1 This is for DS1 ports. ■ E1 This is for E1 ports. ■ T3 This is for DS3 ports. ■ EC1 This is for EC-1 ports. ■ OC48 This is for optical OC-48 lines. ■ OC12 This is for optical OC-12 lines. ■ OC3 This is for optical OC-3 lines. ■ OC192 This is for optical OC-192 lines. ■ STNA This is for unprovisioned (unavailable) lines. This <i>modifier</i> does not apply for client ports; see RTRV-OTPE. ■ STS1 This is for STS-1 channels. ■ VT1 This is for VT1.5 channels. ■ VC12 This is for VC12 channels. ■ STS3c This is for STS-3c channels. ■ STS12c This is for STS-12c channels. ■ STS48c This is for STS-48c channels. The <i>modifier</i> must match the entity addressed by <i>aid</i>.
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for input parameter syntax and description of this parameter.

Table 2-459. RTRV-rr Input Parameters (cont 2 of 3)

Parameter Name	Description
aid	Access identifier. This is the address of the entity for which the RTRV-rr command is intended. The aid is a required parameter and must reference a valid entity of the NE in order to be accepted. For the valid aids, refer to Appendix A. Depending on the modifier that is being addressed, different aid Format/Rules might apply. aid Guidelines: ALL is allowed for the following modifiers: In a multi-shelf DCS system, ALL retrieves all information associated with that modifier for the main shelf only. To retrieve all information associated with that modifier for a subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number. OC-n STNA STS-n T1 E1 T3 Port aid is used when addressing the following ports: T1 E1 T3 EC1 Beginning in Release 6.0, Ring Channel aids are used when addressing channels in any application. All the remaining statements about channel aid usage in this section are no longer valid. STS-n Channel aids are used when addressing STS channels in 1+1, or UPSR OC-n interfaces. STS-n Channel aids are used when addressing STS channels in 0x1Sn OC-n interfaces.

Table 2-459. RTRV-rr Input Parameters (cont 3 of 3)

Parameter Name	Description
	STS-n Ring Channel aids are used when addressing channels associated with cross-connects without path protection in UPSR interfaces. STS-n Ring Channel aids are used when addressing STS channels in 2F BLSR OC-n interfaces. STS-n Channel or Ring Channel aids are used when addressing STS channels in 2F BLSR OC-n interfaces. VT Channel aids are used when addressing VT channels in 1+1, or UPSR OC-n interfaces. VT Channel aids are used when addressing VT channels in 0x1Sn OC-n interfaces. VT Ring Channel aids are used when addressing channels associated with cross-connects without path protection in UPSR interfaces. VT Ring Channel aids are used when addressing VT channels in 2F BLSR OC-n interfaces. VC Channel aids are used when addressing VC channels. ALL is not allowed as the aid for this command when the modifier is: VT1 VC12 Line Pair aids are used when addressing line pairs. Beginning in Release 6.0, Line Pair aids are not allowed. Line aids are used when addressing lines.
ctag	Correlation Tag. Refer to RTRV-HDR command for input parameter syntax and description of this parameter.

OUTPUT FORMAT

In response to a valid **RTRV-rr** command, an output report will be returned, sorted by alphanumeric order of the **aid** value. If the request includes an **aid** containing "all", and there are no entities that match the **modifier**, the request completes normally and an empty report is returned.

Though each example below shows output with only one format per report, the actual report may contain a mix of all the different example formats, depending on the different types of entities requested by the *aid*.

Following is a sample output from the NE in response to the incoming **RTRV-rr** command from the user with an *aid* that is either a channel or a low-speed port.

```
sid date time
M ctag COMPLD
  "aid:::spec_block:pst"
    :      :      :      :      :      :
    :      :      :      :      :      :
  "aid:::spec_block:pst"
;
```

The following is a sample output from the NE in response to the incoming **RTRV-rr** command from the user when the *aid* is a low-speed OC-n line.

```
sid date time
M ctag COMPLD
  "aid:::spec_block:pst:switch-state:switch-priority"
    :      :      :      :      :      :
    :      :      :      :      :      :
  "aid:::spec_block:pst:switch-state:switch-priority"
;
```

Beginning in Release 5.0, the following is a sample output from the NE in response to the incoming **RTRV-rr** command from the user when the *aid* is a low-speed OC-n line in a 0x1Sn application.

```
sid date time
M ctag COMPLD
  "aid:::spec_block:pst"
    :      :      :      :      :      :
    :      :      :      :      :      :
  "aid:::spec_block:pst"
;
```

The following is a sample output from the NE in response to the incoming **RTRV-rr** command from the user when the *aid* is a high-speed line in a non-1+1 application.

```
sid date time
M ctag COMPLD
  "aid::spec_block"
  "aid::spec_block"
;
```

Beginning in Release 7.0, the following is a sample output from the NE in response to the incoming **RTRV-rr** command when the *aid* is a high-speed line in a non-1+1 application.

```
sid date time
M ctag COMPLD
  "aid::spec_block:pst"
  "aid::spec_block:pst"
;
```

The following is a sample output from the NE in response to the incoming **RTRV-rr** command from the user when the *aid* is a high-speed line in a 1+1 application.

```
sid date time
M ctag COMPLD
  "aid::spec_block:switch-state:switch-priority"
  "aid::spec_block:switch-state:switch-priority"
;
```

The above output is no longer valid beginning in Release 3.1.1.

The following is a sample output from the NE in response to the incoming **RTRV-rr** command from the user when the *aid* is a high-speed line in a 1+1 application, beginning in Release 3.1.1.

```
sid date time
M ctag COMPLD
  "aid::spec_block::switch-state:switch-priority"
  "aid::spec_block::switch-state:switch-priority"
;
```

The following is a sample output from the NE in response to the incoming **RTRV-rr** command when the *aid* is a high-speed line in a 1+1 application, beginning in Release 7.0.

```
sid date time
M ctag COMPLD
  "aid::spec_block:pst:switch-state:switch-priority"
  "aid::spec_block:pst:switch-state:switch-priority"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The parameters listed there also apply to the **RTRV-rr** command. In addition, the following output parameters also apply to **RTRV-rr**:

Table 2-460. RTRV-rr Output Parameters (cont 1 of 4)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of the entity whose currently-provisioned values are being reported. In the output report, there will be one line (record) per <i>aid</i> . <i>aids</i> corresponding to unequipped ports, slots, channels and lines are not included in the output report. Refer to Appendix A: AID table for more information.

Table 2-460. RTRV-rr Output Parameters (cont 2 of 4)

Parameter Name	Description
	Port <i>aid</i> is used when reporting the following port types: T1 E1 T3 EC-1 Beginning in Release 6.0, Ring Channel <i>aids</i> are used when addressing any channel in any application. All the remaining statements about channel <i>aid</i> usage in this section are no longer valid. STS-n Channel <i>aids</i> are used when reporting STS channels in 1+1, or UPSR OC-n interfaces. STS-n Channel <i>aids</i> are used when reporting STS channels in 0x1Sn OC-n interfaces. STS-n Ring Channel <i>aids</i> are used when reporting STS channels in 2F BLSR OC-n interfaces. Ring Channel <i>aids</i> are used when reporting channels in applications with unprotected cross-connects. VT Channel <i>aids</i> are used when reporting VT channels in 1+1, or UPSR OC-n interfaces. VT Channel <i>aids</i> are used when reporting VT channels in 0x1Sn OC-n interfaces. VC Channel <i>aids</i> are used when reporting VC channels. OC-n Line <i>aids</i> are used when reporting OC-n lines.
<i>spec_block</i>	Specific block. This parameter field is used for returning the currently provisioned parameter values for the entities. Parameters within the <i>spec_block</i> are positionally independent and are specified using a name-defined construct of PARAMETER=<i>value</i> in a comma-separated list. The parameters are listed and explained in the <i>spec_block</i> table below.

Table 2-460. RTRV - rr Output Parameters (cont 3 of 4)

Parameter Name	Description
<i>pst</i>	Primary State. This parameter is reported to indicate the primary state of the port, channel, or line addressed by the <i>aid</i> field. The <i>pst</i> parameter has one of the following values. IS In Service. This specifies that the port/channel/line addressed by the <i>aid</i> is in the in-service state. OOS-MA-AS Out of service, memory administration. This specifies that the port/channel/line is in the state known as AUTO. OOS Out of service (“for Memory Administration” implied). This specifies that the port/channel/line addressed by the <i>aid</i> is in the non-monitored (NMON) state. Beginning in Release 5.0, an STSn cross-connected channel has a single <i>pst</i>, regardless of how many constituents it contains (see <i>crstat</i>). Beginning in Release 7.0, this parameter does not apply to LNW20 T3 ports when <i>pmd</i>=PORTLESS or UNAVAIL. This parameter applies to LNW20 T1 interfaces when the T3 port is set to <i>pmd</i>=PORTLESS, or <i>pmd</i>=PORTED and <i>tribmd</i>=CHAN.
<i>switch-state</i>	Switch State. This indicates whether the line is ACTIVE or STANDBY, corresponding to the state of the protection switch selectors. ACTIVE In a path-switched configuration, the line is always ACTIVE. In a 1+1 protected configuration, ACTIVE means the signal being received on this line is being selected by the near-end protection switch. In bidirectional 1+1 applications, ACTIVE also means that the signal transmitted by this line is being selected by the far end. For OC-N lines in a BLSR configuration, the OC-N line is always ACTIVE. STANDBY The line is not currently ACTIVE.
<i>switch-priority</i>	Switch Priority. This indicates the current protection switch priority.

Table 2-460. RTRV-rr Output Parameters (cont 4 of 4)

Parameter Name	Description
PROT-LOCKOUT	This prevents access to the protection line until the switch is reset by using the RLS-PROTNSW command.
FORCED	No automatic, forced, or manual switches will be done until the forced switch is reset by using the RLS-PROTNSW command. A LOCKOUT request will override a FORCED switch. Beginning in Release 3.1, if the <i>uniprotprio</i> parameter of the ENT-SYS command is set to SFPROT, a forced switch may be preempted by a failure of the protection line (side 2) in unidirectional 1+1 applications.
MANUAL	An external manual switch is active. A manual switch may be preempted by anything except another manual switch request. The manual switch may be reset using the RLS-PROTNSW command.
APS-LINE-FAIL	The line is currently in a failed or degraded state.
-	The switch is in its normal state.

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 1 of 19)

Parameter Name	Descriptions of Spec Block Parameters
	For each of the parameters listed below there is one or more parameter values listed. The use of the word "null" in the descriptions here implies that the parameter does not appear, or appears with no value (e.g., <i>ais=,bpv=</i> ;) in the command.
<i>elf</i>	Electrical Interface Type. This parameter reports the electrical interface type of the addressed port, when the port's circuit pack allows multiple interface types. Values: DS3 The port is a DS3 port; its parameters are retrieved with a RTRV-T3 command

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 2 of 19)

Parameter Name	Descriptions of Spec Block Parameters
	EC1 The port is an EC-1 port; its parameters are retrieved with a RTRV-EC1 command.
<i>ais</i>	Alarm Indication Signal. The <i>ais</i> parameter indicates if AIS should be inserted toward the optical fiber when LOS from the DSX is encountered at the port addressed by the <i>aid</i>. Beginning in Release 3.1, LOF is added to LOS as a condition for AIS insertion for T3 signals. This parameter is returned only when the modifier is T1 or T3. . Beginning in Release 3.1, this parameter is returned only when the modifier is T3. This parameter will have one of the following values: Y Insert AIS. N Do not insert AIS. This parameter does not apply to LNW20 T3 ports when <i>pmd</i>=PORTLESS or UNAVAIL.
<i>aisnc</i>	Alarm Indication Signal Notification Code for Non-Service Affecting conditions. This parameter is used to indicate the alarm level that is currently being used to indicate an incoming line or path AIS that is not service affecting. This parameter is removed beginning in Release 6.0. See RTRV-ASAP-ASGNMT and RTRV-ASAP-PROF. This parameter is reported when the modifier is a line or a channel. This parameter does not apply to VC12 channels. This parameter will have one of the following values. CR Applies only when the modifier is a line. MJ Applies only when the modifier is a line. MN Applies only when the modifier is a line or a channel. NA Applies only when the modifier is a line. NR Applies only when the modifier is a channel.

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 3 of 19)

Parameter Name	Descriptions of Spec Block Parameters
<i>aisnrsa</i>	Alarm Indication Signal Notification Code for Service Affecting conditions. This parameter reports the Alarm Level that is currently being used to indicate an incoming path AIS that is service affecting. This parameter will have one of the following values. This parameter is removed beginning in Release 6.0. See RTRV-ASAP-ASGNMT and RTRV-ASAP-PROF. This parameter is reported when the modifier is a channel. CR Applies when the modifier is an STS channel. MJ Applies when the modifier is a VT channel. VC Applies when the modifier is a VC12 channel. NA Applies when the modifier is a channel.
<i>bpv</i>	DS1 Bipolar Violation consequent actions. This parameter is reported to indicate if the BiPolar Violations (<i>bpv</i>) threshold crossing of the DS1 signal incoming from the DSX-1, for the DS1 port addressed by the <i>aid</i>, is being translated to outgoing far end DS1 signal LOS or LOF. This parameter is reported only when the modifier is T1. Note: The <i>bpv</i> parameter does not apply to the LNW18 12TMUX circuit pack. Note: The <i>bpv</i> parameter does not apply to the LNW20 48TMUXDS3EC1 circuit pack. Note: The <i>bpv</i> parameter does not apply to the LNW8 56DS1E1 circuit pack. Note: Beginning in Release 8.0, the <i>bpv</i> parameter does apply to the LNW8 56DS1E1 circuit pack. Note: The <i>bpv</i> parameter does apply to the LNW801 56DS1E1 circuit pack. This parameter will have one of the following values: N Incoming BPVs at the DS1 port are corrected by the port unit circuitry before the DS1 is mapped into the VT1.5 payload, and are not translated in the outgoing direction.

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 4 of 19)

Parameter Name	Descriptions of Spec Block Parameters																		
	Y If <i>linecde</i>=B8ZS, bpv threshold crossings are translated to LOF; if <i>linecde</i>=AMI, they are translated to LOS. Note: <i>bpv</i> should be set to Y for a DS1 port connected to a GR-8 compliant DLC terminal. This permits the DLC system to detect LOS or LOF and switch to protection.																		
<i>application</i>	This parameter specifies the protection mode of the interface in the system. Low-Speed Interfaces: For low-speed interfaces, this parameter is used to report the protection mode of the OC-n low-speed interface. This parameter is reported when the <i>modifier</i> is a low-speed OC-n line and only when the NE addressed by the TID is equipped with OC-n interfaces in a low-speed slot. Possible values are: <table> <tr> <td>1+1</td><td>1+1 line protected; designates that the optical line pair is provisioned to unidirectional 1+1 protection mode.</td></tr> <tr> <td>1+1_OPTM</td><td>Beginning in Release 4.0, bidirectional optimized 1+1 protection switching is supported, as described in ITU-T G.841 Annex B, 10/98 (including Corrigendum 1, 08/02).</td></tr> <tr> <td>1+1_BIDIR</td><td>Beginning in Release 5.1, SONET bidirectional 1+1 protection switching is supported.</td></tr> <tr> <td>UPSR</td><td>UPSR Path protected; designates that the optical line pair is provisioned to UPSR protection mode.</td></tr> <tr> <td>2F</td><td>2-Fiber BLSR line protected, where the line (port) in slot 1 is the west port and the line (port) in slot 2 is the east port.</td></tr> <tr> <td>0x1S1</td><td>Beginning in Release 5.0, the slot 1 line is operating unprotected. The slot 2 line is not monitored.</td></tr> <tr> <td>0x1S2</td><td>Beginning in Release 5.0, the slot 2 line is operating unprotected. The slot 1 line is not monitored.</td></tr> <tr> <td></td><td>Beginning in Release 7.0, the two 0x1Sn applications are only allowed when the main slots are equipped with non-VLF packs (see Appendix D).</td></tr> <tr> <td>0x1</td><td>Beginning in Release 7.0, unprotected 0x1 operation is supported when the main slots are equipped with VLF packs (see Appendix D). The two OC-n low-speed lines of the OC-n pair are independent of one another, and they are both unprotected.</td></tr> </table>	1+1	1+1 line protected; designates that the optical line pair is provisioned to unidirectional 1+1 protection mode.	1+1_OPTM	Beginning in Release 4.0, bidirectional optimized 1+1 protection switching is supported, as described in ITU-T G.841 Annex B, 10/98 (including Corrigendum 1, 08/02).	1+1_BIDIR	Beginning in Release 5.1, SONET bidirectional 1+1 protection switching is supported.	UPSR	UPSR Path protected; designates that the optical line pair is provisioned to UPSR protection mode.	2F	2-Fiber BLSR line protected, where the line (port) in slot 1 is the west port and the line (port) in slot 2 is the east port.	0x1S1	Beginning in Release 5.0, the slot 1 line is operating unprotected. The slot 2 line is not monitored.	0x1S2	Beginning in Release 5.0, the slot 2 line is operating unprotected. The slot 1 line is not monitored.		Beginning in Release 7.0, the two 0x1Sn applications are only allowed when the main slots are equipped with non-VLF packs (see Appendix D).	0x1	Beginning in Release 7.0, unprotected 0x1 operation is supported when the main slots are equipped with VLF packs (see Appendix D). The two OC-n low-speed lines of the OC-n pair are independent of one another, and they are both unprotected.
1+1	1+1 line protected; designates that the optical line pair is provisioned to unidirectional 1+1 protection mode.																		
1+1_OPTM	Beginning in Release 4.0, bidirectional optimized 1+1 protection switching is supported, as described in ITU-T G.841 Annex B, 10/98 (including Corrigendum 1, 08/02).																		
1+1_BIDIR	Beginning in Release 5.1, SONET bidirectional 1+1 protection switching is supported.																		
UPSR	UPSR Path protected; designates that the optical line pair is provisioned to UPSR protection mode.																		
2F	2-Fiber BLSR line protected, where the line (port) in slot 1 is the west port and the line (port) in slot 2 is the east port.																		
0x1S1	Beginning in Release 5.0, the slot 1 line is operating unprotected. The slot 2 line is not monitored.																		
0x1S2	Beginning in Release 5.0, the slot 2 line is operating unprotected. The slot 1 line is not monitored.																		
	Beginning in Release 7.0, the two 0x1Sn applications are only allowed when the main slots are equipped with non-VLF packs (see Appendix D).																		
0x1	Beginning in Release 7.0, unprotected 0x1 operation is supported when the main slots are equipped with VLF packs (see Appendix D). The two OC-n low-speed lines of the OC-n pair are independent of one another, and they are both unprotected.																		

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 5 of 19)

Parameter Name	Descriptions of Spec Block Parameters												
	Beginning in Release 7.1, 0x1 is the only valid value for lines associated with client ports (RTRV-OTPE:signaltype set to an OCn value), regardless of main equipage (VLF or non-VLF). High-Speed Interfaces: For high-speed interfaces, this parameter is reported when the <i>modifier</i> is a high-speed line. For high-speed interfaces, this parameter specifies the protection mode of the interface. The supported values are: <table> <tr> <td>1+1</td><td>1+1 line protected; designates that the optical line pair is provisioned to unidirectional 1+1 protection mode.</td></tr> <tr> <td>1+1_OPTM</td><td>Beginning in Release 4.0, bidirectional optimized 1+1 protection switching is supported, as described in ITU-T G.841 Annex B, 10/98 (including Corrigendum 1, 08/02).</td></tr> <tr> <td>1+1_BIDIR</td><td>Beginning in Release 5.1, SONET bidirectional 1+1 protection switching is supported.</td></tr> <tr> <td>UPSR</td><td>UPSR Path protected; designates that the optical line pair is provisioned to UPSR protection mode. Beginning in Release 4.0, this also applies to cross-connects without path protection.</td></tr> <tr> <td>0x1</td><td>The optical line is unprotected.</td></tr> <tr> <td>2F</td><td>2-Fiber BLSR line protected, where the line (port) in slot 1 is the west port and the line (port) in slot 2 is the east port.</td></tr> </table>	1+1	1+1 line protected; designates that the optical line pair is provisioned to unidirectional 1+1 protection mode.	1+1_OPTM	Beginning in Release 4.0, bidirectional optimized 1+1 protection switching is supported, as described in ITU-T G.841 Annex B, 10/98 (including Corrigendum 1, 08/02).	1+1_BIDIR	Beginning in Release 5.1, SONET bidirectional 1+1 protection switching is supported.	UPSR	UPSR Path protected; designates that the optical line pair is provisioned to UPSR protection mode. Beginning in Release 4.0, this also applies to cross-connects without path protection.	0x1	The optical line is unprotected.	2F	2-Fiber BLSR line protected, where the line (port) in slot 1 is the west port and the line (port) in slot 2 is the east port.
1+1	1+1 line protected; designates that the optical line pair is provisioned to unidirectional 1+1 protection mode.												
1+1_OPTM	Beginning in Release 4.0, bidirectional optimized 1+1 protection switching is supported, as described in ITU-T G.841 Annex B, 10/98 (including Corrigendum 1, 08/02).												
1+1_BIDIR	Beginning in Release 5.1, SONET bidirectional 1+1 protection switching is supported.												
UPSR	UPSR Path protected; designates that the optical line pair is provisioned to UPSR protection mode. Beginning in Release 4.0, this also applies to cross-connects without path protection.												
0x1	The optical line is unprotected.												
2F	2-Fiber BLSR line protected, where the line (port) in slot 1 is the west port and the line (port) in slot 2 is the east port.												
<i>fmt</i>	This parameter is used to specify the digital signal format expected to be received from the DSX at the specified port(s). For <i>modifier</i> T1, this parameter applies to all DS1 packs; the PM descriptions below apply only to those packs that support the applicable type of PM. The LNW18 12TMUX circuit pack supports DS1 path PM; it does not support DS1 line PM. This parameter applies to LNW20 T1 interfaces when the T3 port is set to <i>pmd</i>=PORTLESS, or <i>pmd</i>=PORTED and <i>tribmd</i>=CHAN. The LNW20 48TMUXDS3EC1 circuit pack supports DS1 path PM; it does not support DS1 line PM.												

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 6 of 19)

Parameter Name	Descriptions of Spec Block Parameters
	This parameter has one of the following values for T1: SF Super Frame, supports near-end DS1 path and line PM only. ESF Extended Super Frame, supports near-end and far-end DS1 path and line PM. ESFN Extended Super Frame, supports near-end DS1 path and line PM only. UF Unframed. No LOF alarm is generated on the port, and only DS1 near-end line PM is supported. This parameter has one of the following values for E1: FAS Frame Alignment Signal. CRC4 Cyclic Redundancy Check-4. For <i>modifier</i> T3, this parameter is reported only if the <i>linecde</i> is not set to CCHAN. Beginning in Release 5.0, this parameter is not reported if <i>frame</i> or <i>linecde</i> is CCHAN. This parameter indicates the DS3 performance monitoring scheme to be used on the signal incoming from the fiber and DSX to the specified DS3 port. This parameter has one of the following values: PBIT PBIT scheme is used for DS3 PM. FMBIT FMBIT scheme is used for DS3 PM. CPBIT C-bit parity scheme is used for end-to-end DS3 path PM. The values reported by the <i>fmt</i> parameter are in effect only if performance monitoring is enabled for the port specified by the <i>aid</i>. This parameter does not apply to LNW20 T3 ports when <i>pmd</i>=UNAVAIL.
<i>frame</i>	<i>frame</i> specifies the framing format of the signal at the specified port. This parameter is reported only if the <i>linecde</i> is not set to CCHAN. This parameter is reported when the <i>modifier</i> is T3. Beginning in Release 5.0, CCHAN becomes a value for this parameter (and for <i>linecde</i>; refer to ENT-rr for parameter interactions), and it is always reported for T3 ports. This parameter can have a value of:

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 7 of 19)

Parameter Name	Descriptions of Spec Block Parameters
	M13 DS3 signal is M13 formatted with the C-bits serving the traditional stuffing indicator function. Line and near-end path PM are supported; far-end path PM is not. CBIT The signal is C-bit formatted with the C-bits serving the end-to-end path functions. Line, near-end, and far-end path PM are supported for T3 signals. CCHAN The signal is unframed and unchannelized. Line PM is supported for T3 signals; path PM is not. This parameter does not apply to LNW20 T3 ports when <i>pmd</i>=UNAVAIL.
<i>syncmsg</i>	Synchronization Messaging. This parameter is available only when the modifier is a line. The parameter value is one of the following: SBYTE The S1 byte is selected; the S1 byte is sent and received for sync messaging. DISABLED Interpretation of S1 bytes is disabled and a "Do Not Use" S1 message is transmitted at all times.
<i>linecde</i>	Line Coding. Note: This parameter is not reported for T1 ports on the LNW18 12TMUX circuit pack. Note: This parameter is not reported for T1 ports on the LNW20 48TMUXDS3EC1 circuit pack. When the modifier is T1, the following values apply: AMI When the port addressed by the <i>aid</i> specified in the input command is currently operating with Alternate Mark Inversion line coding, the <i>linecde</i> is returned as AMI. B8ZS When the port addressed by the <i>aid</i> specified in the input command is currently operating with bipolar with 8-zero substitution line coding, the <i>linecde</i> is returned as B8ZS. Beginning in Release 5.0, CCHAN may be set using either <i>linecde</i> or <i>frame</i>; see ENT - rr for parameter interactions. When the modifier is T3, the following values apply:

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 8 of 19)

Parameter Name	Descriptions of Spec Block Parameters
	B3ZS When the port addressed by the <i>aid</i> specified in the input command is currently operating in VM or VMR mode, the <i>linecde</i> is returned as B3ZS (bipolar with 3-zero substitution). Note: The <i>linecde</i> parameter value for T3 on the LNW18 12TMUX is always B3ZS. Note: The <i>linecde</i> parameter value for T3 on the LNW20 48TMUXDS3EC1 is always B3ZS when <i>pmd</i>=PORTED and <i>tribmd</i>=CHAN. CCHAN When the port addressed by the <i>aid</i> is currently operating in the clear channel mode (either CC w/ AIS or CC w/o AIS mode), the <i>linecde</i> parameter is returned as CCHAN. This parameter does not apply to LNW20 T3 ports when <i>pmd</i>=PORTLESS or UNAVAIL.
<i>ntfcncde</i>	Notification code. This parameter is removed beginning in Release 6.0. See RTRV-ASAP-ASGNMT and RTRV-ASAP-PROF. The <i>ntfcncde</i> parameter is reported to indicate the alarm level of facility failures serviced by the addressed <i>aid</i> when the <i>aid</i> is of one of the following types: T1 E1 T3 EC1 The <i>ntfcncde</i> parameter has one of the following values: CR Critical Alarm. This value is not reported if the <i>modifier</i> value is T1. This value also is not reported if the <i>modifier</i> value is E1. MJ Major Alarm. MN Minor Alarm. NA Not alarmed.

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 9 of 19)

Parameter Name	Descriptions of Spec Block Parameters
<i>pbit</i>	This parameter is reported only when the modifier is T3. The <i>pbit</i> parameter is used in combination with the <i>linecde</i> and <i>ais</i> parameters to determine the VMR mode. If the value of the parameter <i>linecde</i> is reported to be CCHAN, this <i>pbit</i> parameter will not be reported. Beginning in Release 5.0, the <i>pbit</i> parameter is not reported if <i>frame</i> or <i>linecde</i> is CCHAN. ON When the mode of the DS3 port addressed by the <i>aid</i> monitoring and removing P-bit violation (VMR), the <i>pbit</i> parameter is reported as ON. OFF When the mode of the DS3 port addressed by the <i>aid</i> in monitoring P-bit violations and not correct them (VM), the <i>pbit</i> parameter is reported as OFF. This parameter does not apply to LNW20 T3 ports when <i>pmd</i>=UNAVAIL.
<i>pmmd</i>	Performance Monitoring Mode. The <i>pmmd</i> parameter is reported to indicate if PM mode has been enabled or not for the port(s) addressed by the <i>aid</i>. Beginning in Release 3.1, the <i>pmmd</i> parameter is no longer supported. This parameter is reported only when the modifier is T1 or T3. This parameter will have one of the following values: OFF PM turned off. OFF indicates that Performance Monitoring is disabled. ON PM turned on. ON indicates that Performance Monitoring is enabled.
<i>tcamd</i>	TCA Monitoring Mode. This parameter specifies whether TCA reporting is enabled or disabled for the port, channel, or line addressed by the <i>aid</i>. This parameter has one of the following values: ENABLE TCA reporting is enabled. DISABLE TCA reporting is disabled. This parameter does not apply to LNW20 T3 ports when <i>pmd</i>=UNAVAIL. This parameter applies to LNW20 T1 interfaces when in a T3 port set to <i>pmd</i>=PORTLESS, or <i>pmd</i>=PORTED and <i>tribmd</i>=CHAN.

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 10 of 19)

Parameter Name	Descriptions of Spec Block Parameters												
<i>sfthr</i>	Soft Fail (Signal Degrade) Threshold. This parameter is reported to indicate the signal degrade threshold in terms of Bit Error Rate (BER) of the channels/ports/lines addressed by the <i>aid</i>. This parameter has integer values of -3 through -9, which represent the exponent of the BER threshold setting. This parameter is valid for electrical ports, lines, and channels. This parameter does not apply to the LNW18 12TMUX for the T1 modifier. This parameter does not apply to the LNW20 48TMUXDS3EC1 for the T1 modifier. This parameter does not apply to LNW20 T3 ports when <i>pmd</i>=PORTLESS or UNAVAIL. This parameter does not apply to VC12 channels.												
<i>sfail</i>	Signal Failure threshold. This parameter is reported to indicate the signal fail threshold in terms of Bit Error Rate (BER) of the channels addressed by the <i>aid</i>. This parameter has the values of -3 or -6. Beginning in Release 3.1, this parameter is reported to indicate the signal fail threshold in terms of Bit Error Rate (BER) of the channels or lines addressed by the <i>aid</i>. This parameter has values of -3 through -5.												
<i>lbo</i>	Line Build Out. This parameter is reported when the modifier is a low-speed port. For T1, the values are: <table> <tr> <th><i>lbo</i> Value</th><th>1161A Cable Length (feet)</th></tr> <tr> <td>20</td><td>0-133</td></tr> <tr> <td>40</td><td>133-267</td></tr> <tr> <td>60</td><td>267-420</td></tr> <tr> <td>80</td><td>420-550</td></tr> <tr> <td>100</td><td>550-655</td></tr> </table> Note: This parameter is not reported for T1 ports on the LNW18 12TMUX circuit pack Note: This parameter is not reported for T1 ports on the LNW20 48TMUXDS3EC1 circuit pack. This parameter is not reported for T3 ports on the LNW20 when <i>pmd</i>=PORTLESS or UNAVAIL.	<i>lbo</i> Value	1161A Cable Length (feet)	20	0-133	40	133-267	60	267-420	80	420-550	100	550-655
<i>lbo</i> Value	1161A Cable Length (feet)												
20	0-133												
40	133-267												
60	267-420												
80	420-550												
100	550-655												

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 11 of 19)

Parameter Name	Descriptions of Spec Block Parameters												
	For T3 and EC1 the values are: <u>728A/B Cable</u> <table> <tr> <td><u>/bo Value</u></td><td><u>Cable Length (feet)</u></td></tr> <tr> <td>IN</td><td>0-225 (Initial Default)</td></tr> <tr> <td>OUT</td><td>225-450</td></tr> </table> <u>735A Cable</u> <table> <tr> <td><u>/bo Value</u></td><td><u>Cable Length (feet)</u></td></tr> <tr> <td>IN</td><td>0-112 (Initial Default)</td></tr> <tr> <td>OUT</td><td>112-225</td></tr> </table>	<u>/bo Value</u>	<u>Cable Length (feet)</u>	IN	0-225 (Initial Default)	OUT	225-450	<u>/bo Value</u>	<u>Cable Length (feet)</u>	IN	0-112 (Initial Default)	OUT	112-225
<u>/bo Value</u>	<u>Cable Length (feet)</u>												
IN	0-225 (Initial Default)												
OUT	225-450												
<u>/bo Value</u>	<u>Cable Length (feet)</u>												
IN	0-112 (Initial Default)												
OUT	112-225												
<i>rdi-l</i>	Line Remote Defect Indicator. This parameter is removed beginning in Release 6.0. See RTRV-ASAP-ASGNMT and RTRV-ASAP-PROF. This parameter is the alarm level that is used to indicate a Line Remote Defect Indicator. Beginning in Release 3.1, this parameter is the alarm level that is used to indicate a Line Remote Failure Indicator. This parameter is reported when the modifier is a line. This parameter is reported when the modifier is an EC-1 line. This parameter can have one of the following values: <table> <tr> <td>MJ</td><td>Major Alarm level.</td></tr> <tr> <td>MN</td><td>Minor Alarm Level.</td></tr> <tr> <td>NA</td><td>Not Alarmed.</td></tr> </table>	MJ	Major Alarm level.	MN	Minor Alarm Level.	NA	Not Alarmed.						
MJ	Major Alarm level.												
MN	Minor Alarm Level.												
NA	Not Alarmed.												
<i>crstat</i>	Constituent Rates Status List. For OC-n lines, this parameter shows the rate of the line's STSn signals. Values: <table> <tr> <td>NX-NX-NX...</td><td>Where N is the number of Xs. X can be 1, 3, 12, or 48 representing STS-1, STS-3c, STS-12c, or STS-48c respectively. Example: the list for an OC-12 might be 31-23-31, which would mean 3 STS-1s followed by 2 STS-3cs, followed by 3 STS-1s.</td></tr> <tr> <td>UNKNOWN</td><td>This means that the value is currently unavailable.</td></tr> </table>	NX-NX-NX...	Where N is the number of Xs. X can be 1, 3, 12, or 48 representing STS-1, STS-3c, STS-12c, or STS-48c respectively. Example: the list for an OC-12 might be 31-23-31, which would mean 3 STS-1s followed by 2 STS-3cs, followed by 3 STS-1s.	UNKNOWN	This means that the value is currently unavailable.								
NX-NX-NX...	Where N is the number of Xs. X can be 1, 3, 12, or 48 representing STS-1, STS-3c, STS-12c, or STS-48c respectively. Example: the list for an OC-12 might be 31-23-31, which would mean 3 STS-1s followed by 2 STS-3cs, followed by 3 STS-1s.												
UNKNOWN	This means that the value is currently unavailable.												

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 12 of 19)

Parameter Name	Descriptions of Spec Block Parameters			
<i>pjcmom</i>	PJC Monitor Point. For lines, this parameter indicates the tributary within the optical line that is used to monitor the PJC parameters. Possible values are:			
	N	Where N is the number of the first tributary in a signal to be monitored. TCAs are generated if the provisioned thresholds are exceeded (see RTRV - TH and Appendix B) and <i>tcamd</i> =ENABLE.		
	AUTO	AUTO means that the system will monitor PJC parameters on the first tributary with no AIS-P or LOP-P. TCAs are generated if the provisioned thresholds are exceeded (see RTRV - TH and Appendix B) and <i>tcamd</i> =ENABLE.		
	AUTO-NO-TCA	AUTO-NO-TCA means that the system will monitor PJC parameters on the first tributary with no AIS-P or LOP-P; however, no TCAs are generated for any of the PJC monitored counters (regardless of the value of <i>tcamd</i>).		
	This parameter does not apply for client ports.			
<i>ssbits</i>	SS bits. For OC-n lines, this parameter specifies the value of the outgoing SS bits in the H1 pointer byte of all outgoing STSn signals transported in the OC-n line overhead (incoming SS bits are ignored). Values:			
	SS00	The outgoing SS bits are set to '00'.		
	SS10	The outgoing SS bits are set to '10'.		
<i>wysel</i>	Wavelength Selection. For OLIUs that support tunable optics (see below), this parameter selects the wavelength to be used. Legal values are:			
	CH1	see table below		
	CH2	see table below		
	CH3	see table below		
	CH4	see table below		
	For the LNW523 OC192 OLIU:			
	<table><tr><th><i>wysel</i></th><th>wavelength (nm) / frequency (THz)</th></tr><tr><td>CH1</td><td>1560.606 / 192.1</td></tr></table>	<i>wysel</i>	wavelength (nm) / frequency (THz)	CH1
<i>wysel</i>	wavelength (nm) / frequency (THz)			
CH1	1560.606 / 192.1			

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 13 of 19)

Parameter Name	Descriptions of Spec Block Parameters	
	CH2	1559.794 / 192.2
	CH3	1558.983 / 192.3
	CH4	1558.173 / 192.4
	For the LNW527 OC192 OLIU:	
	<i>wsel</i>	wavelength (nm) / frequency (THz)
	CH1	1557.363 / 192.5
	CH2	1556.555 / 192.6
	CH3	1555.747 / 192.7
	CH4	1554.940 / 192.8
	For the LNW554 OC192 OLIU:	
	<i>wsel</i>	wavelength (nm) / frequency (THz)
	CH1	1535.882 / 195.2
	CH2	1535.036 / 195.3
	CH3	1534.250 / 195.4
	CH4	1533.465 / 195.5
<i>pmd</i>	Port Mode. This parameter applies only to the LNW20 pack when <i>ei</i>≠DS3. Valid values are: PORTED A DS3 signal is received and transmitted on the backplane electrical interface to the DSX. PORTLESS The backplane electrical connector is not used. This mode is used to map a DS1 being received in a channelized DS3 within an STS1 into a VT, and vice versa. The DS1 is cross-connected at the VT level. UNAVAIL This is not a user-provisionable value. In non-VLF main applications (see Appendix D), if an odd port is set to PORTLESS, the corresponding even port (n+1) is automatically set to UNAVAIL, and is not usable. When the odd port is changed from PORTLESS to PORTED, the even port is also changed to PORTED. This value is not valid in VLF main applications.	

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 14 of 19)

Parameter Name	Descriptions of Spec Block Parameters
<i>tribmd</i>	Tributary Mode. This parameter applies only to the LNW20 pack when <i>eif</i>=DS3. Valid values are: UNCHAN The DS3 is considered unchannelized (the signal may or may not contain DS1s; they are not processed). Only STS1 cross-connections are allowed. This value is not allowed if <i>pmd</i>=PORTLESS. When <i>pmd</i>=PORTED and <i>tribmd</i>=UNCHAN, the functionality is the same as a DS3 port on LNW16 or LNW19/19B, except that C-bit mismatch monitoring is not supported. CHAN The DS3 is terminated, and the DS1s within the DS3 may be cross-connected at the VT level. This is the only valid value when <i>pmd</i>=PORTLESS. When <i>pmd</i>=PORTED and <i>tribmd</i>=CHAN, the functionality is the same as a port on LNW18.
<i>strcwfmt</i>	Transmit Section Trace Format. This parameter is reported for OCn and EC1 <i>modifiers</i>, beginning in Release 7.0. This parameter may have the following values: 1 A single-byte section trace is transmitted, as reported by the <i>strcout</i> and <i>strcouttxt</i> parameters. 2 A single-byte section trace value of hex 01 is transmitted. The <i>strcout</i> and <i>strcouttxt</i> parameters are not reported. 16 A 16-byte section trace is transmitted, as reported by the <i>strcout</i> and <i>strcouttxt</i> parameters. This value is not allowed for EC1. 64 A 64-byte section trace is transmitted, as reported by the <i>strcout</i> and <i>strcouttxt</i> parameters. This value is not allowed for EC1. This parameter does not apply for client ports.

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 15 of 19)

Parameter Name	Descriptions of Spec Block Parameters								
<i>strcout</i>	Transmit Section Trace value—hexadecimal. This parameter is reported for OCn and EC1 <i>modifiers</i>, beginning in Release 7.0. This parameter is only reported if <i>strcwfmt</i> is 1, 16, or 64. The value is a hexadecimal string (consisting of the digits 0-9 and A-F) with a length of twice the number specified by the <i>strcwfmt</i> (since there are two digits per byte). Note that <i>strcout</i> and <i>strcouttxt</i> report the same trace in two different formats. This parameter does not apply for client ports.								
<i>strcouttxt</i>	Transmit Section Trace value—ASCII. This parameter is reported for OCn and EC1 <i>modifiers</i>, beginning in Release 7.0. This parameter is only reported if <i>strcwfmt</i> is 1, 16 or 64. The value is a quoted ASCII text string. If any non-printable or non-displayable character is contained in the string (including carriage return, line feed, semicolon (;), double quote (") and backslash (\)) it is replaced with a period (.). If a valid CRC-7 byte is prepended to the trace, it is not displayed. The CRC-7 byte is considered valid if the value matches the value calculated over the rest of the trace string. Also, trailing ASCII NUL characters (00) are not displayed. This parameter does not apply for client ports.								
<i>strcfmt</i>	Expected Receive Section Trace Format. This parameter is reported for OCn and EC1 <i>modifiers</i>, beginning in Release 7.0. This parameter may have the following values: <table> <tr> <td>1</td><td>A single-byte section trace is expected, as reported by the <i>exprstrc</i> and <i>exprstrctxt</i> parameters.</td></tr> <tr> <td>2</td><td>A single-byte section trace value of hex 01 is expected. TIM monitoring (<i>rstimmon</i>) may not be enabled, and <i>exprstrc</i> and <i>exprstrctxt</i> parameters are not reported.</td></tr> <tr> <td>16</td><td>A 16-byte section trace is expected, as reported by the <i>exprstrc</i> and <i>exprstrctxt</i> parameters. This value is not allowed for EC1.</td></tr> <tr> <td>64</td><td>A 64-byte section trace is expected, as reported by the <i>exprstrc</i> and <i>exprstrctxt</i> parameters. This value is not allowed for EC1.</td></tr> </table> This parameter does not apply for client ports.	1	A single-byte section trace is expected, as reported by the <i>exprstrc</i> and <i>exprstrctxt</i> parameters.	2	A single-byte section trace value of hex 01 is expected. TIM monitoring (<i>rstimmon</i>) may not be enabled, and <i>exprstrc</i> and <i>exprstrctxt</i> parameters are not reported.	16	A 16-byte section trace is expected, as reported by the <i>exprstrc</i> and <i>exprstrctxt</i> parameters. This value is not allowed for EC1.	64	A 64-byte section trace is expected, as reported by the <i>exprstrc</i> and <i>exprstrctxt</i> parameters. This value is not allowed for EC1.
1	A single-byte section trace is expected, as reported by the <i>exprstrc</i> and <i>exprstrctxt</i> parameters.								
2	A single-byte section trace value of hex 01 is expected. TIM monitoring (<i>rstimmon</i>) may not be enabled, and <i>exprstrc</i> and <i>exprstrctxt</i> parameters are not reported.								
16	A 16-byte section trace is expected, as reported by the <i>exprstrc</i> and <i>exprstrctxt</i> parameters. This value is not allowed for EC1.								
64	A 64-byte section trace is expected, as reported by the <i>exprstrc</i> and <i>exprstrctxt</i> parameters. This value is not allowed for EC1.								

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 16 of 19)

Parameter Name	Descriptions of Spec Block Parameters				
<i>exprstrc</i>	Expected Receive Section Trace value—hexadecimal. This parameter is reported for OCn and EC1 <i>modifiers</i>, beginning in Release 7.0. This parameter is only reported if <i>strcfmt</i> is 1, 16, or 64. The value is a hexadecimal string (consisting of the digits 0-9 and A-F) with a length of twice the number specified by the <i>strcfmt</i> (since there are two digits per byte). Note that <i>exprstrc</i> and <i>exprstrctxt</i> report the same trace in two different formats. This parameter does not apply for client ports.				
<i>exprstrctxt</i>	Expected Receive Section Trace value—ASCII. This parameter is reported for OCn or EC1 <i>modifiers</i>, beginning in Release 7.0. This parameter is only reported if <i>strcfmt</i> is 1, 16 or 64. The value is a quoted ASCII text string. If any non-printable or non-displayable character is contained in the string (including carriage return, line feed, semicolon (;), double quote (") and backslash (\)) it is replaced with a period (.). If a valid CRC-7 byte is prepended to the trace, it is not displayed. The CRC-7 byte is considered valid if the value matches the value calculated over the rest of the trace string. Also, trailing ASCII NUL characters (00) are not displayed. This parameter does not apply for client ports.				
<i>rstimmon</i>	Receive Section Trace Identifier Monitor. This parameter is reported for OCn or EC1 <i>modifiers</i>, beginning in Release 7.0. Valid values are: <table> <tr> <td>ENABLE</td><td>The received section trace is compared to the expected section trace (<i>exprstrc</i> or <i>exprstrctxt</i>), and if there is a mismatch, a TIM-S or TIM-S-D alarm is generated, as provisioned by <i>rstimca</i>.</td></tr> <tr> <td>DISABLE</td><td>The received section trace is not monitored, and the received value and trace status (<i>strcst</i>) may not be retrieved.</td></tr> </table> This parameter does not apply for client ports.	ENABLE	The received section trace is compared to the expected section trace (<i>exprstrc</i> or <i>exprstrctxt</i>), and if there is a mismatch, a TIM-S or TIM-S-D alarm is generated, as provisioned by <i>rstimca</i> .	DISABLE	The received section trace is not monitored, and the received value and trace status (<i>strcst</i>) may not be retrieved.
ENABLE	The received section trace is compared to the expected section trace (<i>exprstrc</i> or <i>exprstrctxt</i>), and if there is a mismatch, a TIM-S or TIM-S-D alarm is generated, as provisioned by <i>rstimca</i> .				
DISABLE	The received section trace is not monitored, and the received value and trace status (<i>strcst</i>) may not be retrieved.				
<i>rstimca</i>	Receive Section Trace Identifier Mismatch Consequent Action. This parameter is reported for OCn or EC1 <i>modifiers</i>, beginning in Release 7.0. This parameter is only meaningful if <i>rstimmon</i> is ENABLE (but is reported regardless). Valid values are:				

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 17 of 19)

Parameter Name	Descriptions of Spec Block Parameters
	ENABLE When a section trace mismatch defect is detected, line AIS is inserted downstream (even if the line's <i>pst</i> is OOS), which triggers line or path switching. If alarming is enabled, a TIM-S alarm is reported. DISABLE When a section trace mismatch defect is detected with alarming enabled, a TIM-S-D alarm is reported. No line AIS is inserted, and there is no line or path switching due to the mismatch. This parameter does not apply for client ports.
<i>strcst</i>	Incoming Receive Section Trace Status. This parameter is reported for OCn or EC1 <i>modifiers</i>, beginning in Release 7.0. This parameter indicates whether a valid, stable Section Trace is being received. If <i>rstimmon</i> is DISABLE, the received trace may not be retrieved, and this parameter is not displayed. Valid values are: NORMAL A stable section trace is being received (even if the line's <i>pst</i> is OOS); however, it may or may not match the expected trace. UNAVAILABLE The trace cannot be retrieved: it may not be stable. SF The trace cannot be retrieved due to a signal or equipment failure. This parameter does not apply for client ports.

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 18 of 19)

Parameter Name	Descriptions of Spec Block Parameters
<i>strc</i>	Incoming Receive Section Trace—hexadecimal. This parameter is reported for OCn and EC1 <i>modifiers</i>, beginning in Release 7.0. If <i>rstimmon</i> is DISABLE, the received trace may not be retrieved, and this parameter not displayed. If <i>strcst</i> is NORMAL, the value is a hexadecimal string (consisting of the digits 0-9 and A-F) with a length of up to 128 characters for OCn, and 2 characters for EC1 (since there are two digits per byte). Note that the received length may be longer than the expected length, but will not be shorter than the expected length, even if the trace is repeating at a shorter interval. If <i>strcst</i> is not NORMAL, then this parameter is reported with no value after the equal sign. Note that <i>strc</i> and <i>strctxt</i> report the same trace in two different formats, beginning from the same point. This parameter does not apply for client ports.
<i>strctxt</i>	Incoming Receive Section Trace value—ASCII. This parameter is reported for OCn or EC1 <i>modifiers</i>, beginning in Release 7.0. If <i>rstimmon</i> is DISABLE, the received trace may not be retrieved, and this parameter is not displayed. If <i>strcst</i> is NORMAL, the value is a quoted ASCII text string. If any non-printable or non-displayable character is contained in the string (including carriage return, line feed, semicolon (;), double quote ("), and backslash (\)) it is replaced with a period (.). If a valid CRC-7 byte is prepended to the trace, it is not displayed. The CRC-7 byte is considered valid if the received value matches the value calculated over the rest of the received trace string. Also, trailing ASCII NUL characters (00) are not displayed. If <i>strcst</i> is not NORMAL, then this parameter is reported with no value after the equal sign. This parameter does not apply for client ports.
<i>signaltype</i>	Signal Type. This parameter is used to report the signal type of lines for multi-rate packs. This parameter applies to the following packs: LNW55 LNW82 LNW504

Table 2-461. RTRV-rr Output *spec_block* Parameters (cont 19 of 19)

Parameter Name	Descriptions of Spec Block Parameters
	This parameter does not apply for client ports. See RTRV - OTPE:signaltype. Valid values are: STNA Signal Type Not Available. The line is unused. If the socket is equipped, the PTM is alarmed as unexpected. When a line is STNA, synchronization messaging (<i>syncmsg</i>) is DISABLED, DCC is DISABLED (and is not retrievable), and there is no line primary state (<i>psf</i>). No line parameters other than <i>signaltype</i> may be provisioned or retrieved. OC3 OC12 OC48 OC192

The following table illustrates the valid combinations of the *linecde*, *ais*, and *pbit* values used to set the four T3 VMR modes.

VMR Mode	<i>linecde</i>	<i>ais</i>	<i>pbit</i>
VMR	B3ZS	No Effect	ON
VM	B3ZS	No Effect	OFF
CC with AIS	CCHAN	Y	No Effect
CC without AIS	CCHAN	N	No Effect

Table 2-462. *linecde*, *ais*, and *pbit* Values Used to Set the DMX VMR Modes

The following table illustrates the valid combinations of *linecde*, *ais* and *pbit* values used to report the four VMR modes.

<i>linecde</i>	<i>ais</i>	<i>pbit</i>	VMR Mode
B3ZS	Not Returned	ON	VMR
B3ZS	Not Returned	OFF	VM
CCHAN	Y	Not Returned	ClearChannel with AIS
CCHAN	N	Not Returned	ClearChannel without AIS

Table 2-463. DS3 Port VMR Mode Determination (using **RTRV-rr**)

Beginning in Release 5.0, [Table 2-462](#) and [Table 2-463](#) are replaced by the following:

Table 28:

VMR Mode	<i>frame</i>	<i>linecde</i>	<i>ais</i>	<i>pbit</i>
VMR	M13 or CBIT	B3ZS	No Effect	ON
VM	M13 or CBIT	B3ZS	No Effect	OFF
CC with AIS	CCHAN	CCHAN	Y	No Effect
CC without AIS	CCHAN	CCHAN	N	No Effect

Table 2-464. Provisioning VMR Modes

Table 29:

<i>frame</i>	<i>linecde</i>	<i>ais</i>	<i>pbit</i>	VMR Mode
M13 or CBIT	B3ZS	Not Returned	ON	VMR
M13 or CBIT	B3ZS	Not Returned	OFF	VM
CCHAN	CCHAN	Y	Not Returned	Clear Channel with AIS
CCHAN	CCHAN	N	Not Returned	Clear Channel without AIS

Table 2-465. DS3 Port VMR Mode Determination (using **RTRV-rr**)

EXAMPLE INPUT/OUTPUT

The following example shows the response to a query concerning T1 port a-2-4, beginning in Release 3.1:

```
RTRV-T1:LT-TID123:a-2-4:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 93-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
"a-2-4:::LINECDE=B8ZS,NTFCNCDE=NA,SFTHR=-3,BPV=N,FMT=ESF,TCAMD=ENABLE,  
LBO=20:00S-MA-AS"
```

The example below shows the response to a query concerning the DS3 port "b-1" of a system. This port is in service, has a critical notification code level in case of failure, and is operating in VMR mode with a signal failure threshold of 10^{-6} , and an *lbo* value of IN.

```
RTRV-T3:LT-TID123:b-1:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 93-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
"b-1:::LINECDE=B3ZS,PBIT=ON,NTFCNCDE=CR,SFTHR=-6,PMMD=ON,LBO=IN:IS"  
;
```

The above example is valid prior to Release 3.1.

The following example shows the response to a query concerning all DS3 ports "d-all" of a system. The DS3 ports are in service, have a critical notification code level in case of failure, the line code is B3ZS, the *pbit* is ON, *fmt* is PBIT, the *frame* is M13 operating in VMR mode with a signal failure threshold of 10^{-6} , and the *lbo* value is IN.

RTRV-T3:LT-TID123:d-all:123456;

IP 123456

<

LT-TID123 93-10-26 16:42:11

M 123456 COMPLD

"d-1:::EIF=DS3,LINECDE=B3ZS,PBIT=ON,NTFCNCDE=CR,SFTHR=-6,
FMT=PBIT,FRAME=M13,PMMD=ON,LBO=IN:IS"

"d-2:::EIF=DS3,LINECDE=B3ZS,PBIT=ON,NTFCNCDE=CR,SFTHR=-6,
FMT=PBIT,FRAME=M13,PMMD=ON,LBO=IN:IS"

"d-3:::EIF=DS3,LINECDE=B3ZS,PBIT=ON,NTFCNCDE=CR,SFTHR=-6,
FMT=PBIT,FRAME=M13,PMMD=ON,LBO=IN:IS"

"d-4:::EIF=DS3,LINECDE=B3ZS,PBIT=ON,NTFCNCDE=CR,SFTHR=-6,
FMT=PBIT,FRAME=M13,PMMD=ON,LBO=IN:IS"

"d-5:::EIF=DS3,LINECDE=B3ZS,PBIT=ON,NTFCNCDE=CR,SFTHR=-6,
FMT=PBIT,FRAME=M13,PMMD=ON,LBO=IN:IS"

"d-6:::EIF=DS3,LINECDE=B3ZS,PBIT=ON,NTFCNCDE=CR,SFTHR=-6,
FMT=PBIT,FRAME=M13,PMMD=ON,LBO=IN:IS"

"d-7:::EIF=DS3,LINECDE=B3ZS,PBIT=ON,NTFCNCDE=CR,SFTHR=-6,
FMT=PBIT,FRAME=M13,PMMD=ON,LBO=IN:IS"

"d-8:::EIF=DS3,LINECDE=B3ZS,PBIT=ON,NTFCNCDE=CR,SFTHR=-6,
FMT=PBIT,FRAME=M13,PMMD=ON,LBO=IN:IS"

"d-9:::EIF=DS3,LINECDE=B3ZS,PBIT=ON,NTFCNCDE=CR,SFTHR=-6,
FMT=PBIT,FRAME=M13,PMMD=ON,LBO=IN:IS"

"d-10:::EIF=DS3,LINECDE=B3ZS,PBIT=ON,NTFCNCDE=CR,SFTHR=-6,
FMT=PBIT,FRAME=M13,PMMD=ON,LBO=IN:IS"

"d-11:::EIF=DS3,LINECDE=B3ZS,PBIT=ON,NTFCNCDE=CR,SFTHR=-6,
FMT=PBIT,FRAME=M13,PMMD=ON,LBO=IN:IS"

"d-12:::EIF=DS3,LINECDE=B3ZS,PBIT=ON,NTFCNCDE=CR,SFTHR=-6,
FMT=PBIT,FRAME=M13,PMMD=ON,LBO=IN:IS"

;

The above example is valid prior to Release 3.1.

Beginning in Release 3.1, the following example shows the response to a query concerning DS3 port "b-1".

RTRV-T3:LT-TID123:b-1:123456;

IP 123456
<

LT-TID123 93-10-26 16:42:11
M 123456 COMPLD
"b-1::LINECDE=B3ZS,PBIT=ON,NTFCNCDE=CR,SFTHR=-6,FMT=PBIT,FRAME=M13,
TCAMD=ENABLE,LBO=IN,EIF=DS3:OOS-MA-AS"
;

Beginning in Release 6.0, the above example is no longer valid, and the following example shows the response to a query concerning DS3 port "d-1" on an LNW19.

RTRV-T3:LT-TID123:d-1:123456;

IP 123456
<

LT-TID123 05-12-26 16:42:11
M 123456 COMPLD
"d-1::LINECDE=B3ZS,PBIT=ON,SFTHR=-6,FMT=PBIT,FRAME=M13,TCAMD=ENABLE,
LBO=IN,EIF=DS3:OOS-MA-AS"
;

This example is valid prior to Release 3.1.

The example below shows the response to a query concerning the VT1 channel "m-1-1-1-1":

RTRV-VT1:LT-TID123:m-1-1-1-1:123456;

IP 123456
<

LT-TID123 93-10-26 16:42:11
M 123456 COMPLD
"m-1-1-1-1::AISNC=NR,AISNCSA=MJ,SFTHR=-6:IS"
;

Beginning in Release 6.0, the above response is no longer valid, and the following example shows a response to a query concerning VT1 ring channel "m1-1-1-1-1":

```
RTRV-VT1:LT-TID123:m1-1-1-1-1:123456;
```

```
IP 123456  
<  
  
LT-TID123 93-10-26 16:42:11  
M 123456 COMPLD  
  "m1-1-1-1-1::SFTHR=-6:IS"  
;
```

The following example shows the response to a query concerning the OC-48 lines in main.

```
rtrv-oc48:LT-TID123:main-all:123456;
```

```
IP 123456  
<  
  
LT-TID123 93-10-26 16:42:11  
M 123456 COMPLD  
  "main-1-1::AISNC=MJ,SFTHR=-6,SYNCMSG=sbyte"  
  "main-2-1::AISNC=NA,SFTHR=-6,SYNCMSG=sbyte"  
;
```

NOTE: The above example output is valid until Release 2.1.

The following example shows the response to a query concerning the OC-3 lines in function group C. This example is valid until Release 3.0.

```
rtrv-oc3:LT-TID123:fn-c-all:123456;
IP 123456
<

LT-TID123 93-10-26 16:42:11
M 123456 COMPLD
"fn-c-1-1::AISNC=MJ,SFTHR=6,SYNCMSG=sbyte,APPLICATION=1+1:IS:
STANDBY:FORCED"
"fn-c-2-1::AISNC=NA,SFTHR=6,SYNCMSG=sbyte,APPLICATION=1+1:IS:
ACTIVE:FORCED"
"fn-c-1-2::AISNC=NA,SFTHR=-6,SYNCMSG=sbyte,APPLICATION=UPSR:IS:
ACTIVE:-"
"fn-c-2-2::AISNC=NA,SFTHR=-6,SYNCMSG=sbyte,APPLICATION=UPSR:IS:
ACTIVE:-"
"fn-c-1-3::AISNC=NA,SFTHR=-6,SYNCMSG=sbyte,APPLICATION=1+1:IS:
STANDBY:-"
"fn-c-2-3::AISNC=NA,SFTHR=-6,SYNCMSG=sbyte,APPLICATION=1+1:IS:
ACTIVE:-"
"fn-c-1-4::AISNC=NA,SFTHR=-6,SYNCMSG=sbyte,APPLICATION=1+1:IS:
STANDBY:-"
"fn-c-2-4::AISNC=NA,SFTHR=-6,SYNCMSG=sbyte,APPLICATION=1+1:IS:
ACTIVE:-"
;
```

The following example shows the response to a query concerning the OC-48 lines in Function Unit group B. This example is valid until Release 3.0.

```
rtrv-oc48:LT-TID123:fn-b-all:123456;
IP 123456
<

LT-TID123 93-10-26 16:42:11
M 123456 COMPLD
"fn-b-1-1::AISNC=MJ,SFTHR=-6,SYNCMSG=sbyte,APPLICATION=1+1:
IS:STANDBY:-"
"fn-b-2-1::AISNC=NA,SFTHR=-6,SYNCMSG=sbyte,APPLICATION=1+1:
IS:ACTIVE:-"
;
```

The following example shows the response to a query concerning the OC-12 lines in function group B. This example is valid until Release 3.0.

```
rtrv-oc12:LT-TID123:fn-b-all:123456;

IP 123456
<

    LT-TID123 93-10-26 16:42:11
M 123456 COMPLD
  "fn-b-1-1::AISNC=MJ,SFTHR=-6,SYNMSG=sbyte,APPLICATION=1+1:
  IS:STANDBY:-"
  "fn-b-2-1::AISNC=MJ,SFTHR=-6,SYNMSG=sbyte,APPLICATION=1+1:
  IS:ACTIVE:-"
  "fn-b-1-2::AISNC=NA,SFTHR=-6,SYNMSG=sbyte,APPLICATION=UPSR:
  IS:ACTIVE:-"
  "fn-b-2-2::AISNC=NA,SFTHR=-6,SYNMSG=sbyte,APPLICATION=UPSR:
  IS:ACTIVE:-"
;
```

The following example shows the response to a query concerning the OC-12 lines in function group d. This example is valid beginning in Release 3.1.

```
rtrv-oc12:LT-TID123:fn-d-all:123456;

IP 123456
<

    LT-TID123 93-10-26 16:42:11
M 123456 COMPLD
  "fn-d-1-1::AISNC=MJ,SFTHR=-6,SFAIL=-3,TCAMD=ENABLE,SYNMSG=sbyte,
  APPLICATION=1+1,RDI-L=NA,PJCMON=AUTO:IS:STANDBY:-"
  "fn-d-1-2::AISNC=NA,SFTHR=-6,SFAIL=-3,TCAMD=ENABLE,SYNMSG=sbyte,
  APPLICATION=UPSR,RDI-L=MN,PJCMON=3:IS:ACTIVE:-"
  "fn-d-2-1::AISNC=MJ,SFTHR=-6,SFAIL=-3,TCAMD=ENABLE,SYNMSG=sbyte,
  APPLICATION=1+1,RDI-L=NA,PJCMON=AUTO:IS:ACTIVE:-"
  "fn-d-2-2::AISNC=NA,SFTHR=-6,SFAIL=-3,TCAMD=ENABLE,SYNMSG=sbyte,
  APPLICATION=UPSR,RDI-L=MN,PJCMON=3:IS:ACTIVE:-"
;
```

Beginning in Release 6.0, the above example is no longer valid, and the following example shows the response to a query concerning the OC-12 lines in function group d.

```
rtrv-oc12:LT-TID123:fn-d-all:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 93-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
"fn-d-1-1::SFTHR=-6,SFAIL=-3,TCAMD=ENABLE,SYNCMSG=sbyte,  
APPLICATION=1+1,PJCMON=AUTO:IS:STANDBY:-"
```

```
"fn-d-1-2::SFTHR=-6,SFAIL=-3,TCAMD=ENABLE,SYNCMSG=sbyte,  
APPLICATION=UPSR,PJCMON=3:IS:ACTIVE:-"
```

```
"fn-d-2-1::SFTHR=-6,SFAIL=-3,TCAMD=ENABLE,SYNCMSG=sbyte,  
APPLICATION=1+1,PJCMON=AUTO:IS:ACTIVE:-"
```

```
"fn-d-2-2::SFTHR=-6,SFAIL=-3,TCAMD=ENABLE,SYNCMSG=sbyte,  
APPLICATION=UPSR,PJCMON=3:IS:ACTIVE:-"
```

```
;
```

Beginning in Release 7.0, the above response would also contain the Section Trace parameters: *strcwfmt*, *strcout*, *strcouttxt*, *strcfmt*, *exprstrc*, *exprstrctxt*, *rstimmon*, *rstimca*, *strcst*, *strc*, and *strctxt*.

The following example shows the response to a query concerning the OC-48 lines in main. This example is valid through Release 3.0.

```
rtrv-oc48:TID123:main-all:123456;
```

```
IP 123456
```

```
<
```

```
TID123 93-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
"main-1-1::AISNC=MJ,SFTHR=-6,SYNCMSG=sbyte,APPLICATION=UPSR,  
RDI-L=NA"
```

```
"main-2-1::AISNC=NA,SFTHR=-6,SYNCMSG=sbyte,APPLICATION=UPSR,  
RDI-L=NA"
```

```
;
```


The following example shows the response to a query concerning the OC-12 lines in main with *application*=UPSR.

```
rtrv-oc12:TID123:main-all:123456;

IP 123456
<

TID123 93-10-26 16:42:11
M 123456 COMPLD
  "main-1-1::AISNC=MJ, SFTHR=-6, SFAIL=-5, TCAMD=ENABLE, SYNCMSG=sbyte,
APPLICATION=UPSR, RDI-L=NA, PJCMON=4"
  "main-2-1::AISNC=NA, SFTHR=-6, SFAIL=-5, TCAMD=ENABLE, SYNCMSG=sbyte,
APPLICATION=UPSR, RDI-L=NA, PJCMON=4"
;
```

The following example shows the response to a query concerning the OC-12 lines in main with *application* = 1+1.

```
rtrv-oc12:TID123:main-all:123456;

IP 123456
<

TID123 93-10-26 16:42:11
M 123456 COMPLD
  "main-1-1::AISNC=MJ, SFTHR=-6, SFAIL=-5, TCAMD=ENABLE, SYNCMSG=sbyte,
APPLICATION=1+1, RDI-L=NA, PJCMON=4::ACTIVE:-"
  "main-2-1::AISNC=NA, SFTHR=-6, SFAIL=-5, TCAMD=ENABLE, SYNCMSG=sbyte,
APPLICATION=1+1, RDI-L=NA, PJCMON=4::STANDBY:-"
;
```

The following example, beginning in Release 5.0, shows the response to a query concerning the OC-12 lines in main.

```
rtrv-oc12:TID123:main-all:123456;

IP 123456
<

TID123 93-10-26 16:42:11
M 123456 COMPLD
"main-1-1::AISNC=MJ,SFTHR=-7,SFAIL=-4,TCAMD=ENABLE,
SYNCMSG=sbyte,APPLICATION=UPSR,RDI-L=NA,PJCMON=4,CRSTAT=23-31-13"
"main-2-1::AISNC=NA,SFTHR=-7,SFAIL=-4,TCAMD=ENABLE,
SYNCMSG=sbyte,APPLICATION=UPSR,RDI-L=NA,PJCMON=4,CRSTAT=23-31-13"
;
```

The above 4 responses are no longer valid beginning in Release 6.0. The responses will be the same, except with the removal of the AISNC and RDI-L parameters.

The following example, beginning in Release 7.0, shows the response to a query concerning an OC-12 line in main with received section trace monitoring disabled.

```
rtrv-oc12:TID123:main-1-1:123456;

IP 123456
<

TID123 93-10-26 16:42:11
M 123456 COMPLD
"main-1-1::SFTHR=-7,SFAIL=-4,TCAMD=ENABLE,
SYNCMSG=sbyte,APPLICATION=UPSR,PJCMON=4,CRSTAT=23-31-13,
strcwfmt=16,strcout=FC66726F6D426F73746F6E0000000000,
strcouttxt=\"fromBoston\",strcfmt=1,exprstrc=4D,
exprstrctxt=\"M\",rstimmon=DISABLE,rstimca=DISABLE:IS"
;
```

The following example, beginning in Release 7.0, shows the response to a query concerning an OC-12 line in main with received section trace monitoring enabled.

```
rtrv-oc12:TID123:main-1-1:123456;

IP 123456
<

TID123 93-10-26 16:42:11
M 123456 COMPLD
"main-1-1::SFTHR=-7,SFAIL=-4,TCAMD=ENABLE,
SYNCMSG=sbyte,APPLICATION=UPSR,PJCMON=4,CRSTAT=23-31-13,
strcwfmt=16,strcout=FC66726F6D426F73746F6E0000000000,
strcouttxt="\fromBoston\",strcfmt=1,exprstrc=4D,
exprstrctxt="\M\",rstimmon=ENABLE,rstimca=DISABLE,
strcst=NORMAL,src=89000000000000000000000000000000,
strctxt="\":IS"
;
```

The following example, beginning in Release 7.1, shows the response to a query concerning a line associated with a muxponder client port with *signaltype*=OC12 (see **RTRV-OTPE**).

```
rtrv-oc12:TID123:fn-d-1-7:123456;

IP 123456
<

TID123 08-10-26 16:42:11
M 123456 COMPLD
"fn-d-1-7::SFTHR=-7,SFAIL=-4,TCAMD=ENABLE,
SYNCMSG=sbyte,APPLICATION=0X1:IS"
;
```

The following example, beginning in Release 3.1, shows the response to a query concerning the EC-1 ports in function group D.

RTRV-EC1:LT-TID123:d-all:123456;

```
IP 123456
<

LT-TID123 93-10-26 16:42:11
M 123456 COMPLD
"d-1::NTFCNCDE=CR,SFTHR=-6,TCAMD=ENABLE,LB0=IN,EIF=EC1,RDI-L=NA:IS"
"d-2::NTFCNCDE=MJ,SFTHR=-6,TCAMD=ENABLE,LB0=OUT,EIF=EC1,RDI-L=NA:OOS-MA-
AS"
"d-6::NTFCNCDE=CR,SFTHR=-6,TCAMD=DISABLE,LB0=IN,EIF=EC1,RDI-L=NA:OOS-MA-
AS"
"d-10::NTFCNCDE=CR,SFTHR=-6,TCAMD=ENABLE,LB0=IN,EIF=EC1,RDI-L=NA:IS"
"d-11::NTFCNCDE=CR,SFTHR=-6,TCAMD=ENABLE,LB0=IN,EIF=EC1,RDI-L=NA:IS"
"d-12::NTFCNCDE=CR,SFTHR=-6,TCAMD=ENABLE,LB0=IN,EIF=EC1,RDI-L=MJ:OOS-MA-
AS"
;
```

The above response is no longer valid beginning in Release 6.0. The response will be the same, except with the removal of the NTFCNCDE and RDI-L parameters.

The following example shows the response to a query concerning the STNA lines in function group D.

rtrv-stna:LT-TID123:fn-d-all:123456;

```
IP 123456
<

LT-TID123 07-10-26 16:42:11
M 123456 COMPLD
"fn-d-1-2::SIGNALTYPE=STNA::"
"fn-d-1-3::SIGNALTYPE=STNA::"
"fn-d-1-8::SIGNALTYPE=STNA::"
"fn-d-1-9::SIGNALTYPE=STNA::"
;
```

The following example, beginning in Release 7.0, shows the response to a query concerning the EC-1 ports in function group D.

RTRV-EC1:LT-TID123:d-all:123456;

IP 123456

<

LT-TID123 07-07-11 14:31:59

M 123456 COMPLD

"d-1::SFTHR=-6,TCAMD=ENABLE,LBO=IN,EIF=EC1,STRCWFMT=2,STRCFMT=2,
RSTIMMON=DISABLE,RSTIMCA=DISABLE:IS"

"d-2::SFTHR=-6,TCAMD=ENABLE,LBO=OUT,EIF=EC1,STRCWFMT=1,STRCOUT=20,
STRCOUTTXT="\ \"",STRCFMT=1,EXPRSTRC=20,EXPRSTRCTXT="\ \"",RSTIMMON=
ENABLE,RSTIMCA=DISABLE,STRCST=NORMAL,STRC=20,STRCTXT="\ \"":IS"

"d-6::SFTHR=-6,TCAMD=DISABLE,LBO=IN,EIF=EC1,STRCWFMT=2,STRCFMT=2,
RSTIMMON=DISABLE,RSTIMCA=DISABLE:OOS-MA-AS"

"d-12::SFTHR=-6,TCAMD=ENABLE,LBO=IN,EIF=EC1,STRCWFMT=2,STRCFMT=2,
RSTIMMON=DISABLE,RSTIMCA=DISABLE:OOS-MA-AS"

;

The following example, beginning in Release 9.0, shows the response to a query concerning the SS Bits value on an LNW55 in function group D.

RTRV-OC48:LT-TID123:fn-d-1-1:123456;

IP 123456

<

LT-TID123 07-07-11 14:31:59

M 123456 COMPLD

"fn-d-1-1::SFTHR=-7,SFAIL=-4,TCAMD=ENABLE,
SYNCSMSG=sbyte,APPLICATION=UPSR,PJCMON=4,CRSTAT=23-31-13,
SSBITS=SS00,srcwfmt=16,srcout=FC66726F6D426F73746F6E0000000000,
srcouttxt="fromBoston",srcfmt=1,exprstrc=4D,
exprstrctxt="M",rstimmon=ENABLE,rstimca=DISABLE,
srcst=NORMAL,src=8900000000000000000000000000000000000000,
strctxt="\ \"":IS"

;

The following example shows the response to a query concerning all STS1 channels when there are only three STS1 channels currently cross-connected. The cross-connects are dropped to a DS3 in the function slot:

```
RTRV-STSI:TID123:all:123456;

IP 123456
<

TID123 93-10-26 16:42:11
M 123456 COMPLD
"m-1-1:::AISNC=NR,AISNCSA=CR,SFTHR=-6,SFAIL=-3,TCAMD=ENABLE:IS"
"m-1-4:::AISNC=MN,AISNCSA=CR,SFTHR=-6,SFAIL=-3,TCAMD=ENABLE:IS"
"m-1-10:::AISNC=NR,AISNCSA=NA,SFTHR=-6,SFAIL=-3,TCAMD=ENABLE:IS"
;
```

The following example shows the response to a query concerning all STS1 channels when there are only three STS1 channels currently cross-connected. The cross-connects are dropped to an EC1 in the function slot:

```
RTRV-STSI:TID123:all:123456;

IP 123456
<

TID123 93-10-26 16:42:11
M 123456 COMPLD
"m-1-1:::AISNC=NR,AISNCSA=CR,SFTHR=-6,SFAIL=-3,TCAMD=ENABLE:IS"
"m-1-4:::AISNC=MN,AISNCSA=CR,SFTHR=-6,SFAIL=-3,TCAMD=ENABLE:IS"
"m-1-10:::AISNC=NR,AISNCSA=NA,SFTHR=-6,SFAIL=-3,TCAMD=ENABLE:IS"
"d-1:::AISNC=NR,AISNCSA=NA,SFTHR=-6,SFAIL=-3,TCAMD=ENABLE:IS"
;
```

The following example shows the response to a query concerning all STS1 channels when there are only three STS1 channels currently cross-connected, and no channel states because the cross-connects are pass-through cross-connects.

:

```
RTRV-STs1:TID123:all:123456;

IP 123456
<

TID123 93-10-26 16:42:11
M 123456 COMPLD
  "m-1-1::TCAMD=ENABLE"
  "m-1-2::TCAMD=ENABLE"
  "m-1-3::TCAMD=ENABLE"
;
```

Beginning in Release 3.1.1, this example replaces the previous example.

The following example shows the response to a query concerning all STS1 channels when there are only three STS1 channels containing pass-through cross-connects.

:

```
RTRV-STs1:TID123:all:123456;

IP 123456
<

TID123 93-10-26 16:42:11
M 123456 COMPLD
  "m-1-1::AISNC=NR,AISNCSA=CR,SFTHR=-6,SFAIL=-3,TCAMD=ENABLE:IS"
  "m-1-2::AISNC=NR,AISNCSA=CR,SFTHR=-6,SFAIL=-3,TCAMD=ENABLE:IS"
  "m-1-3::AISNC=NR,AISNCSA=CR,SFTHR=-6,SFAIL=-3,TCAMD=ENABLE:IS"
;
```

Beginning in Release 6.0, the above 4 responses are no longer valid, because they use channel AIDs instead of ring channel AIDs, and include parameters that have been removed.

Beginning in Release 6.0, the following example shows the response to a query concerning all STS1 channels when there are only three STS1 channels currently cross-connected. The cross-connects are dropped to a DS3 in the function slot:

```
RTRV-STTS1:TID123:all:123456;

IP 123456
<

TID123 06-10-26 16:42:11
M 123456 COMPLD
  "m1-1-1::SFTHR=-6,SFAIL=-3,TCAMD=ENABLE:IS"
  "m2-1-4::SFTHR=-6,SFAIL=-3,TCAMD=DISABLE:IS"
  "m2-1-10::SFTHR=-6,SFAIL=-3,TCAMD=ENABLE:IS"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the system receives a **RTRV-rr** command with an invalid command code **modifier**, the following error response is returned:

```
sid date time
M ctag DENY
  ICNV
  /* Input, Command Not Valid, invalid modifier */
;
```

If the NE receives a **RTRV-rr** command without an **aid** value or with an **aid** value that is invalid for the **modifier** provided (for example, the **aid** referring to a different type of entity than is specified by the **modifier**), the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid Access Identifier, AID is missing, wrong or inconsistent
  with modifier */
;
```


If the NE receives a **RTRV-rr** command with an otherwise valid **aid** value but for which the corresponding slot is not equipped, the following error response is returned:

```
sid date time
M ctag DENY
  ENEQ
/* Equipage, Not EQuipped */
;
```

If the NE receives a **RTRV-rr** command with an otherwise valid single **aid** value but for which the corresponding slot is equipped with an incompatible circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  ENRI
/* Equipage Not equipped for Retrieving specified Information */
;
```

The above response is also returned if the *signaltype* of a single **aid**'s line on a multi-rate pack (this command:*signaltype*) or muxponder pack (**RTRV-OTPE:signaltype**) does not match the requested **modifier**.

If the NE receives a **RTRV-rr** command with a **modifier** for which no channel state exists (and one or more of the parameters require a channel state) for the specific **aid**, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, address points to a non-existent channel */
;
```

If the NE receives a **RTRV-rr** command with a ***modifier*** for which no cross-connect exists for the specific ***aid***, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, address points to a non-existent cross-
connect */
;
```

If the addressed channel is a component of a higher-level channel (for example, VT-1.5 being addressed is actually a part of an existing STS-1 channel or the STS-1 channel being addressed is actually a part of an existing STS-3C channel), the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, the specified address is
not properly cross-connected */
;
```

RELATED TL1 MESSAGES

ENT-rr

NAME

RTRV-RSLT: Retrieve Test Access Monitor Results

The **RTRV-RSLT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

Input format of **RTRV-RSLT** is as shown below.

RTRV-RSLT:*tid::ctag:::spec_block*;

DESCRIPTION

The **RTRV-RSLT** command is used to request the results of a previous or current **MEAS-SIG** command. Results are available until a **DISC-TACC** command terminates a session.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-466. RTRV-RSLT Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-467. RTRV-RSLT *spec_block* Parameters

Parameter Name	Description
<i>tsn</i>	Test Session Number. The <i>tsn</i> identifies the test access session (previously established) for which the results are being requested. The value is in the range 1-12 . This parameter is required.

OUTPUT FORMAT

If there is no data to report, the following is displayed:

```
sid date time
M ctag COMPLD
;
```

If there is data to report, the following is displayed.

```
sid date time
M ctag COMPLD
  "tsn,rate:montype,monval,[vldty],tmper,mondatt[,montm]"
  . . . . .
  . . . . .
  . . . . .
;
```

OUTPUT PARAMETERS

Table 2-468. RTRV-RSLT Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>ctag</i>	Correlation Tag. This is included in the command by the user and is repeated by the NE in the response to allow the user to associate the command and response messages.
Each of the partial or completed bins are reported one per line, with the following parameters:	
<i>tsn</i>	Test Session Number. See Input Parameters.
<i>rate</i>	Rate of monitored tributary. The values are STS1 or STS3c.
<i>montype</i>	Monitoring Type. The valid values are: PRSEERR A count of PRBS errored bytes. This value is reported when <i>rate</i>=STS1 or STS3c. Whenever the monitor detects an out-of-sync second, active counters are incremented by 65535 (each second).
<i>monval</i>	Monitoring Value. This field contains the measured value of the counter specified in <i>montype</i> .
<i>vlidy</i>	Validity. The <i>vlidy</i> indicator, which has one of the following values: ■ NULL Data is complete. Data has been accumulated over the subject time period. ■ NA Not Available. Data is not available, including counts not available because of trouble conditions that cause performance monitoring to be suspended. ■ PRTL Partial data. Data is partial, accumulated over some portion of the subject time period, including counts that overflow their registers and counts that are corrupt. This may occur if a INIT-SYS or a ED-DAT command is entered, or if the pack where monitoring is occurring has recently been inserted or removed. The <i>tmper</i>=TOTAL bin is marked PRTL as long as monitoring is continuing. If monitoring has stopped, then the bin is marked NULL.

Table 2-468. RTRV-RSLT Output Parameters (cont 2 of 2)

Parameter Name	Description
	The <i>valdy</i> parameter may also have the value PRTL if the time is reset. The current bins are marked PRTL when the time is reset.
<i>tmper</i>	Time Period. This displays data for a specified time interval. This parameter will have one of the following values: ■ 15-MIN Data in 15-minute intervals. There is one current 15-MIN bin, and up to 32 previous 15-MIN bins. ■ 1-DAY Daily data. There is one current 1-DAY bin, and one previous 1-DAY bin. ■ TOTAL Total count since the MEAS-SIG command was issued. There is a single TOTAL bin.
<i>mondatt</i>	Monitoring Date. The <i>mondatt</i> parameter contains the date of the beginning of the bin. The TOTAL bin lists the date that the MEAS-SIG command was issued.
<i>montm</i>	Monitoring Time. The <i>montm</i> parameter contains the time of day of the beginning of the bin. The TOTAL bin lists the time that the MEAS-SIG command was issued. If <i>tmper</i> is 1-DAY, then <i>montm</i> is NULL.

EXAMPLE INPUT/OUTPUT

If none of the requested data is available due to equipage or provisioning, the system will not provide a normal command response.

If not all of the requested data is available due to the equipage and provisioning, the system will provide a normal command response with the collected data only.

The following is an example of a **RTRV-RSLT** response when the **MEAS-SIG** command was issued long enough ago that all the bins exist:

```
RTRV-RSLT:A121-39-NE-2::1::tsn=9;

IP 1
<
  A121-39-NE-2 06-02-09 16:04:43
M 1 COMPLD
  "9,STS1:PRSERR,0,PRTL,15-MIN,02-09,16-00"
  "9,STS1:PRSERR,0,,15-MIN,02-09,15-45"
  "9,STS1:PRSERR,0,,15-MIN,02-09,15-30"
  "9,STS1:PRSERR,0,,15-MIN,02-09,15-15"
  "9,STS1:PRSERR,0,,15-MIN,02-09,15-00"
  "9,STS1:PRSERR,0,,15-MIN,02-09,14-45"
  "9,STS1:PRSERR,0,,15-MIN,02-09,14-30"
  "9,STS1:PRSERR,0,,15-MIN,02-09,14-15"
  "9,STS1:PRSERR,0,,15-MIN,02-09,14-00"
>

  A121-39-NE-2 06-02-09 16:04:43
M 1 COMPLD
  "9,STS1:PRSERR,0,,15-MIN,02-09,13-45"
  "9,STS1:PRSERR,0,,15-MIN,02-09,13-30"
  "9,STS1:PRSERR,0,,15-MIN,02-09,13-15"
  "9,STS1:PRSERR,0,,15-MIN,02-09,13-00"
  "9,STS1:PRSERR,0,,15-MIN,02-09,12-45"
  "9,STS1:PRSERR,0,,15-MIN,02-09,12-30"
  "9,STS1:PRSERR,0,,15-MIN,02-09,12-15"
  "9,STS1:PRSERR,0,,15-MIN,02-09,12-00"
  "9,STS1:PRSERR,0,,15-MIN,02-09,11-45"
>

  A121-39-NE-2 06-02-09 16:04:43
M 1 COMPLD
  "9,STS1:PRSERR,0,,15-MIN,02-09,11-30"
  "9,STS1:PRSERR,0,,15-MIN,02-09,11-15"
  "9,STS1:PRSERR,0,,15-MIN,02-09,11-00"
  "9,STS1:PRSERR,0,,15-MIN,02-09,10-45"
  "9,STS1:PRSERR,0,,15-MIN,02-09,10-30"
  "9,STS1:PRSERR,0,,15-MIN,02-09,10-15"
  "9,STS1:PRSERR,0,,15-MIN,02-09,10-00"
  "9,STS1:PRSERR,0,,15-MIN,02-09,09-45"
  "9,STS1:PRSERR,0,,15-MIN,02-09,09-30"
>

  A121-39-NE-2 06-02-09 16:04:43
M 1 COMPLD
  "9,STS1:PRSERR,0,,15-MIN,02-09,09-15"
  "9,STS1:PRSERR,0,,15-MIN,02-09,09-00"
  "9,STS1:PRSERR,0,,15-MIN,02-09,08-45"
  "9,STS1:PRSERR,0,,15-MIN,02-09,08-30"
  "9,STS1:PRSERR,0,,15-MIN,02-09,08-15"
  "9,STS1:PRSERR,0,,15-MIN,02-09,08-00"
  "9,STS1:PRSERR,5,PRTL,1-DAY,02-09"
  "9,STS1:PRSERR,12,,1-DAY,02-08"
  "9,STS1:PRSERR,17,PRTL,TOTAL,02-07,13-27"
;
```

The following is an example of a **RTRV-RSLT** response when the **MEAS-SIG** command was issued recently enough that not all the bins exist:

```
RTRV-RSLT:A121-39-NE-2::12::tsn=9;
```

```
IP 12
<
  A121-39-NE-2 06-02-09 16:04:43
M 12 COMPLD
  "9,STS1:PRSERR,0,PRTL,15-MIN,02-09,16-00"
  "9,STS1:PRSERR,0,,15-MIN,02-09,15-45"
  "9,STS1:PRSERR,2,,15-MIN,02-09,15-30"
  "9,STS1:PRSERR,0,,15-MIN,02-09,15-15"
  "9,STS1:PRSERR,0,,15-MIN,02-09,15-00"
  "9,STS1:PRSERR,0,,15-MIN,02-09,14-45"
  "9,STS1:PRSERR,0,,15-MIN,02-09,14-30"
  "9,STS1:PRSERR,3,,15-MIN,02-09,14-15"
  "9,STS1:PRSERR,0,,15-MIN,02-09,14-00"
>

  A121-39-NE-2 06-02-09 16:04:43
M 12 COMPLD
  "9,STS1:PRSERR,0,,15-MIN,02-09,13-45"
  "9,STS1:PRSERR,0,,15-MIN,02-09,13-30"
  "9,STS1:PRSERR,0,PRTL,15-MIN,02-09,13-27"
  "9,STS1:PRSERR,5,PRTL,1-DAY,02-09"
  "9,STS1:PRSERR,5,PRTL,TOTAL,02-09,13-27"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **RTRV-RSLT** command.

If the NE receives a request where there is no test session associated with the specified **tsn**, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, test session doesn't exist */
;
```

RELATED TL1 MESSAGES

CHG-ACCMD-rr

CHG-TSTSIG-rr

MEAS-SIG-rr

CONN-TACC-rr

DISC-TACC-rr

RTRV-TACC-rr

NAME

RTRV-SNMP-ADDR: Retrieve SNMP Target Address Table

The **RTRV-SNMP-ADDR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

RTRV-SNMP-ADDR:*tid:[targ_name]:ctag;*

DESCRIPTION

The **RTRV-SNMP-ADDR** command is used to retrieve entries from the SNMPv3 Target Address table (snmpTargetAddrTable).

Execution of this command will not be recorded in the Security log.

The **RTRV-SNMP-ADDR** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-469. RTRV-SNMP-ADDR Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. This is the name of the Network Element (NE) to which the command is addressed.
<i>targ_name</i>	Target Address Name. This parameter identifies an entry in the SNMPv3 snmpTargetAddrTable. Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>targ_name</i> . Only a single <i>targ_name</i> , NULL, or ALL value is supported in the command. If <i>targ_name</i> is ALL or is not specified, all entries in the SNMPv3 snmpTargetAddrTable will be retrieved.

Table 2-469. RTRV-SNMP-ADDR Input Parameters (cont 2 of 2)

Parameter Name	Description
ctag	Correlation tag. This is included in the command by the user and is repeated by the NE in the response to allow the user to associate the command and response messages.

OUTPUT FORMAT

The following normal completion response is returned:

```

sid date time
M  ctag COMPLD
   "targ_name:spec_block"
   "targ_name:spec_block"
   ...
   "targ_name:spec_block"
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below:

Table 2-470. RTRV-SNMP-ADDR Output Parameters

Parameter Name	Description
<i>targ_name</i>	Target Address Name. This parameter identifies an entry in the SNMPv3 snmpTargetAddrTable.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-471. RTRV-SNMP-ADDR Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>tipadr</i>	Target transport IP address. This is a 32-bit IP address consisting of four dot-separated decimal numbers 0-255.

Table 2-471. RTRV-SNMP-ADDR Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
<i>tag_lst</i>	List of usmTargetTag, snmpCommunityTransportTag, snmpNotifyTag identifiers used to select a set of entries in the snmpTargetAddr Table for source address checking.
<i>domain</i>	Network type. Values: UDP
<i>timeout</i>	Expected maximum round trip time in hundredths of seconds for communicating with the target address. Range: TBD.
<i>retrycnt</i>	Number of retries. Range: 0..255.
<i>parm_id</i>	The snmpTargetParamsName. Identifies an entry in the snmpTargetParamsTable that contains SNMP parameters to be used when generating messages to be sent to this transport address.
<i>mask</i>	IP subnet mask for <i>tipadr</i> . 32-bit IP subnet mask consisting of 4 dot separated decimal numbers 0-255
<i>maxmsgsz</i>	Maximal message size in bytes that can be transmitted. Integer value. A value of 0 indicates that the maximum message size is unknown.

EXAMPLE INPUT/OUTPUT

The following are examples of the input and output of the **RTRV-SNMP-ADDR** command:

```
RTRV-SNMP-ADDR:LT-TID123:Admin-3:123456;;

IP 123456
<
LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
"Admin-3:tipadr=135.107.32.5,tag_lst=\"Admin-1 Admin-2\",domain=UDP,
timeout=2000,retrycnt=5,parm_id=v3admin1,mask=255.255.255.255,
maxmsgsz=4096"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the NE receives an **RTRV-SNMP-ADDR** command with an invalid **targ_name** value or a value of **targ_name** that doesn't exist in the SNMPv3 snmpTargetAddrTable, the following error response is returned:

```
sid date time
M  ctag DENY
   IDNV
   /* Input, Data Not Valid, invalid TARG_NAME */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

ENT-SNMP-USERGP

ED-SNMP-USERGP

DLT-SNMP-USERGP

RTRV-SNMP-USERGP

ENT-SNMP-GROUP

ED-SNMP-GROUP

DLT-SNMP-GROUP

RTRV-SNMP-GROUP

ENT-SNMP-MIBGP

ED-SNMP-MIBGP

DLT-SNMP-MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

RTRV-SNMP-ADDR
TL1 Message Details

RTRV-SNMP-ADDR
Alcatel-Lucent 1665 DMX, R9.0

NAME

RTRV - SNMP - GROUP : Retrieve SNMP Group

The **RTRV - SNMP - GROUP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

RTRV - SNMP - GROUP:*tid*:[*groupid*]:*ctag*[:::*spec_block*];

DESCRIPTION

The **RTRV - SNMP - GROUP** command is used to retrieve entries from the SNMPv3 vacmAccessTable.

Execution of this command will not be recorded in the Security log.

The **RTRV - SNMP - GROUP** command does not generate a **REPT DBCHG** message.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-472. RTRV - SNMP - GROUP Input Parameter (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>groupid</i>	The vacmGroupName group identifier for an entry in the SNMPv3 vacmAccessTable. <i>groupid</i> is a case sensitive alphanumeric string of 6-20 characters. "-" is an allowed character in <i>groupid</i> . Only a single <i>groupid</i> , NULL, or ALL value is supported in the command.

Table 2-472. RTRV-SNMP-GROUP Input Parameter (cont 2 of 2)

Parameter Name	Description
	If groupid is ALL or is not specified, all entries in the SNMPv3 vacmAccessTable will be retrieved
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
spec_block	The spec_block parameters are listed and described in the following table.

Table 2-473. RTRVT-SNMP-GROUP Input *spec_block* Parameters

Parameter Name	Description
sec_model	Security model value for the vacmAccessSecurityModel object. Values: SNMPV1 SNMPv1 security model. SNMPV2C SNMPv2c security model. USM SNMPv3 USM security model. If sec_model is not specified, all security models for the requested groupid, sec_level, prefix will be retrieved
sec_level	Security level value for the vacmAccessSecurityLevel object. Values: NOAUTHNOPRIV No authorization security and no privacy security. AUTHNOPRIV Authorization security but no privacy security. AUTHPRIV Authorization security and privacy security. If sec_level is not specified, all security levels for the requested groupid, sec_model, prefix will be retrieved
prefix	Context prefix value for the vacmAccessContextPrefix object. A NULL value is the only allowed value.

OUTPUT FORMAT

The following normal completion response is returned:

```
sid date time
M  ctag COMPLD
   "groupid:spec_block"
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV -HDR**. Additional parameters that specifically apply to this command response are defined below:

Table 2-474. RTRV-SNMP-GROUP Output Parameters

Parameter Name	Description
<i>groupid</i>	The vacmGroupName group identifier for an entry in the SNMPv3 vacmAccessTable.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-475. RTRV-SNMP-GROUP Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>sec_model</i>	Security model value for the vacmAccessSecurityModel object. Values: SNMPV1 SNMPv1 security model. SNMPV2C SNMPv2c security model. USM SNMPv3 USM security model.
<i>sec_level</i>	Security level value for the vacmAccessSecurityLevel object. Values: NOAUTHNOPRIV No authorization security and no privacy security AUTHNOPRIV Authorization security but no privacy security. AUTHPRIV Authorization security and privacy security.

Table 2-475. RTRV-SNMP-GROUP Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
<i>prefix</i>	Context prefix value for the vacmAccessContextPrefix object. This parameter is the entire or partial context name to match the context name in a management request.
<i>readmibs</i>	Read access MIB groups name for the vacmAccessReadViewName object.
<i>writemibs</i>	Write access MIB groups name for the vacmAccessWriteViewName object.
<i>notifmibs</i>	Notification MIB groups name for the vacmAccessNotifyViewName object.
<i>match</i>	Context match value for the vacmAccessContextMatch object. This parameter specifies how the context of a request must match. Values: EXACT Exact context match PREFIX Only prefix context match

EXAMPLE INPUT/OUTPUT

The following are examples of the input and output of the RTRV-SNMP-GROUP command:

```
RTRV-SNMP-GROUP:LT-TID123:Admin-2:123456:::sec_model=usm,
sec_level=authpriv,prefix=;

IP 123456
<
LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
"Admin-2:sec_model=usm,sec_level=authpriv,prefix=,readmibs=\"All\",
notifmibs=\"All\",match=exact"
;
```

```
RTRV-SNMP-GROUP:LT-TID123:all:123456;  
  
IP 123456  
<  
LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
"Admin1:sec_model=usm,sec_level=authpriv,prefix=,readmibs=\"All\",  
notifmibs=\"All\",match=exact"  
"Admin1:sec_model=usm,sec_level=authnopriv,prefix=,readmibs=\"All\",  
notifmibs=\"All\",match=prefix"  
"ReadOnly1:sec_model=usm,sec_level=authnopriv,prefix=,  
readmibs=\"SysPmInfo\",match=exact"  
"NotifyOnly1:sec_model=usm,sec_level=authnopriv,prefix=,notifmibs=\"S  
ysPmInfo\",match=exact"  
"V2requests:sec_model=snmpv2c,sec_level=noauthnopriv,prefix=,  
readmibs=\"SysPmInfo\",match=exact"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the NE receives an **RTRV-SNMP-GROUP** command with an invalid **groupid** value or a value of **groupid** that doesn't exist in the SNMPv3 vacmAccessTable, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid GROUPID */  
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT - SNMP - ADDR

ED - SNMP - ADDR

DLT - SNMP - ADDR

RTRV - SNMP - ADDR

ENT - SNMP - USERGP

ED - SNMP - USERGP

DLT - SNMP - USERGP

RTRV - SNMP - USERGP

ENT - SNMP - GROUP

ED - SNMP - GROUP

DLT - SNMP - GROUP

ENT - SNMP - MIBGP

ED - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

RTRV - SNMP - MIBGP: Retrieve VACM View Tree Family Table

The **RTRV - SNMP - MIBGP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

RTRV - SNMP - MIBGP:*tid:[mibgrpid]:ctag::[subtree];*

DESCRIPTION

The **RTRV - SNMP - MIBGP** command is used to retrieve entries from the SNMPv3 View Tree Family table (vacmViewTreeFamilyTable).

Execution of this command will not be recorded in the Security log.

The **RTRV - SNMP - MIBGP** command does not generate a **REPT DBCHG** message.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-476. RTRV-SNMP-MIBGP Input Parameters

Parameter Name	Description
tid	Target Identifier. This is the name of the Network Element (NE) to which the command is addressed.
mibgrpid	MIB Group ID. Identifies entries in the SNMPv3 View Tree Family table (vacmViewTreeFamilyTable). Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in mibgrpid . Only a single mibgrpid , NULL, or ALL value is supported in the command.
ctag	Correlation tag. This is included in the command by the user and is repeated by the NE in the response to allow the user to associate the command and response messages.
subtree	MIB subtree object identification (OID) of the vacmViewTreeFamilySubtree. subtree is a character string of 1 to 255 characters that may be specified as either a subtree name, e.g., SysPmInfo, or as a OID string, e.g., 1.3.6.1.4.1.1751.2.88.10.2. Only a single subtree, NULL, or ALL value is supported in the command. Starting in Release 1.0, the following rules apply: — If subtree is not specified, data is retrieved for all vacmViewTreeFamilyTable entries with the specified value of mibgrpid. — If subtree is not specified and mibgrpid is NULL or ALL, then the data is retrieved for all vacmViewTreeFamilyTable entries. — if a value of subtree is specified and mibgrpid is NULL or ALL, then the data is retrieved for all vacmViewTreeFamilyTable entries with the specified value of subtree. — if a value of subtree is specified and mibgrpid is specified, then the data is retrieved for the vacmViewTreeFamilyTable entry that is uniquely identified by that combination of mibgrpid and subtree.

OUTPUT FORMAT

The following normal completion response is returned:

```

sid date time
M  ctag COMPLD
  "mibgrpid:subtree:spec_block"
  "mibgrpid:subtree:spec_block"
  ...
  "mibgrpid:subtree:spec_block"
;
```


OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below:

Table 2-477. RTRV-SNMP-MIBGP Output Parameters

Parameter Name	Description
<i>mibgrpid</i>	MIB Group ID. Identifies an entry in the SNMPv3 View Tree Family table (vacmViewTreeFamilyTable). Case sensitive alphanumeric string of 6 to 20 characters.
<i>subtree</i>	MIB subtree object identification (OID) of the vacmViewTreeFamilySubtree.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-478. RTRV-SNMP-MIBGP Output *spec_block* Parameters

Parameter Name	Description
<i>mask</i>	The OID bit mask which, in combination with the corresponding instance of <i>subtree</i> , defines a family of view subtrees. <i>mask</i> is an OctetString represented as a sequence of hexadecimal numbers separated by colons. Each octet is within the range 0x00 through 0xff.
<i>type</i>	Included or excluded the specified subtree from the MIB view. Values: INCLUDE Include the specified subtree. EXCLUDE Exclude the specified subtree.

EXAMPLE INPUT/OUTPUT

The following are examples of the input and output of the **RTRV-SNMP-MIBGP** command:

```
RTRV-SNMP-MIBGP:LT-TID123:SysPMInfo:123456;  
  
IP 123456  
<  
LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
"SysPMInfo:SysPMInfo:mask=\"ff:ff\",type=include"  
;
```

```
RTRV-SNMP-MIBGP:LT-TID123:all:123456::all;  
  
IP 123456  
<  
LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
"SysPMInfo:SysPMInfo:mask=\"ff:ff\",type=include"  
"All::All:mask=\"ff:ff\",type=include"  
"Sonet:1.3.6.1.2.1.10.39:mask=\"ff:ff\",type=include"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the NE receives an **RTRV-SNMP-MIBGP** command with an invalid *mibgrpid* value or a value of *mibgrpid* that doesn't exist in the SNMPv3 View Tree Family table (vacmViewTreeFamilyTable), the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid MIBGRPID */  
;
```

If the NE receives an **RTRV-SNMP-MIBGP** command with an invalid **subtree** value or a value of **subtree** that doesn't exist in the SNMPv3 View Tree Family table (vacmViewTreeFamilyTable), the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SUBTREE */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERGP

ED-SNMP-USERGP

DLT-SNMP-USERGP

RTRV-SNMP-USERGP

ENT-SNMP-GROUP

ED-SNMP-GROUP

DLT-SNMP-GROUP

ENT-SNMP-MIBGP

ED-SNMP-MIBGP

DLT-SNMP-MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

RTRV-SNMP-NOTIF: Retrieve SNMP Notify Table

The **RTRV-SNMP-NOTIF** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

RTRV-SNMP-NOTIF:*tid:[notif_id]:ctag*;

DESCRIPTION

The **RTRV-SNMP-NOTIF** command is used to retrieve entries from the SNMPv3 snmpNotifyTable.

Execution of this command will not be recorded in the Security log.

The **RTRV-SNMP-NOTIF** command does not generate a **REPT DBCHG** message.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-479. RTRV-SNMP-NOTIF Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. This is the name of the Network Element (NE) to which the command is addressed.
<i>notif_id</i>	Notification Name. Identifies an entry in the SNMPv3 snmpNotifyTable. It is a case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>notif_id</i> . Only a single <i>notif_id</i> , NULL, or ALL value is supported in the command. If <i>notif_id</i> is ALL or is not specified, all entries in the SNMPv3 snmpNotifyTable will be retrieved

Table 2-479. RTRV-SNMP-NOTIF Input Parameters (cont 2 of 2)

Parameter Name	Description
ctag	Correlation tag. This is included in the command by the user and is repeated by the NE in the response to allow the user to associate the command and response messages.

OUTPUT FORMAT

The following normal completion response is returned:

```

sid date time
M  ctag COMPLD
  "notif_id:spec_block"
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below:

Table 2-480. RTRV-SNMP-NOTIF Output Parameters

Parameter Name	Description
<i>notif_id</i>	Notification Name. Identifies an entry in the SNMPv3 snmpNotifyTable.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-481. RTRV-SNMP-NOTIF Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>tag_id</i>	<i>tag_id</i> is a single tag value which is used to select entries in the snmpTargetAddrTable.

Table 2-481. RTRV-SNMP-NOTIF Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
<i>notify_type</i>	Notification type. Values: TRAP Trap notifications. No acknowledgement of the notification sent is expected INFORM Inform notification. Acknowledgement of sent notification is expected.

EXAMPLE INPUT/OUTPUT

The following are examples of the input and output of the **RTRV-SNMP-NOTIF** command:

```
RTRV-SNMP-NOTIF:LT-TID123:admin-3:123456;

IP 123456
<
LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
"admin-3:tag_id=admin-3,notify_type=trap"
;
```

```
RTRV-SNMP-NOTIF:LT-TID123:all:123456;

IP 123456
<
LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
"admin-1:tag_id=admin-1,notify_type=trap"
"admin-2:tag_id=admin-2,notify_type=trap"
"admin-3:tag_id=admin-2,notify_type=trap"
"v2usr_v2Traps:tag_id=v2usr_v2Traps,notify_type=trap"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the NE receives an **RTRV-SNMP-NOTIF** command with an invalid *notif_id* value or a value of *notif_id* that doesn't exist in the SNMPv3 snmpNotifyTable, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid NOTIF_ID */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERGP

ED-SNMP-USERGP

DLT-SNMP-USERGP

RTRV-SNMP-USERGP

ENT-SNMP-GROUP

ED-SNMP-GROUP

DLT-SNMP-GROUP

ENT-SNMP-MIBGP

ED-SNMP-MIBGP

DLT-SNMP-MIBGP

RTRV-SNMP-NOTIF
TL1 Message Details

RTRV-SNMP-NOTIF
Alcatel-Lucent 1665 DMX, R9.0

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

RTRV-SNMP-PARAM: Retrieve SNMP Target Parameter Table

The **RTRV-SNMP-PARAM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

RTRV-SNMP-PARAM:*tid:[parm_id]:ctag;*

DESCRIPTION

The **RTRV-SNMP-PARAM** command is used to retrieve entries from the Target Parameter Table (snmpTargetParamsTable).

Execution of this command will not be recorded in the Security log.

The **RTRV-SNMP-PARAM** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-482. RTRV-SNMP-PARAM Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. This is the name of the Network Element (NE) to which the command is addressed.
<i>parm_id</i>	Target parameter entry name. Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>parm_id</i> . Only a single <i>parm_id</i> , NULL, or ALL value is supported in the command. If <i>parm_id</i> is ALL or is not specified, all entries in the snmpTargetParams Table will be retrieved.

Table 2-482. RTRV-SNMP-PARAM Input Parameters (cont 2 of 2)

Parameter Name	Description
ctag	Correlation tag. This is included in the command by the user and is repeated by the NE in the response to allow the user to associate the command and response messages.

OUTPUT FORMAT

The following normal completion response is returned:

```

sid date time
M ctag COMPLD
  "parm_id:spec_block"
  "parm_id:spec_block"
  ...
  "parm_id:spec_block"
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below:

Table 2-483. RTRV-SNMP-PARAM Output Parameters

Parameter Name	Description
<i>parm_id</i>	The vacmGroupName group identifier for an entry in the snmpTargetParamsTable.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-484. RTRV-SNMP-PARAM Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>sec_model</i>	Security model. Values: SNMPV1 SNMPv1 security model.

Table 2-484. RTRV-SNMP-PARAM Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
	SNMPV2C SNMPv2c security model.
	USM SNMPv3 User Security Model.
<i>sec_uid</i>	Security Name. The Principal (i.e., user ID) on whose behalf SNMP messages will be generated using this entry.
<i>sec_level</i>	Security level. Values: NOAUTHNOPRIV No authorization and no privacy security AUTHNOPRIV Authorization security but no privacy security. AUTHPRIV Authorization security and privacy security.

EXAMPLE INPUT/OUTPUT

The following are examples of the input and output of the **RTRV-SNMP-PARAM** command:

```
RTRV-SNMP-PARAM:LT-TID123:v3admin:123456;

IP 123456
<
LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
"v3admin1:sec_model=usm,sec_uid=v3admin1,sec_level=authpriv"
;
```

```
RTRV-SNMP-PARAM:LT-TID123:all:123456;

IP 123456
<
LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
"v3read1:sec_model=usm,sec_uid=v3read1,sec_level=authnopriv"
"v3admin1:sec_model=usm,sec_uid=v3admin1,sec_level=authpriv"
"v2usr:sec_model=snmpv2,sec_uid=v2usr,sec_level=noauthnopriv"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the NE receives an **RTRV-SNMP-PARAM** command with an invalid *parm_id* value or a value of *parm_id* that doesn't exist, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid PARM_ID */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERGP

ED-SNMP-USERGP

DLT-SNMP-USERGP

RTRV-SNMP-USERGP

ENT-SNMP-GROUP

ED-SNMP-GROUP

DLT-SNMP-GROUP

RTRV-SNMP-PARAM
TL1 Message Details

RTRV-SNMP-PARAM
Alcatel-Lucent 1665 DMX, R9.0

ENT - SNMP - MIBGP

ED - SNMP - MIBGP

DLT - SNMP - MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

RTRV-SNMP-USER: Retrieve SNMP User

The **RTRV-SNMP-USER** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 3.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

RTRV-SNMP-USER:*tid:[ucomid]:ctag[:uipadr];*

Starting in Release 9.0, when **snmp_ver=V1-2**, the input format is:

RTRV-SNMP-USER:*tid:[uid]:ctag[:uipadr];*

Starting in Release 9.0, when **snmp_ver=V3**, the input format is:

RTRV-SNMP-USER:*tid:[uid]:ctag;*

DESCRIPTION

RTRV-SNMP-USER command is used by an appropriate administrator to retrieve the security parameters associated with an SNMP user.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-485. RTRV-SNMP-USER Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. This is the name of the Network Element (NE) to which the command is addressed.

Table 2-485. RTRV-SNMP-USER Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>ucomid</i>	This is the SNMP Community Identifier for the SNMP user . The valid values are a case-sensitive alphanumeric string of 6 to 20 characters. Only a single <i>ucomid</i> , NULL, or <i>ALL</i> value is supported in the command.
<i>uid</i>	Starting in Release 9.0, the name of the parameter <i>ucomid</i> is changed to <i>uid</i> to better represent its meaning and use. For SNMPv2, <i>uid</i> is the SNMPv2 Community identifier for the SNMP user. for SNMPv3, <i>uid</i> is the SNMPv3 user identifier for the SNMP user. Only a single <i>uid</i> , NULL, or <i>ALL</i> value is supported in the command. Starting in Release 9.0, <i>uid</i> is a case-sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in <i>uid</i>.
<i>ctag</i>	Correlation tag. This is included in the command by the user and is repeated by the NE in the response to allow the user to associate the command and response messages.
<i>uipadr</i>	User IP address. This is a 32-bit IP address consisting of four dot-separated decimal numbers 0-255. Only a single <i>uipadr</i> or null value is supported in the command. If <i>uipadr</i> is not specified, the SNMP user data is retrieved for all SNMP users with the specified value of <i>ucomid</i>, or for all users if <i>ucomid</i> is set to all NULL or <i>ALL</i> . If <i>uipadr</i> is specified, and if <i>ucomid</i> is specified, then the SNMP user data is retrieved for the single SNMP user defined by these parameters. If <i>uipadr</i> is specified, and if <i>ucomid</i> is set to all NULL or <i>ALL</i> , then the SNMP user data is retrieved for all SNMP user with the specified value of <i>uipadr</i> . Starting in Release 9.0, the following rules apply: — If <i>uipadr</i> is not specified, the SNMP user data is retrieved for all SNMPv1/v2 and SNMPv3 users with the specified value of <i>uid</i>. — If <i>uipadr</i> is not specified and <i>uid</i> is NULL or <i>ALL</i>, then the SNMP user data is retrieved for all SNMPv1/v2 and SNMPv3 users. — if a value of <i>uipadr</i> is specified and <i>uid</i> is NULL or <i>ALL</i>, then the SNMP user data is retrieved for all SNMPv1/v2 users with an IP address equal to value of <i>uipadr</i>. — if a value of <i>uipadr</i> is specified and <i>uid</i> is specified, then the data for the SNMPv1/v2 user who is uniquely identified by that combination of user ID and IP address is retrieved.

OUTPUT FORMAT

If the NE has SNMP users to report, the following normal completion response is returned:

```
sid date time
M  ctag COMPLD
   "ucomid:,uipadr:spec_block"
;
```

Starting in Release 9.0, If the NE has SNMP users to report, the following normal completion response is returned:

```
sid date time
M  ctag COMPLD
   "uid:uipadr:spec_block"
;
```

uipadr will be reported for SNMPv1/v2 users and will not be reported for SNMPv3 users.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV -HDR**. Additional parameters that specifically apply to this command response are defined below:

Table 2-486. RTRV - SNMP - USER Output Parameters

Parameter Name	Description
<i>ucomid</i>	This is the SNMP Community Identifier for the SNMP user . The valid values are a case-sensitive alphanumeric string of 6 to 20 characters.
<i>uid</i>	Starting in Release 9.0, the name of the parameter <i>ucomid</i> is changed to <i>uid</i> .
<i>uipadr</i>	User IP address. This is a 32-bit IP address consisting of four dot-separated decimal numbers 0-255.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-487. RTRV-SNMP-USER Output *spec_block* Parameters

Parameter Name	Description
<i>reqfnct</i>	Request Function. Enable or disable request functionality (i.e., GetRequest, GetNextRequest, GetBulkRequest). Values are ENABLED and DISABLED. Starting in Release 9.0, <i>reqfnct</i> applies only to SNMPv1/v2 users.
<i>trapfnct</i>	Trap Function. Enable or disable the SNMP user for receiving traps. Values are ENABLED and DISABLED. Starting in Release 9.0, <i>trapfnct</i> applies only to SNMPv1/v2 users.
<i>snmp_ver</i>	SNMP version. This parameter specifies the applicability and usage of the <i>com_block</i> and <i>spec_block</i> parameters. Values: V1-2 SNMPv2 applicability. V3 SNMPv3 applicability.
<i>tagid</i>	Tag identifier that is used to select a set of entries in the snmpTargetAddr Table for source address checking. A NULL value means no source checking. <i>tagid</i> applies only to SNMPv3 users.
<i>authprotocol</i>	Authentication protocol. Applies only to SNMPv3 users. Values: NOAUTH No authentication protocol. MD5 Specifies the HMAC-MD5-96 Digest Authentication Protocol I (uses the MD5 hash-function). SHA Specifies the HMAC-SHA-96 Digest Authentication Protocol (uses the SHA hash-function).
<i>privprotocol</i>	Privacy protocol. Applies only only to SNMPv3 users. Values: NOPRIV No privacy protocol. DES CBC-DES Symmetric Data Encryption Standard privacy protocol. 3DES CBC-3DES Symmetric Data Encryption Standard privacy protocol. AES128 128-bit Advanced Encryption Standard privacy protocol. AES192 192-bit Advanced Encryption Standard privacy protocol. AES256 256-bit Advanced Encryption Standard privacy protocol.

EXAMPLE INPUT/OUTPUT

```
RTRV-SNMP-USER:LT-TID123:snmpu1:123456::135.107.32.7;  
  
IP 123456  
<  
LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
"snmpu1:,135.107.32.7:reqfctn=enabled,trapfctn=disabled"  
;
```

```
RTRV-SNMP-USER:LT-TID123::123456::135.107.32.7;  
  
IP 123456  
<  
LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
"snmpu1:,135.107.32.7:reqfctn=enabled,trapfctn=disabled"  
"snmpu2:,135.107.32.7:reqfctn=disabled,trapfctn=enabled"  
;
```

```
RTRV-SNMP-USER:LT-TID123::123456;  
  
IP 123456  
<  
LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
"snmpu1:,135.107.32.7:reqfctn=enabled,trapfctn=disabled"  
"snmpu1:,135.161.145.100:reqfctn=enabled,trapfctn=enabled"  
"snmpu2:,135.107.32.7:reqfctn=disabled,trapfctn=enabled"  
;
```

Starting in Release 9.0, the following are input/output examples of the **RTRV-SNMP-USER** when all users are legacy SNMPv2 users:

```
RTRV-SNMP-USER:LT-TID123::123456::135.107.32.7;  
  
IP 123456  
<  
LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
"snmpu1:135.107.32.7:reqfctn=enabled,trapfctn=disabled,snmp_ver=V1-2"  
"snmpu2:135.107.32.7:reqfctn=disabled,trapfctn=enabled,snmp_ver=V1-2"  
;
```

```
RTRV-SNMP-USER:LT-TID123::123456;  
  
IP 123456  
<  
LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
"snmpu1:135.107.32.7:reqfctn=enabled,trapfctn=disabled,snmp_ver=V1-2"  
"snmpu1:135.161.145.100:reqfctn=enabled,trapfctn=enabled,snmp_ver=V1-2"  
"snmpu2:135.107.32.7:reqfctn=disabled,trapfctn=enabled,snmp_ver=V1-2"  
;
```

Starting in Release 9.0, the following are input/output examples of the **RTRV-SNMP-USER** when all users are SNMPv3 users:

```
RTRV-SNMP-USER:LT-TID123:v3read2:123456::;  
  
IP 123456  
<  
LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
"v3read2::snmp_ver=V3,tagid=\"Read-Only-2\",  
authprotocol=MD5,privprotocol=NOPRIV"  
;
```

```
RTRV-SNMP-USER:LT-TID123:ALL:123456;  
  
IP 123456  
<  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
"v3read2::snmp_ver=V3,  
tagid=\"Read-Only-2\",authprotocol=MD5,privprotocol=NOPRIV"  
"v3admin1::snmp_ver=V3,tagid=\"Admin-1\",  
authprotocol=SHA,privprotocol=AES128"  
;
```

Starting in Release 9.0, the following are input/output examples of the **RTRV-SNMP-USER** when some users are legacy SNMPv2 users and some users are SNMPv3 users:

```
RTRV-SNMP-USER:LT-TID123:ALL:123456;  
  
IP 123456  
<  
LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
"snmpu1:135.107.32.7:reqfctn=enabled,trapfctn=disabled,  
snmp_ver=V1-2"  
"snmpu1:135.161.145.100:reqfctn=enabled,trapfctn=enabled,  
snmp_ver=V1-2"  
"snmpu2:135.107.32.7:reqfctn=disabled,trapfctn=enabled,  
snmp_ver=V1-2"  
"v3read2::snmp_ver=V3,tagid=\"Read-Only-2\",  
authprotocol=MD5,privprotocol=NOPRIV"  
"v3admin1::snmp_ver=V3,tagid=\"Admin-1\",  
authprotocol=SHA,privprotocol=AES128"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the NE receives a **RTRV-SNMP-USER** command with a non-existing or invalid **ucomid** (SNMP Community Identifier) value, the following error response is returned:

```
sid date time
M  ctag DENY
   PIUI
   /* Privilege, Illegal User Identity, invalid UCOMID */
;
```

Starting in Release 9.0, the previous error response is replaced with the following error response:

If the NE receives a **RTRV-SNMP-USER** command with a non-existing or invalid **uid** value, the following error response is returned:

```
sid date time
M  ctag DENY
   PIUI
   /* Privilege, Illegal User Identity, invalid UID */
;
```

If the NE receives a **RTRV-SNMP-USER** command with a non-existing or invalid **uipadr** value, the following error response is returned:

```
sid date time
M  ctag DENY
   PIUI
   /* Privilege, Illegal User Identity, invalid UIPADR */
;
```

Starting in Release 9.0, the previous error response applies only for an invalid value of **uipadr**. It does not apply if **uipadr** is non-existing.

If the NE receives a **RTRV-SNMP-USER** command with specified values of **ucomid** (SNMP Community Identifier) and **uipadr** which together do not identify an existing SNMP user, the following error response is returned:

```
sid date time
M  ctag DENY
   PIUI
   /* Privilege, Illegal User Identity, invalid SNMP user */
;
```


Starting in Release 9.0, the parameter name ***ucomid*** is changed to ***uid*** in the previous error response.

Starting in Release 9.0, if the NE receives a **RTRV-SNMP-USER** command with value of ***uid*** which does not identify an existing SNMPv1/v2 or SNMPv3 user, the following error response is returned:

```
sid date time
M  ctag DENY
  PIUI
/* Privilege, Illegal User Identity, invalid SNMP user */
;
```

RELATED TL1 MESSAGES

DLT-SNMP-USER

ED-SNMP-USER

ENT-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERGP

ED-SNMP-USERGP

DLT-SNMP-USERGP

RTRV-SNMP-USERGP

ENT-SNMP-GROUP

ED-SNMP-GROUP

DLT-SNMP-GROUP

RTRV-SNMP-GROUP

ENT - SNMP - MIBGP
ED - SNMP - MIBGP
DLT - SNMP - MIBGP
RTRV - SNMP - MIBGP
ENT - SNMP - PARAM
ED - SNMP - PARAM
DLT - SNMP - PARAM
RTRV - SNMP - PARAM
ENT - SNMP - NOTIF
EDV - SNMP - NOTIF
DLT - SNMP - NOTIF
RTRV - SNMP - NOTIF

NAME

RTRV-SNMP-USERGP: Retrieve VACM Security to Group Table

The **RTRV-SNMP-USERGP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

RTRV-SNMP-USERGP:*tid:[sec_uid]:ctag::[sec_model]*;

DESCRIPTION

The **RTRV-SNMP-USERGP** command is used to retrieve entries from the SNMPv3 Security to Group table (vacmSecurityToGroupTable).

Execution of this command will not be recorded in the Security log.

The **RTRV-SNMP-USERGP** command does not generate a **REPT DBCHG** message.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-488. RTRV-SNMP-USERGP Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. This is the name of the Network Element (NE) to which the command is addressed.

Table 2-488. RTRV-SNMP-USERGP Input Parameters (cont 2 of 2)

Parameter Name	Description
sec_uid	User security name. Identifies an entry in the SNMPv3 Security to Group table (vacmSecurityToGroupTable). Case sensitive alphanumeric string of 6 to 20 characters. "-" is an allowed character in sec_uid. Only a single sec_uid, NULL, or ALL value is supported in the command. If sec_uid is ALL or is not specified, all entries in the SNMPv3 Security to Group table (vacmSecurityToGroupTable) with the specified value of sec_model will be retrieved. If sec_uid is ALL or is not specified and if sec_model is ALL or is not specified, then all entries in the SNMPv3 Security to Group table will be retrieved.
ctag	Correlation tag. This is included in the command by the user and is repeated by the NE in the response to allow the user to associate the command and response messages.
sec_model	Security model. Only a single sec_model, NULL, or ALL value is supported in the command. Values: SNMPV1 SNMPv1 security model SNMPV2C SNMPv2 security model USM SNMPv3 User Security Model If sec_model is ALL or is not specified, all entries in the SNMPv3 Security to Group table (vacmSecurityToGroupTable) with the specified value of sec_uid will be retrieved. If sec_model is ALL or is not specified and if sec_uid is ALL or is not specified, then all entries in the SNMPv3 Security to Group table will be retrieved.

OUTPUT FORMAT

The following normal completion response is returned:

```

sid date time
M ctag COMPLD
"sec_uid:sec_model:spec_block"
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below:

Table 2-489. RTRV-SNMP-USERGP Output Parameters

Parameter Name	Description
<i>sec_uid</i>	User security name. Identifies an entry in the SNMPv3 Security to Group table (vacmSecurityToGroupTable).
<i>sec_model</i>	Security model. SNMPV1 SNMPv1 security model SNMPV2C SNMPv2 security model USM SNMPv3 User Security Model
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-490. RTRV-SNMP-USERGP Output *spec_block* Parameters

Parameter Name	Description
<i>groupid</i>	vacmAccessTable ID. Identifies an entry in the SNMPv3 vacmAccessTable.

EXAMPLE INPUT/OUTPUT

The following are examples of the input and output of the **RTRV-SNMP-USERGP** command:

```
RTRV-SNMP-USERGP:LT-TID123:v3admin3:123456:usm;

IP 123456
<
LT-TID123 08-10-26 16:42:11
M 123456 COMPLD
"v3admin3:usm:groupid=v3admin1"
;
```

```
RTRV-SNMP-USERGP:LT-TID123:all:123456:all;  
  
IP 123456  
<  
LT-TID123 08-10-26 16:42:11  
M 123456 COMPLD  
"v3admin1:usm:groupid=Admin-1"  
"v3admin2:usm:groupid=Admin-2"  
"v3admin3:usm:groupid=Admin-1"  
"v3read1:usm:groupid=Read-Only-1"  
"v2usr:snmpv2:groupid=v2legacy"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If the NE receives an **RTRV-SNMP-USERGP** command with an invalid **sec_uid** value, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid SEC_UID */  
;
```

If the NE receives an **RTRV-SNMP-USERGP** command with an invalid **sec_model** value, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid SEC_MODEL */  
;
```

If the NE receives an **RTRV-SNMP-USERGP** command with values of **sec_uid** and **sec_model** that together do not identify an existing vacmSecurityToGroupTable entry, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SEC_UID and SEC_MODEL */
;
```

RELATED TL1 MESSAGES

ENT-SNMP-USER

DLT-SNMP-USER

ED-SNMP-USER

RTRV-SNMP-USER

ENT-SNMP-ADDR

ED-SNMP-ADDR

DLT-SNMP-ADDR

RTRV-SNMP-ADDR

ENT-SNMP-USERGP

ED-SNMP-USERGP

DLT-SNMP-USERGP

ENT-SNMP-GROUP

ED-SNMP-GROUP

DLT-SNMP-GROUP

RTRV-SNMP-GROUP

ENT-SNMP-MIBGP

ED-SNMP-MIBGP

DLT-SNMP-MIBGP

RTRV - SNMP - MIBGP

ENT - SNMP - PARAM

ED - SNMP - PARAM

DLT - SNMP - PARAM

RTRV - SNMP - PARAM

ENT - SNMP - NOTIF

ED - SNMP - NOTIF

DLT - SNMP - NOTIF

RTRV - SNMP - NOTIF

NAME

RTRV-STATE-EQPT: Retrieve State Equipment

The **RTRV-STATE-EQPT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

The input format is:

RTRV-STATE-EQPT:*tid*:[*aid*]:*tag*[:[:[:]]];

DESCRIPTION

The **RTRV-STATE-EQPT** command retrieves the circuit pack state within the slot for the network element (NE).

Execution of this command is not recorded in the Security log.

INPUT PARAMETERS

Table 2-491. RTRV-STATE-EQPT Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Address Identifier. The <i>aid</i> identifies one or more slots. A null value defaults to ALL indicating all slots in the system. The sysctl slot is not valid for this command. See Appendix A for a list of valid slot addresses. In a multi-shelf DCS system, ALL retrieves all information associated with that modifier for the main shelf only. To retrieve all information associated with that modifier for a subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number.

Table 2-491. RTRV-STATE-EQPT Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>ctag</i>	Correlation Tag. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the **RTRV-STATE-EQPT** request, the following normal completion response is returned with an output report:

```
IP 123456
<
  LT-TID123 9-10-26 16:42:11
M 123456 COMPLD

  "aid,type:switch-state,switch-priority,circuitpack-state"
      :           :           :           :
      :           :           :           :
  "aid,type:switch-state,switch-priority,circuitpack-state"
;
```

Beginning in Release 6.0, if the NE fully complies with the **RTRV-STATE-EQPT** request, the following normal completion response is returned with an output report.

```
IP 123456
<
  LT-TID123 9-10-26 16:42:11
M 123456 COMPLD

  "aid,type:switch-state,switch-priority,circuitpack-state:spec_block"
      :           :           :           :
      :           :           :           :
  "aid,type:switch-state,switch-priority,circuitpack-state:spec_block"
;
```

In the output report, all slots of the same type are listed together. Within each type, slots are listed in the order of their addresses with protection slots listed last.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command. Additional parameters that specifically apply to this command response are defined in the following table:

Table 2-492. RTRV-STATE-EQPT Output Parameters (cont 1 of 4)

Parameter Name	Description
<i>aid</i>	Address Identifier. This is the address of a slot. See the INPUT PARAMETERS section for more information.
<i>type</i>	Type of circuit pack provisioned. This is the circuit pack name (type). A null entry means not applicable or not equipped. Refer to Appendix D for pack names.
<i>switch-state</i>	The <i>switch-state</i> parameter indicates whether the circuit pack is in ACTIVE or STANDBY mode, corresponding to the state of the circuit pack protection switch selectors. This parameter only covers the impact of circuit pack switching on system configuration. The <i>switch-state</i> parameter may be one of the following: ■ ACTIVE-TIMING In Release 3.0 and later, for an OLIU circuit pack in a Main slot, ACTIVE-TIMING means that all function units are selecting this circuit pack from which to receive timing, electrical and Ethernet FNs are selecting this pack from which to receive traffic, and some FN OLIUs are selecting this pack from which to receive some traffic. ■ ACTIVE For an OLIU circuit pack in a Main slot, prior to Release 3.0, ACTIVE means that all function units are selecting this circuit pack from which to receive protected traffic. For an OLIU circuit pack in a function unit or growth slot, prior to Release 3.0, ACTIVE means that both Main units are selecting this circuit pack from which to receive protected traffic. In Release 3.0 and later, for an OLIU in a Main slot, some function units may be selecting this circuit pack from which to receive some traffic. In Release 1.0 and later, for an OLIU in a function unit or growth slot, one or both mains may be selecting this circuit pack from which to receive some traffic.

Table 2-492. RTRV-STATE-EQPT Output Parameters (cont 2 of 4)

Parameter Name	Description
	For other pack types, ACTIVE means the signal is being transmitted and received from this pack. Even if the pack is removed, the slot will remain active unless there is a protection circuit pack that service can be switched to. In Release 7.0 and later, <i>switch-state</i>=ACTIVE for any circuit pack equipped in a slot in which <i>prot_state</i>=UNPROT in response to RTRV-EQPT. ■ STANDBY The circuit pack is not currently carrying traffic. ■ NULL Not applicable - all lines on the pack are out of service, or the slot is not equipped. A main slot is NULL if all function units are NULL. ■ ACTIVE-WAN Beginning in Release 7.1, for any Ethernet/Data pack equipped in a slot in which <i>prot_state</i>=PROT in RTRV-EQPT: ACTIVE-WAN means that the circuit pack is currently carrying WAN traffic. ■ INACTIVE-WAN Beginning in Release 7.1, for any Ethernet/Data pack equipped in a slot in which <i>prot_state</i>=PROT in RTRV-EQPT: INACTIVE-WAN means that the circuit pack is not currently carrying WAN traffic, but may be carrying LAN traffic.
<i>switch-priority</i>	Switch priority is the currently active protection switch request for the protection group addressed. Only a higher priority protection switch request can cause an equipment protection switch to be done. See the RTRV-STATE-PATH command for path protection switching information. Switch priority may be one of the following in decreasing order of priority: ■ APS-PACK-RMVD The circuit pack has been removed but the slot is still in the equipped state. ■ INHIBIT Protection switches will be inhibited until the switch is reset. ■ FORCED No automatic or manual switches will be done until the forced switch is reset or replaced with an inhibit.

Table 2-492. RTRV-STATE-EQPT Output Parameters (cont 3 of 4)

Parameter Name	Description
	■ APS-PACK-FAIL Automatic protection switching has occurred due to a circuit pack failure. Only a failed pack subject to protection switching indicates this priority. ■ AUTOLOCK The system is provisioned for autolock (RTRV-SYS, the <i>autolcnt</i> parameter is not 0), the provisioned number of equipment switches have occurred in the provisioned interval, the provisioned lock interval has not expired, and the autolock has not been overridden by a pack removal or a reset, force, or inhibit switch request. ■ - No switch requests are active.
<i>circuitpack-state</i>	Circuit Pack State. This parameter may be one of the following: ■ IS In Service. Main OLIUs are always in service. Function Unit/Growth OLIUs are in service if there's a cross-connection to the pack. Electrical packs are in service if this is the active side of an equipment protection group, or if this is an unprotected pack. Ethernet/Data packs are always in service. Beginning in Release 7.0, <i>circuitpack-state</i>=IS for any circuit pack equipped in a slot in which <i>prot_state</i>=UNPROT in RTRV-EQPT. Beginning in Release 7.1, <i>circuitpack-state</i>=IS for any Ethernet/Data pack equipped in a slot in which <i>prot_state</i>=PROT in RTRV-EQPT, because both packs in the protection group may carry LAN traffic. ■ OOS Out Of Service. Function Unit/Growth OLIUs are out of service if there are no cross-connections to the pack. Electrical packs are out of service if this is the standby side of an equipment protection group.

Table 2-492. RTRV-STATE-EQPT Output Parameters (cont 4 of 4)

Parameter Name	Description
	■ NULL Not applicable, slot not equipped. If the addressed slot is not equipped, this parameter becomes optional and the preceding comma “,” is not printed.
<i>spec_block</i>	Specific block. This parameter field is used for returning the current parameter values for the entities. Parameters within the <i>spec_block</i> are positionally independent and are specified using a name-defined construct of PARAMETER=value in a comma-separated list. The parameters are listed and explained in the <i>spec_block</i> table below.

Parameter Name	Descriptions of Spec Block Parameters						
	For each of the parameters listed below there is one or more parameter values listed.						
<i>bputil1</i>	Backplane Utilization for the first 48 STS1s on the backplane. This parameter is only applicable to FN packs. This is an ordered list indicating whether or not each backplane STS1 is carrying cross-connected traffic. For STS1s carrying VT cross-connected traffic between the FN packs and the Main packs, it also indicates the number of VT timeslots carrying traffic within the STS1. <i>bputil1</i> can report on up to 48 STS1s. The format of the parameter is <i>bputil1</i>=x-x-x...-x, There will be an x for each STS1 supported on the backplane. x may be one of the following values: <table> <tr> <td>Y</td><td>Indicates that the STS1 in that tributary position is carrying STS cross-connected traffic.</td></tr> <tr> <td>N</td><td>Indicates that the STS1 in that tributary position is not carrying cross-connected traffic.</td></tr> <tr> <td>1- 28</td><td>Indicates that the STS1 in that tributary position is carrying VT cross-connected traffic and the number of VT timeslots within the STS1 that are carrying traffic.</td></tr> </table>	Y	Indicates that the STS1 in that tributary position is carrying STS cross-connected traffic.	N	Indicates that the STS1 in that tributary position is not carrying cross-connected traffic.	1- 28	Indicates that the STS1 in that tributary position is carrying VT cross-connected traffic and the number of VT timeslots within the STS1 that are carrying traffic.
Y	Indicates that the STS1 in that tributary position is carrying STS cross-connected traffic.						
N	Indicates that the STS1 in that tributary position is not carrying cross-connected traffic.						
1- 28	Indicates that the STS1 in that tributary position is carrying VT cross-connected traffic and the number of VT timeslots within the STS1 that are carrying traffic.						
<i>bputil[2-4]</i>	Backplane Utilization for FN circuit packs with up to 192 STS1s. Each <i>bputiln</i> (where n = 2, 3, or 4) reports on up to 48 STS1s. See <i>bputil1</i> for a description.						

Parameter Name	Descriptions of Spec Block Parameters
<i>vtutil1</i>	VT Utilization for the first 48 STS1s between the STS and VT fabric. This is an ordered list indicating the number of VT timeslots within each bidirectional STS1 unit of bandwidth that are carrying traffic between the STS fabric and the VT fabric (internal to the main circuit pack). For Main packs where the bandwidth between the STS and VT fabrics is partitioned into High Speed and Low Speed, this parameter indicates the utilization of the High Speed timeslots only. This parameter is only applicable to Low Speed OC-n FN packs and Main packs. For Systems equipped with VLF Mains, this parameter is not applicable to Low Speed OC-n FN packs. The format of the parameter is: <i>vtutil1</i>=x-x-x...-x, where each x represents an STS1 timeslot. There will be a value represented for each of the line side STS1 timeslots supported on the pack. x may be one of the following values: 0 Indicates that the STS1 timeslot is not transporting any VT cross-connected traffic. 1 - 28 Indicates the number of VT cross-connects being transported across that STS1 timeslot.
<i>vtutil2</i>	VT Utilization for the second set of 48 STS1 timeslots is listed. For packs like the LNW80, <i>vtutil2</i> will report the second set of 48 STS1s. See <i>vtutil1</i> for more information. This parameter is only applicable to Main packs.
<i>vtutil[3-12]</i>	VT Utilization 'n' (where n is an index indicating which set of 48 STS1 timeslots is listed). Each <i>vtutiln</i> (where n = 3 - 12) reports on up to 48 STS1s. See <i>vtutil1</i> for more information. This parameter is only applicable to Main packs.
<i>lsvtutil</i>	Low-speed VT Utilization. This parameter is only applicable to Main packs. This is an ordered list indicating the number of VT timeslots within each bidirectional STS1 unit of bandwidth that are carrying traffic between the STS fabric and the VT fabric (internal to the main circuit pack). This parameter is applicable only to Main packs where the bandwidth between the STS and VT fabrics is partitioned into High Speed and Low Speed. It indicates the utilization of the Low-speed timeslots only. The format of the parameter is: <i>lsvtutil</i>=x-x-x...-x, where each x represents an STS1 timeslot. There will be a value represented for each of the line side STS1 timeslots supported on the pack. x may be one of the following values:

Parameter Name	Descriptions of Spec Block Parameters	
	0	Indicates that the STS1 timeslot is not transporting any VT cross-connected traffic.
	1 - 28	Indicates the number of VT cross-connects being transported across that STS1 timeslot.

EXAMPLE INPUT/OUTPUT

The following example, for DMX releases prior to R3.0, shows a **RTRV-STATE-EQPT** command for a DMX system with function unit group C equipped with OLIUs in a path switched configuration and with main-1 and fn-c-1 carrying protected traffic:

```
RTRV-STATE-EQPT:LT-DMX::123456;

IP 123456
<

LT-DMX 93-10-26 16:42:11
M 123456 COMPLD

"main-1,0C-48:active,-IS"
"main-2,0C-48:standby,-IS"
"fn-a-1,:null,-"
"fn-a-2,:null,-"
"fn-b-1,:null,-"
"fn-b-2,:null,-"
"fn-c-1,40C-3:active,inhibit,IS"
"fn-c-2,40C-3:standby,inhibit,IS"
"fn-d-1,:null,-"
"fn-d-2,:null,-"
"growth-1,20C-12:active,-IS"
"growth-2,20C-12:standby,-IS"
;
```

The following R2.0 example shows a **RTRV-STATE-EQPT** command for a DMX shelf equipped with a 28 DS1 circuit pack in function unit D:


```
RTRV-STATE-EQPT:LT-DMX::123457;  
  
IP 123457  
<  
  
    LT-DMX 93-10-26 16:42:11  
M 123457 COMPLD  
  
    "main-1,0C-48:active,-,IS"  
    "main-2,0C-48:standby,-,IS"  
    "fn-d-1,28DS1:active,-,IS"  
    "fn-d-2,28DS1:standby,-,OOS"  
    "fn-a-1,:null,-"  
    "fn-a-2,:null,-"  
    "fn-b-1,:null,-"  
    "fn-b-2,:null,-"  
    "fn-c-1,:null,-"  
    "fn-c-2,:null,-"  
    "growth-1,20C-12:active,-,IS"  
    "growth-2,20C-12:standby,-,IS"  
;
```

The following R2.0 example shows a **RTRV-STATE-EQPT** command for a DMX shelf in which function unit slots fn-a and fn-b are equipped with OLIUs, and configured for the 0X1 application only. All other function unit slots are unequipped.

```
RTRV-STATE-EQPT:LT-DMX::123458;
```

```
IP 123458
```

```
<
```

```
LT-DMX 93-10-26 16:42:11
```

```
M 123458 COMPLD
```

```
"main-1,OC-48:,-,IS"
```

```
"main-2,OC-48:,-,IS"
```

```
"fn-a-1,20C-12:,-,IS"
```

```
"fn-a-2,20C-12:,-,IS"
```

```
"fn-b-1,40C-3:,-,IS"
```

```
"fn-b-2,40C-3:,-,IS"
```

```
"fn-c-1,:null,-"
```

```
"fn-c-2,:null,-"
```

```
"fn-d-1,:null,-"
```

```
"fn-d-2,:null,-"
```

```
"growth-1,20C-12:,-,IS"
```

```
"growth-2,20C-12:,-,IS"
```

```
;
```

The following R2.0 example shows a **RTRV-STATE-EQPT** command for a DMX shelf in which a 28DS1 pack in function unit slot fn-b-1 has failed and traffic has switched to fn-b-2. All other function unit slots are unequipped:

```
RTRV-STATE-EQPT:LT-DMX::123459;
```

```
IP 123459
```

```
<
```

```
LT-DMX 93-10-26 16:42:11
```

```
M 123459 COMPLD
```

```
"main-1,OC-48:active,-,IS"
```

```
"main-2,OC-48:standby,-,IS"
```

```
"fn-b-1,28DS1:standby,APS-pack-fail,00S"
```

```
"fn-b-2,28DS1:active,-,IS"
```

```
"fn-a-1,:null,-"
```

```
"fn-a-2,:null,-"
```

```
"fn-c-1,:null,-"
```

```
"fn-c-2,:null,-"
```

```
"fn-d-1,:null,-"
```

```
"fn-d-2,:null,-"
```

```
"growth-1,40C-3:active,-,IS"
```

```
"growth-2,40C-3:standby,-,IS"
```

```
;
```

```

RTVR-STATE-EQPT:LT-DMX::123456;

IP 123456
<

LT-DMX 93-10-26 16:42:11
M 123456 COMPLD

"main-1,0C-48:active-timing,-,IS"
"main-2,0C-48:active,-,IS"
"fn-a-1,:null,-"
"fn-a-2,:null,-"
"fn-b-1,:null,-"
"fn-b-2,:null,-"
"fn-c-1,40C-3:active,-,IS"
"fn-c-2,40C-3:active,-,IS"
"fn-d-1,:null,-"
"fn-d-2,:null,-"
"growth-1,20C-12:active,-,IS"
"growth-2,20C-12:active,-,IS"
;
```

RTRV-STATE-EQPT:LT-123:main-1:123456;

```
IP 123456  
 <  
  
    LT-123 93-10-26 16:42:11  
M   123456 COMPLD  
  
    "main-1,OC-48:active-timing,-,IS:VTUTIL=7-28-1-0-0-0-0-0-0-0-0-  
0-0-0-0-0-0-0-0-0-0-1-12-1-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-  
0"  
    "main-1,OC-48:active-timing,-,IS:LSVTUTIL=0-0-1-0-0-0-0-0-0-0-0-  
0-0-0-0-0-0-0-0-0-0-28-7-0-7-28-1-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-  
0-0"  
 ;
```

The following example shows a **RTRV-STATE-EQPT** command for fn-d-1:

```
RTRV-STATE-EQPT:LT-123:fn-d-1:123456;  
  
IP 123456  
<  
  
LT-123 93-10-26 16:42:11  
M 123456 COMPLD  
  
"fn-d-1,40C-3:active,-,IS:BPUTIL1=Y-Y-Y-28-N-N-N-N-N-N-N"  
"fn-d-1,40C-3:active,-,IS:VTUTIL1=0-0-0-28-0-0-0-0-0-0-0"  
;
```

The following example shows a **RTRV-STATE-EQPT** command for fn-d-all:

```
RTRV-STATE-EQPT:LT-123:fn-d-all:123456;  
  
IP 123456  
<  
  
LT-123 93-10-26 16:42:11  
M 123456 COMPLD  
  
"fn-d-1,40C-3:active,-,IS:BPUTIL1=Y-Y-Y-28-N-N-N-N-N-N-N"  
"fn-d-1,40C-3:active,-,IS:VTUTIL1=0-0-0-28-0-0-0-0-0-0-0"  
"fn-d-2,40C-3:active,-,IS:BPUTIL1=Y-Y-Y-28-N-N-N-N-N-N-N"  
"fn-d-2,40C-3:active,-,IS:VTUTIL1=0-0-0-28-0-0-0-0-0-0-0"  
;
```

Beginning in Release 7.1, the following example shows a **RTRV-STATE-EQPT** command for fn-d-1:

RTRV-STATE-EQPT:LT-123:fn-d-1:123456;

IP 123456

<

LT-123 07-10-26 16:42:11

M 123456 COMPLD

"fn-d-1,100/1G-FS:active-wan, -, IS"

;

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

RELATED TL1 MESSAGES

RTRV-EQPT

RTRV-STATE-PATH

OPR-REARR

NAME

RTRV-STATE-PATH: Retrieve State Path

The **RTRV-STATE-PATH** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

The input format is:

RTRV-STATE-PATH:*tid*:[*aid*]:*tag*[:[:[:]]];

DESCRIPTION

The **RTRV-STATE-PATH** command displays signal path state information.

The **RTRV-STATE-PATH** command reports switched paths sourced from the UPSR ring channel and its companion ring channel. Only cross-connected paths will be included in the information.

Beginning in Release 4.0, for cross-connects without path protection, the report will include cross-connected paths sourced from the UPSR ring channel. Only cross-connected paths will be included in the information.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is a ring channel AID of the path-protected cross-connected source for which information is being requested.

Table 2-493. RTRV-STATE-PATH Input Parameters (cont 1 of 2)

Parameter Name	Description
	A value of ALL requests information on all STS-1 or STS-Nc ring channels reportable for the NE, for those lines where the application is UPSR. A NULL value requests information on all STS-1 or STS-Nc ring channels reportable for the NE, for those lines where the application is UPSR. Valid addresses are given in Appendix A. The aid is any cross-connected VT1.5 or STS-1 or STS-Nc source of a UPSR ring channel. AID Types: ■ STS-n Ring Channel If aid identifies a single specific switched cross-connected STSn ring channel (no "-all"), the NE will display the path state for all STS1/STS-nc within that switched cross-connection. If aid contains a "-all" at the Line level (ex:m1-all) or STS level (ex: m1-1-all), the NE will display the path state of all switched cross-connected STS paths, followed by all switched cross-connected VT1.5 paths. Beginning in Release 4.0, the above also applies to cross-connections without protection within that aid. ■ VT1.5 Ring Channel If aid identifies a single specific switched cross-connected VT ring channel (no "-all"), the NE will display the requested path state of that VT1.5 path. If aid contains a "-all" at the VTG level (ex: m1-1-1-all) or at the VT1.5 level (ex: m1-1-1-7-all), the NE will display the path state of all the switched cross-connected VT1.5 paths. Beginning in Release 4.0, the above also applies to VT1.5 cross-connections without protection.
ctag	Correlation Tag. Refer to RTRV -HDR command for the input parameter syntax and description of this parameter.

Table 2-493. RTRV -STATE -PATH Input Parameters (cont 2 of 2)

OUTPUT FORMAT

If the NE fully complies with the **RTRV-STATE-PATH** request, the following normal completion response is returned:

```
IP 123456
<

TID123 9-10-26 16:42:11
M 123456 COMPLD

"Ring 1"
"aid:[active=yes][,APS-Condition=cond]"
.      .      .      .
.      .      .      .
"aid:[active=yes][,APS-condition=cond]"

"Ring 2"
"aid:[active=yes][,APS-condition=cond]"
.      .      .      .
.      .      .      .
"aid:[active=yes][,APS-condition=cond]"
;
```

The active and APS-condition parameters will not print when they have a null value. If both have non-null values and print, they are separated by a comma.

When addressed to channels in non-path protected applications, an empty report is returned.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command. Additional parameters that specifically apply to this command response are defined in the following table:

Parameter Name	Description
<i>aid</i>	Access Identifier. The report always displays both the Ring 1 and Ring 2 addresses.

Table 2-494. RTRV-STATE-PATH Output Parameters (cont 1 of 2)

Parameter Name	Description
	Beginning in Release 4.0, for cross-connects without protection, the report only displays the side cross-connected to. Beginning in Release 5.0, each constituent of a requested STSn cross-connection is displayed (see <i>crstat</i> in RTRV-rr). Note that while each constituent may have a different <i>aps-condition</i>, they are all switched based on the <i>aps-condition</i> of the first constituent.
<i>active</i>	This parameter indicates whether the associated Ring path is active, and contains one of the following: ■ YES This side is active. ■ NULL This side is standby.
<i>aps-condition</i>	This parameter provides the condition of the path, and appears on the path where the condition was detected. The condition may be one of the following: ■ SIGNAL-FAILURE ■ PACK-REMOVAL ■ PACK-FAILURE ■ SIGNAL-DEGRADE Beginning in Release 3.1, the following manual conditions are added: ■ MANUAL ■ FORCED ■ LOCKOUT Only those manual or automatic protection switch (APS) requests that are a higher priority than the currently active requests will cause a protection switch to occur. The APS condition will remain active while the condition still exists. When that condition clears, the <i>aps-condition</i> is changed to null if no other request exists.

Table 2-494. RTRV-STATE-PATH Output Parameters (cont 2 of 2)

EXAMPLE INPUT/OUTPUT

The following screen layouts are examples of **RTRV-STATE-PATH** input/output:

```
RTRV-STATE-PATH:TID123:m1-1-all:123456;

TID123 93-10-26 16:42:11
M 123456 COMPLD
"Ring 1"
"m1-1-1:active=yes"
"m1-1-2:"
"m1-1-3:,APS-condition=pack-failure"
"m1-1-4:"
"m1-1-7:active=yes"
"m1-1-8:active=yes"
"m1-1-9:,APS-condition=signal-degrade"
"m1-1-10:active=yes"
"m1-1-11:active=yes"
"m1-1-12:active=yes"

"Ring 2"
"m2-1-1:,APS-condition=signal-failure"
"m2-1-2:active=yes"
"m2-1-3:active=yes"
"m2-1-4:active=yes"
"m2-1-7:,APS-condition=signal-failure"
"m2-1-8:"
"m2-1-9:active=yes"
"m2-1-10:"
"m2-1-11:"
"m2-1-12:"
;
```

Note the example above includes an STS-3c connection at m-1-4.

```
RTRV-STATE-PATH:TID123:m1-1-1-all:123456;  
  
IP 123456  
<  
  
TID123 93-10-26 16:42:11  
M 123456 COMPLD  
  
"Ring 1"  
"m1-1-1-1-1:,APS-condition=pack-failure"  
"m1-1-1-1-2:,APS-condition=pack-failure"  
"m1-1-1-1-3:,APS-condition=pack-failure"  
"m1-1-1-1-4:,APS-condition=pack-failure"  
"m1-1-1-2-2:APS-condition=pack-failure"  
"m1-1-1-3-1:,APS-condition=pack-failure"  
  
"Ring 2"  
"m2-1-1-1-1:active=yes"  
"m2-1-1-1-2:active=yes"  
"m2-1-1-1-3:active=yes"  
"m2-1-1-1-4:active=yes"  
"m2-1-1-2-2:active=yes"  
"m2-1-1-3-1:active=yes"  
;
```

Beginning in Release 4.0, the following example shows a report for a group that has four cross-connects without protection (three to one side, and one on the other), and no other cross-connects.

```
RTRV-STATE-PATH:TID123:m1-1-1-all:123456;  
  
IP 123456  
<  
  
    TID123 93-10-26 16:42:11  
M 123456 COMPLD  
  
    "Ring 1"  
    "m1-1-1-1-1:active=yes"  
    "m1-1-1-2-4:active=yes,APS-condition=signal-failure"  
    "m1-1-1-7-3:active=yes"  
  
    "Ring 2"  
    "m2-1-1-5-2:active=yes"  
;  
;
```

Beginning in Release 5.0, the following example shows a report for an STS3c cross-connection which currently has 3 STS1 constituents.

```
RTRV-STATE-PATH:TID123:d1-3-4:123456;  
  
IP 123456  
<  
  
    TID123 93-10-26 16:42:11  
M 123456 COMPLD  
  
    "Ring 1"  
    "d1-3-4:active=yes"  
    "d1-3-5:active=yes,APS-condition=signal-failure"  
    "d1-3-6:active=yes"  
  
    "Ring 2"  
    "d2-3-4:"  
    "d2-3-5:"  
    "d2-3-6:"  
;  
;
```

The following example shows a report when the AID contains "-all".

RTRV-STATE-PATH:TID123:m1-1-all:123456;

IP 123456

<

TID123 93-10-26 16:42:11

M 123456 COMPLD

"Ring 1"

"m1-1-4:active=yes"

"m1-1-5:,APS-condition=signal-failure"

"m1-1-1-1-1:,APS-condition=signal-failure"

"m1-1-1-1-2:,APS-condition=signal-failure"

"m1-1-1-1-3:,APS-condition=signal-failure"

"m1-1-1-1-4:,APS-condition=signal-failure"

"m1-1-1-3-1:active=yes"

"m1-1-1-3-2:active=yes"

"m1-1-1-3-3:active=yes"

"m1-1-1-3-4:active=yes"

"Ring 2"

"m2-1-4:"

"m2-1-5:active=yes"

"m2-1-1-1-1:active=yes"

"m2-1-1-1-2:active=yes"

"m2-1-1-1-3:active=yes"

"m2-1-1-1-4:active=yes"

"m2-1-1-3-1:"

"m2-1-1-3-2:"

"m2-1-1-3-3:"

"m2-1-1-3-4:"

;

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

RELATED TL1 MESSAGES

OPR-PROTNSW

RTRV-STATE-EQPT

NAME

RTRV-STATE-X25: Retrieve State X.25

The **RTRV-STATE-X25** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

Starting in Release 6.0, X.25 is not supported and **RTRV-STATE-X25** is OBSOLETE.

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-STATE-X25:*tid::ctag[:[:[:]]];*

DESCRIPTION

The **RTRV-STATE-X25** can be used to retrieve the X.25 packet size, an indication whether this is an active TL1/X.25 General Network Element (GNE) or not, X.25 virtual circuit status, X.25 communications status, and an X.25 event history.

The X.25 packet size can be provisioned using TL1 command **ENT-SYS**. The X.25 virtual circuit status is a combination of default or provisioned parameter values (per TL1 command **ENT-OSACMAP**), and actual real-time virtual circuit state.

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-495. RTRV-STATE-X25 Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. This is the name of the NE to which the command is addressed.
<i>ctag</i>	Correlation Tag. This is included in the command by the user and is repeated by the NE in the response to allow the user to associate the command and response messages.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<
    sid date time
M ctag COMPLD
  "packet-size=<packet-size>","GNE=<gne-status>"
  "X.25-lcn-1,vctype=<vctype>,state=<state>,code=<code>"
  "X.25-lcn-2,vctype=<vctype>,state=<state>,code=<code>"
  "X.25-lcn-3,vctype=<vctype>,state=<state>,code=<code>"
  "X.25-lcn-16,vctype=<vctype>,state=<state>,[dte-address=<dte-address>],code=<code>"
  "X.25-lcn-17,vctype=<vctype>,state=<state>,[dte-address=<dte-address>],code=<code>"
  "X.25-lcn-18,vctype=<vctype>,state=<state>,[dte-address=<dte-address>],code=<code>"
  "X.25-lcn-19,vctype=<vctype>,state=<state>,[dte-address=<dte-address>],code=<code>"
  "X.25-lcn-20,vctype=<vctype>,state=<state>,[dte-address=<dte-address>],code=<code>"
  "X.25-lcn-21,vctype=<vctype>,state=<state>,[dte-address=<dte-address>],code=<code>"
  "X.25-interface,state=<state>,code=<code>"
  "lapb,state=<state>,code=<code>"
  "physical-line,state=<state>,code=<code>"
  ["<date>,<time>,<entity>,<event>,<data>"]
      .      .      .      .      .
      .      .      .      .      .
      .      .      .      .      .
  ["<date>,<time>,<entity>,<event>,<data>"]
;
```


OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command. The following parameters are also defined for this command output.

Table 2-496. RTRV-STATE-X25 Output Parameters

Parameter Name	Description
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-497. RTRV-STATE-X25 Output *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description of <i>spec_block</i> Parameters				
<i>packet-size</i>	The X.25 packet size may have a value of 128 or 256.				
<i>gne-status</i>	TL1/X.25 GNE status may have one of the following values: <table><tr><td>active</td><td>If the X.25 port is connected and there is active communication at least at the X.25 protocol level (not necessarily a TL1 login), this parameter is reported as active.</td></tr><tr><td>limited</td><td>Otherwise this parameter is reported as limited (because the NE always supports TL1 on its serial ports).</td></tr></table>	active	If the X.25 port is connected and there is active communication at least at the X.25 protocol level (not necessarily a TL1 login), this parameter is reported as active.	limited	Otherwise this parameter is reported as limited (because the NE always supports TL1 on its serial ports).
active	If the X.25 port is connected and there is active communication at least at the X.25 protocol level (not necessarily a TL1 login), this parameter is reported as active.				
limited	Otherwise this parameter is reported as limited (because the NE always supports TL1 on its serial ports).				
<i>entity</i>	This parameter identifies the X.25 communication entities: <table><tr><td>X.25-1cn-n</td><td>A <i>switch virtual circuit (SVC)</i> logical communication channel number (LCN) is considered to be “up” upon the successful acknowledgment of the CALL_REQ_IND packet with a CALL_ACC_CONN packet. This does <i>not</i> necessarily imply that TL1 communication is active. Each SVC call request received is assigned to the next unused SVC LCN starting from LCN 16 and higher.</td></tr></table>	X.25-1cn-n	A <i>switch virtual circuit (SVC)</i> logical communication channel number (LCN) is considered to be “up” upon the successful acknowledgment of the CALL_REQ_IND packet with a CALL_ACC_CONN packet. This does <i>not</i> necessarily imply that TL1 communication is active. Each SVC call request received is assigned to the next unused SVC LCN starting from LCN 16 and higher.		
X.25-1cn-n	A <i>switch virtual circuit (SVC)</i> logical communication channel number (LCN) is considered to be “up” upon the successful acknowledgment of the CALL_REQ_IND packet with a CALL_ACC_CONN packet. This does <i>not</i> necessarily imply that TL1 communication is active. Each SVC call request received is assigned to the next unused SVC LCN starting from LCN 16 and higher.				

Table 2-497. RTRV-STATE-X25 Output *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description of <i>spec_block</i> Parameters
	A <i>permanent virtual circuit (PVC)</i> logical communication channel number (LCN) is considered to be "up" upon successful acknowledgment of the RESET_REQ_IND packet with a RESET_CONFRM packet. This does not necessarily imply that TL1 communication is active. X.25-interface The X.25 interface is considered to be "up" upon successful acknowledgment of the RESTART_PACKET packet and the RESTART_CONFRM packet. This means that X.25 layer 3 is active and ready to establish a PVC or SVC communication channel. lapb The LAPB communication channel is considered to be "up" when X.25 layer 2 is active and ready to send or receive a RESTART_PACKET. physical-line The X.25 physical line is considered "up" only if lapb is "up". If the physical line is "down", that does <i>not</i> necessarily mean the physical connection (for example, the X.25 cable) is broken, but the interfacing equipment does not acknowledge X.25 communication with the NE.
<i>vctype</i>	By default, there are 3 permanent virtual circuits (PVCs), <i>vctype</i> =pvc, and the remaining 6 virtual circuits are considered to be switched virtual circuits (SVCs), <i>vctype</i> =svc . A maximum of 9 virtual circuits total are supported, in any combination of PVC LCNs and SVC DTE calling addresses. The input/output examples illustrate this rule.
<i>dte-address</i>	Active SVCs are identified by their DTE calling address. The allowed value for this parameter is 1 to 15 Binary Coded Decimal (BCD) digits. This parameter is only output for SVCs (<i>vctype</i> =svc) with <i>state</i> =up. Any blanks that might appear in the <i>dte-address</i> are expressed with a dash "-".
<i>state</i>	This parameter is explained in each one of the above entities. The possible values are: up and down .
<i>code</i>	This parameter shows a hexadecimal output of the protocol states in the NE software.

Table 2-497. RTRV-STATE-X25 Output *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>date</i>	This parameter shows the date the X.25 event occurred, in the form XX-XX.
<i>time</i>	This parameter shows the time the X.25 event occurred, in the form HH:MM:SS.
<i>entity</i>	This parameter identifies the X.25 communication entity where the event occurred.
<i>event</i>	This parameter lists the event and whether it was transmitted (xmt) or received (rcv) by the NE.
<i>data</i>	This parameter shows a hexadecimal representation of frame or packet information related to the event. This can be used by RTAC personnel for diagnostic purposes.

EXAMPLE INPUT/OUTPUT

The following example shows a **RTRV-STATE-X25** command for a TL1/X.25 GNE with five active PVCs and one active SVC:

```
RTRV-STATE-X25:LT-TID123::123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-03-01 04:00:02
```

```
M 123456 COMPLD
```

```
"packet-size=256,GNE=active"
```

```
"X.25-lcn-1,vctype=pvc,state=up,code=06"
```

```
"X.25-lcn-2,vctype=pvc,state=up,code=06"
```

```
"X.25-lcn-3,vctype=pvc,state=up,code=06"
```

```
"X.25-lcn-4,vctype=pvc,state=up,code=06"
```

```
"X.25-lcn-5,vctype=pvc,state=up,code=06"
```

```
"X.25-lcn-16,vctype=svc,state=up,dte-address=0955,code=06"
```

```
"X.25-lcn-17,vctype=svc,state=down,code=00"
```

```
"X.25-lcn-18,vctype=svc,state=down,code=00"
```

```
"X.25-lcn-19,vctype=svc,state=down,code=00"
```

```
"X.25-interface,state=up,code=06"
```

```
"lapb,state=up,code=06"
```

```
"physical-line,state=up,code=06"
```

```
"01-01,00:18:48,lcn-16,xmt,CLR_CONFRM,10-10-17"
```

```
"01-01,00:18:47,lcn-16,rcv,CLR_REQ_IND,10-10-13-00-00"
```

```
"01-01,00:18:03,lcn-16,xmt,CALL_ACC_CONN,10-10-0f"
```

```
"01-01,00:00:21,lcn-2,rcv,RESET_CONFRM,10-03-1f"
```

```
"01-01,00:00:21,lcn-3,rcv,RESET_CONFRM,10-03-1f"
```

```
"01-01,00:00:21,lcn-1,xmt,RESET_REQ_IND,10-01-1b-00-00"
```

```
"01-01,00:00:21,lcn-2,xmt,RESET_REQ_IND,10-02-1b-00-00"
```

```
;
```

The following example shows a **RTRV-STATE-X25** command for a TL1/X.25 GNE with no PVCs provisioned and 6 active SVCs:

RTRV-STATE-X25:LT-TID123::123456;

IP 123456
<

```
LT-TID123 00-03-01 04:00:02
M 123456 COMPLD
"packet-size=256,"GNE=active"
"X.25-lcn-16,vctype=svc,state=up,dte-address=09556789,code=06"
"X.25-lcn-17,vctype=svc,state=up,dte-address=77650955,code=06"
"X.25-lcn-18,vctype=svc,state=up,dte-address=6789990955,code=06"
"X.25-lcn-19,vctype=svc,state=up,dte-address=880955,code=06"
"X.25-lcn-20,vctype=svc,state=up,dte-address=59590955,code=06"
"X.25-lcn-21,vctype=svc,state=up,dte-address=5089606314,code=06"
"X.25-lcn-22,vctype=svc,state=down,code=00"
"X.25-lcn-23,vctype=svc,state=down,code=00"
"X.25-lcn-24,vctype=svc,state=down,code=00"
"X.25-interface,state=up,code=06"
"lapb,state=up,code=06"
"physical-line,state=up,code=06"
"01-01,00:18:48,lcu-16,xmt,CLR_CONFIRM,10-10-17"
"01-01,00:18:47,lcu-16,rcv,CLR_REQ_IND,10-10-13-00-00"
"01-01,00:18:03,lcu-16,xmt,CALL_ACC_CONN,10-10-0f"
"01-01,00:00:21,lcu-2,rcv,RESET_CONFIRM,10-03-1f"
"01-01,00:00:21,lcu-3,rcv,RESET_CONFIRM,10-03-1f"
"01-01,00:00:21,lcu-1,xmt,RESET_REQ_IND,10-01-1b-00-00"
"01-01,00:00:21,lcu-2,xmt,RESET_REQ_IND,10-02-1b-00-00"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command also.

RELATED TL1 MESSAGES

ENT-OSACMAP

ENT-SYS

NAME

RTRV-STGRP: Retrieve Spanning Tree Group(s)

The **RTRV-STGRP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-STGRP:*tid*:*[aid]*:*ctag*::*[stgrp**id]**[, vrtswid]*;

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

DESCRIPTION

The **RTRV-STGRP** command retrieves the attributes of one or more spanning tree groups.

INPUT PARAMETERS

Table 2-498. RTRV-STGRP Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of a slot (Slot AID). Refer to the AID Table for valid AIDs. This parameter is optional. Default value is "ALL."
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-498. RTRV-STGRP Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>stgrpid</i>	Spanning Tree Group ID. If this parameter is omitted, information on all the spanning tree groups in the <i>vrtswid</i> is returned. Value: An integer in the range 1-4095.
<i>vrtswid</i>	Virtual Switch ID. Value: An integer in the range 1 - 4095. If this parameter is omitted, information on all the spanning tree groups in the slot aid is returned. The virtual switch ID range on the LNW70 board is 1 -16.

OUTPUT FORMAT

If the network element (NE) fully complies with the **RTRV-STGRP** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "aid:stgrpid:strp=x"
  "aid:stgrpid,vcgaid,vcg:spec_block"
  <1 or more of the line above, for another vcgaid>
  <1 or more of this entire block, for another stgrpid>
;
```

If the NE fully complies with the **RTRV-STGRP** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "aid:stgrpid:vrtswid=x,strp=x,stmaxage=x,stfdtm=x,strtpcost=x"
  "aid:stgrpid,vcgaid,vcg:spec_block"
  <1 or more of the line above, for another vcgaid>
  <1 or more of this entire block, for another stgrpid>
;
```

For the following packs

- LNW70 (starting in release 6.0)

If the NE fully complies with the **RTRV-STGRP** request, the following normal completion response is returned:

```

sid date time
M ctag COMPLD
  "aid:stgrpid:vrtswid=x, strp=x, stmaxage=x, stfdtm=x, strtpcost=x"
  "aid:stgrpid,vcgaid,vcg:spec_block"
  <0 or more of the line above, for another vcgaid>
  "aid:stgrpid,eportaid,eport:spec_block"
  <0 or more of the line above, for another eportaid>
  <1 or more of this entire block, for another stgrpid>
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-499. RTRV-STGRP Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of a slot (Slot AID). Refer to the AID Table for valid AIDs.
<i>stgrpid</i>	Spanning Tree Group ID. Value: An integer in the range 1 to 4095.
<i>vcgaid</i>	VCG AID. Values: VCG AID
<i>vcg</i>	Value: VCG
<i>eportaid</i>	Ethernet Port AID Values: Ethernet Port AID Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG. This parameter applies to the following packs: ■ LNW70 (starting in release 6.0)
<i>eport</i>	Value: EPORT This parameter applies to the following packs: ■ LNW70 (starting in release 6.0)

Table 2-499. RTRV-STGRP Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>spec_block</i>	Specific parameter Block. The <i>spec_block</i> parameters are defined in the following table.

Table 2-500. RTRV-STGRP Output *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description
<i>autolock</i>	Automatic lock. Values: ■ ENABLE ■ DISABLE When ENABLE, any port in the Spanning Tree Group experiencing a TCA on its STPSTATE counter (see RTRV-EPM) is moved to the <i>DISF</i> state (see <i>epss</i> and <i>vss</i>) preventing traffic flow until released by autolock=DISABLE or disabling admin, epss or vss (see ED-EPORT or ED-VCG), as appropriate. Note that when a LAG port is autolocked, the link partner may report LAG alarms. This parameter applies to the following packs: ■ LNW70 (starting in release 8.0)
<i>vrtswid</i>	Virtual Switch ID. Value: An integer in the range 1 to 4095 Starting in release 5.0, the virtual switch ID range on the LNW70 board is 1 -16.
<i>strp</i>	Spanning Tree Root Priority. The root priority is the relative priority of the bridge (lower value means higher priority). Values: 0 to 65535.
<i>strmaxage</i>	Spanning Tree Maximum Age Timer. The maximum age timer determines the maximum age of received protocol information before it is discarded. Value 6 to 255 seconds.
<i>stfdtm</i>	Spanning Tree Forward Delay Timer. The forward delay timer determines the time a port can stay in the Learning/Listening State before moving to the Forwarding State. Value 4 to 255 seconds.

Table 2-500. RTRV-STGRP Output *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description
<i>strtpcost</i>	Spanning Tree Root Path Cost. The root path cost is the cost of the path to the Root from this Bridge. Value 0 to 4294967295. If the circuit pack is not present, a "?" is reported.
<i>vss</i>	VCG Spanning tree Status. Values are as follows (This parameter will always appear on a VCG AID line): ■ FWG: Forwarding ■ LLG: Learning/Listening ■ BLK: Blocked- 802.1d mode only ■ DISA: Disabled - Administration ■ DISF: Disabled - Failure ■ DCD: Discarding - 802.1w mode only. If the circuit pack is not present, a "?" is reported.
<i>epss</i>	Ethernet Port Spanning tree Status. Values are as follows (this parameter will always appear on an Ethernet Port AID line): ■ FWG: Forwarding ■ LLG: Learning/Listening ■ BLK: Blocked- 802.1d mode only ■ DISA: Disabled - Administration ■ DISF: Disabled - Failure ■ DCD: Discarding - 802.1w mode only. This parameter applies to the following packs: ■ LNW70 (starting in release 6.0)
<i>stpp</i>	Spanning Tree Port Priority. The port priority is the relative priority for the port on this bridge (lower value means higher priority). This parameter will always appear on a port AID line. Value is an integer from 0 to 255.

Table 2-500. RTRV-STGRP Output *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description
<i>stpcost</i>	Spanning Tree Path Cost. The contribution of the path through this port to the total cost of the path to the root for this bridge. This parameter will always appear on a port AID line. Value is an integer in the range 1 to 65535.
<i>sthellotm</i>	Spanning Tree Hello Timer. The hello timer determines the time interval between the transmission of Configuration BPDUs. This parameter will always appear on a port AID line. Value 1 to 10 seconds.
<i>stpmnd</i>	Spanning Tree Port Mode. The port mode indicates the Spanning Tree Protocol version supported by the remote node on this port. This parameter will always appear on a port AID line. Values: 802.1D AND 802.1W. If the circuit pack is not present, a "?" is reported.
<i>stprole</i>	Spanning Tree Port Role. The port role indicates whether the port is a Root Port, a Designated Port or an Alternate Port. This parameter will always appear on a port AID line. Values: ROOT, DESG and ALT. If the circuit pack is not present, a "?" is reported.

EXAMPLE INPUT/OUTPUT

RTRV-STGRP:TID123:fn-d-1:123456::123;

```
TID123 00-01-01 08:00:00
M 123456 COMPLD
"fn-d-1:123:strp=32768"
"fn-d-1:123,d-v1,VCG:vss=FWG,stpp=10"
"fn-d-1:123,d-v2,VCG:vss=FWG,stpp=11"
;
```

```
RTRV-STGRP:TID123::123456::123;
TID123 00-01-01 08:00:00
123456 COMPLD
"fn-c-1:123:vrtswid=122, strp=32768, stmaxage=20, stfdtm=15, strtpcost=39746"
"fn-c-1:123, c-
,VCG:vss=FWG, stpp=10, stpcost=20, sthellotm=2, stpmd=802.1d, stprole=root"
"fn-c-1:123, c-v2, VCG:vss=FWG, stpp=11, stpcost=10, sthellotm=2, stpmd=802.1d, stprole=alt
;
```

Starting in Release 6.0, for the following packs

- LNW70

the following is an example:

```
RTRV-STGRP:TID123::123456::123;
TID123 00-01-01 08:00:00
123456 COMPLD
"fn-d-1:123:vrtswid=122, strp=32768, stmaxage=20, stfdtm=15, strtpcost=39746"
"fn-d-1:123, d1-v1, VCG:vss=FWG, stpp=10, stpcost=20, sthellotm=2, stpmd=802.1d, stprole=al
"fn-d-1:123, d1-v2, VCG:vss=FWG, stpp=11, stpcost=10, sthellotm=2, stpmd=802.1d, stprole=al
"fn-d-1:123, d1-
EPORT:epss=FWG, stpp=10, stpcost=20, sthellotm=2, stpmd=802.1d, stprole=root"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there apply to this command also.

If this command is executed for a specified slot AID that is equipped with an LNW71 Ethernet Private Line circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, LNW71 Ethernet Private Line circuit pack does
not support Spanning Tree Protocol*/
;
```

When the command is executed with the AID value of "ALL", Spanning Tree information will not be returned for any slots that are equipped with LNW71 circuit packs.

Starting in Release 5.0, if the specified spanning tree group id (**stgrpid**) is not within the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, stgrpid out of range */
;
```

Starting in Release 5.0, if the specified virtual switch id (**vrtswid**) is not within the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, vrtswid out of range */
;
```

RELATED TL1 MESSAGES

DLT-STGRP

ENT-STGRP

NAME

RTRV-SUBSHELF : Retrieve Subshelf

The **RTRV-SUBSHELF** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 9.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-SUBSHELF : *tid::ctag::[subshelfnum]*;

DESCRIPTION

RTRV-SUBSHELF retrieves subshelf information from a main shelf or a subshelf in a multi-shelf configuration.

A stand-alone shelf is a shelf that has no provisioned subshelves and is not provisioned to operate as a subshelf.

A main shelf is a shelf in a multi-shelf configuration that has provisioned subshelves.

A subshelf is a shelf in a multi-shelf configuration that is provisioned to operate as a subshelf.

Execution of this command is not recorded in the Security log.

Following the successful completion of the command, the NE does not issue a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-501. RTRV - SUBSHELF Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter. Note, when executing the command on an existing subshelf, <i>tid</i> must match the currently provisioned <i>main_tid</i> of the subshelf.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax, and a description of this parameter.
<i>subshelfnum</i>	Subshelf Number. Values: ■ [2-14] (integer values only) ■ ALL (default)

OUTPUT FORMAT

If the **RTRV - SUBSHELF** is accepted on a main shelf, the following normal completion response is returned. Subshelves are reported in ascending order by *subshelfnum*.

```

sid date time
M ctag COMPLD
< one or more occurrences of the following lines for each
provisioned subshelf >
  "subshelfnum,subsheltype,mainintfc_aid:subshelfmac=x"
...
...
;
```


If the **RTRV - SUBSHELF** is accepted on a subshelf, the following normal completion response is returned.

```
sid date time
M ctag COMPLD
  "subshelfnum,subshelftype,mainintfc_aid:subshelfmac=x,main_tid=x"
;
```

If the **RTRV - SUBSHELF** is accepted on a stand-alone shelf, the following normal completion response is returned.

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to this command.

Table 2-502. RTRV - SUBSHELF Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>subshelfnum</i>	Subshelf Number. Values ■ [2-14] (integer values only)
<i>subshelftype</i>	Subshelf Type. Values ■ DS1 ■ DS3

Table 2-502. RTRV - SUBSHELF Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>mainintfc_aid</i>	Main Shelf Interface AID. <i>mainintfc_aid</i> specifies the AID of the optical interface on the main shelf to which the subshelf is connected. Values ■ 1+1 Protection Group AID

Table 2-503. RTRV - SUBSHELF Output *spec_block* Parameters

Parameter Name	Description
<i>main_tid</i>	Main Shelf Target Identifier. <i>main_tid</i> specifies the <i>tid</i> of the main shelf in a multi-shelf configuration. Refer to the RTRV - HDR command for a description of the <i>tid</i> parameter.
<i>subshelfmac</i>	Subshelf MAC Address. <i>subshelfmac</i> is the MAC address that is stored (burned) on the subshelf SYSCTL's EEPROM by the factory and it is unique. This is the MAC address that is always used as the NE's unique system ID field within the NE's OSI NSAP address (see RTRV-ULSDCC-L3:l3sys). The 6 bytes of the MAC address are formatted as 12 hexadecimal digits. <i>subshelfmac</i> is reported for a subshelf even though it is not a valid parameter when provisioning a standalone shelf to be a subshelf.

EXAMPLE INPUT/OUTPUT

The following example, executed on the main shelf, retrieves the attributes of all subshelves.

```
RTRV-SUBSHELF:TID1::123456;  
  
IP 123456  
<  
  TID1 10-11-26 16:42:11  
M 123456 COMPLD  
  "2,DS1,growth-1-1:subshelfmac=08006A112345"  
  "3,DS1,growth-1-2:subshelfmac=08006A112346"  
  "4,DS3,main-1-2:subshelfmac=08006A112347"  
;
```

The following example, executed on the main shelf, retrieves the attributes of a single subshelf.

```
RTRV-SUBSHELF:TID1::123456:2;  
  
IP 123456  
<  
  TID1 10-11-26 16:42:11  
M 123456 COMPLD  
  "2,DS1,growth-1-1:subshelfmac=08006A112345"  
;
```

The following example, executed on a subshelf, retrieves a DS1 subshelf.

```
RTRV-SUBSHELF:TID1::123456;  
  
IP 123456  
<  
  TID1 10-11-26 16:42:11  
M 123456 COMPLD  
  "2,DS1,growth-1-1:subshelfmac=08006A112345,main_tid=TID1"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives a **RTRV-SUBSHELF** command with an invalid or unexpected parameter value, then the command is denied and the following error response is returned, where <parameter_name> identifies a parameter with an invalid value.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid <parameter_name> value */
;
```

If a main shelf or subshelf receives a **RTRV-SUBSHELF** command with a specified **subshelfnum** other than **ALL** and the subshelf does not exist, then the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IENE
/* Input, Entity Not Exists, subshelf does not exist */
;
```

RELATED TL1 MESSAGES

DLT-SUBSHELF

ED-SUBSHELF

ENT-SUBSHELF

NAME

RTRV-SYNCN: Retrieve Synchronization

The **RTRV-SYNCN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-SYNCN: *tid:aid:ctag;*

DESCRIPTION

This command displays the provisioning and operational information concerning the synchronization attributes as set by the **SET-SYNCN** command.

Output reports will vary according to the provisioned timing mode.

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-504. **RTRV-SYNCN** Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.
<i>aid</i>	Access Identifier. This identifies the facility for which synchronization attributes are being retrieved. The <i>aid</i> can only have the value ALL. In a multi-shelf DCS system, ALL retrieves synchronization status for the main shelf only. To retrieve synchronization status for a specific subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number.

Table 2-504. RTRV-SYNCN Input Parameters (cont 2 of 2)

Parameter Name	Description
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and a description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the request in Release 1.0, the following normal completion response is returned:

```
IP ctag
<

  sid date time
M  ctag COMPLD
  "sync_source=x,timing_message=x"
  "ds1_1=linecode/format,ds1_2=xxxx/xxx"
  "provisioned_mode=x"
  "active_timing_mode=x"
  "ref_1=x,ref_2=x"
  "active_circuit_pack=x"
  "active_reference_line=x"
  "mode_switching=x"
  "last_reference_switch=MM-DD HH-MM-SS"
  "syncmsg_aid_in_out_type_1=optintf/input_msg/output_msg/type"
  "syncmsg_aid_in_out_type_2=optintf/input_msg/output_msg/type"
  ..
  ..
  "sync_autoreconfiguration=x"
;
```

If the NE fully complies with the request in Release 1.1 and later, the following normal completion response is returned:

```
IP ctag
<

  sid date time
M  ctag COMPLD
  "sync_source=x,timing_message=x"
  "ds1_1=linecode/format,ds1_2=xxxx/xxx"
  "provisioned_mode=x"
  "active_timing_mode=x"
  "ref_1=x,ref_2=x"
  "active_circuit_pack=x"
  "active_reference_line=x"
  "mode_switching=x"
  "last_reference_switch=MM-DD HH-MM-SS"
  "ds1_provisioned_mode=x"
  "ais_threshold=x"
  "refout_1=x,refout_2=x"
  "ds1_active_reference=x"
  "ds1_1equ=xx,ds1_2equ=xx"
  "syncmsg_aid_in_out_type_1=optintf/input_msg/output_msg/type"
  "syncmsg_aid_in_out_type_2=optintf/input_msg/output_msg/type"
  ..
  ..
  "sync_autoreconfiguration=x"
;
```

If the NE fully complies with the request in Release 4.0 and later, the following normal completion response is returned:

```
IP ctag
<

  sid date time
M  ctag COMPLD
  "sync_source=x,timing_message=x"
  "ds1_1=linecode/format,ds1_2=xxxx/xxx"
  "provisioned_mode=x"
  "active_timing_mode=x"
  "ref_1=x,ref_2=x"
  "active_circuit_pack=x"
  "active_reference_line=x"
  "mode_switching=x"
  "last_reference_switch=MM-DD HH-MM-SS"
  "refswmod=x"
  "ds1_provisioned_mode=x"
  "ais_threshold=x"
  "refout_1=x,refout_2=x"
  "ds1_active_reference=x"
  "ds1_1equ=xx,ds1_2equ=xx"
  "syncmsg_aid_in_out_type_1=optintf/input_msg/output_msg/type"
  "syncmsg_aid_in_out_type_2=optintf/input_msg/output_msg/type"
  ..
  ..
  "sync_autoreconfiguration=x"
;
```

Starting in Release 7.0, the following normal completion response is returned when *syncctrl* is provisioned to SONETSYNC:

:

```
IP ctag
<

    sid date time
M ctag COMPLD
  "sync_source=x,timing_message=x"
  "ds1_1=linecode/format,ds1_2=xxxx/xxx"
  "provisioned_mode=x"
  "active_timing_mode=x"
  "ref_1=x,ref_2=x"
  "active_circuit_pack=x"
  "active_reference_line=x"
  "mode_switching=x"
  "last_reference_switch=MM-DD HH-MM-SS"
  "refswmod=x"
  "ds1_provisioned_mode=x"
  "ais_threshold=x"
  "refout_1=x,refout_2=x"
  "ds1_active_reference=x"
  "ds1_1equ=xx,ds1_2equ=xx"
  "syncmsg_aid_in_out_type_1=optintf/input_msg/output_msg/type"
  "syncmsg_aid_in_out_type_2=optintf/input_msg/output_msg/type"
  ..
  ..
  "sync_autoreconfiguration=x"
  "synccrtc=sonetsync"
;
```

Starting in Release 7.0, the following normal completion response is returned when *synccrtc* is provisioned to SDHSYNC:

```
IP ctag
<

    sid date time
M  ctag COMPLD
    "sync_source=x,timing_message=x"
    "e1_1=x,e1_2=x"
    "provisioned_mode=x"
    "active_timing_mode=x"
    "ref_1=x,ref_2=x"
    "active_circuit_pack=x"
    "active_reference_line=x"
    "mode_switching=x"
    "last_reference_switch=MM-DD HH-MM-SS"
    "refswmod=x"
    "e1_provisioned_mode=x"
    "ais_threshold=x"
    "refout_1=x,refout_2=x"
    "e1_active_reference=x"
    "syncmsg_aid_in_out_type_1=optintf/input_msg/output_msg/type"
    "syncmsg_aid_in_out_type_2=optintf/input_msg/output_msg/type"
    ..
    ..
    "sync_autoreconfiguration=x"
    "synccrtc=sdhsync"
;
```

Starting in Release 7.1, the following normal completion response is returned when *synccrtc* is provisioned to SONETSYNC:

:

```
IP ctag
<
  sid date time
M ctag COMPLD
  "sync_source=x,timing_message=x"
  "ds1_1=linecode/format,ds1_2=xxxx/xxx"
  "provisioned_mode=x"
  "active_timing_mode=x"
  "ref_1=x,ref_2=x"
  "active_circuit_pack=x"
  "active_reference_line=x"
  "mode_switching=x"
  "last_reference_switch=MM-DD HH-MM-SS"
  "refswmod=x"
  "ds1_provisioned_mode=x"
  "ais_threshold=x"
  "refout_1=x,refout_2=x"
  "ds1_active_reference=x"
  "ds1_1equ=xx,ds1_2equ=xx"
  "syncmsg_aid_in_out_type_1=optintf/input_msg/output_msg/type"
  "syncmsg_aid_in_out_type_2=optintf/input_msg/output_msg/type"
  ..
  ..
  "sync_autoreconfiguration=x"
  "synccrtc=sonetsync"
  "ext_issm=x,frcdus=x"
;
```

Starting in Release 7.1, the following normal completion response is returned when *synccrtc* is provisioned to SDHSYNC:

```

IP ctag
<

    sid date time
M  ctag COMPLD
    "sync_source=x,timing_message=x"
    "e1_1=x,e1_2=x"
    "provisioned_mode=x"
    "active_timing_mode=x"
    "ref_1=x,ref_2=x"
    "active_circuit_pack=x"
    "active_reference_line=x"
    "mode_switching=x"
    "last_reference_switch=MM-DD HH-MM-SS"
    "refswmod=x"
    "e1_provisioned_mode=x"
    "ais_threshold=x"
    "refout_1=x,refout_2=x"
    "e1_active_reference=x"
    "syncmsg_aid_in_out_type_1=optintf/input_msg/output_msg/type"
    "syncmsg_aid_in_out_type_2=optintf/input_msg/output_msg/type"
    ..
    ..
    "sync_autoreconfiguration=x"
    "synccrtc=sdhsync"
    "ext_issm=x,frcdus=x"
    "ext_isa=x,ext_osa=x"
;

```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

Additional parameters that specifically apply to this command are defined below.

Table 2-505. RTRV-SYNCN Output Parameters (cont 1 of 18)

Parameter Name	Description
<i>sync_source</i>	Synchronization source. The <i>sync_source</i> is the optical line from which shelf timing is derived in Release 1.0.

Table 2-505. RTRV-SYNCN Output Parameters (cont 2 of 18)

Parameter Name	Description
	In Release 1.1 and later, the sync source is the optical line from which shelf timing or the DS1 sync output is derived. If the shelf timing mode is provisioned for LINETIMED or LINE_SYNCOUT, <i>sync_source</i> is the source for shelf timing. If the timing mode is provisioned for LINE_SYNCOUT or EXT_SYNCOUT, <i>sync_source</i> is the source from which the DS1 sync output is derived. ■ MAIN-1-1 ■ MAIN-2-1 Starting in Release 7.0, when the NE is provisioned for LINETIMED, LINE_SYNCOUT or EXT_SYNCOUT, <i>sync_source</i> may have as its value the AID of any optical OC-n line on any circuit pack in the MAIN, FN or Growth slots. ■ — (dash) Timing mode is provisioned to be FREERUNNING or EXTERNAL.
<i>timing_message</i>	Timing Message. This is one of the following: ■ FOR_SHELF_ON LY <i>provisioned_mode</i> is set for LINETIMED ■ FOR_SHELF_AND_DS1_OUTPU TS <i>provisioned_mode</i> is set for LINE_SYNCOUT ■ FOR_DS1_OUTPU TS_ONLY <i>provisioned_mode</i> is set for EXT_SYNCOUT ■ FOR_SHELF_AND_E1_OUTPUTS <i>provisioned_mode</i> is set for LINE_SYNCOUT when <i>syncsrc</i> equals SDHSYNC ■ FOR_E1_OUTPU TS_ONLY <i>provisioned_mode</i> is set for EXT_SYNCOUT when <i>syncsrc</i> equals SDHSYNC

Table 2-505. RTRV-SYNCN Output Parameters (cont 3 of 18)

Parameter Name	Description
	■ — (dash) <i>provisioned_mode</i> is EXTERNAL or FREERUNNING.
<i>ds1_1</i>	This parameter refers to the signal line coding and format of the DS1 external timing reference input, and the DS1 sync output signal on the main-1 circuit pack. Starting in Release 7.0, <i>ds1_1</i> applies only when <i>syncrtc</i> equals SONETSYNC The valid values for DS1 Line Code are: ■ AMI Alternate Mark Inversion ■ B8ZS Bipolar with 8 Zeros Substitution ■ — (dash) Unequipped, LINETIMED, or LINE_SYNCOUT Beginning in Release 3.1, the provisioned value is shown when the circuit pack is not present. ■ ? Unreadable The valid values for DS1 Line Format are: ■ SF Super Frame format (D4) ■ ESF Extended Super Frame format ■ — (dash) Unequipped, LINETIMED Beginning in Release 3.1, the provisioned value is shown when the circuit pack is not present. ■ ? Unreadable
<i>ds1_2</i>	These are the same as the values of <i>ds1_1</i> except for the timing function on the main-2 circuit pack. Starting in Release 7.0, <i>ds1_2</i> applies only when <i>syncrtc</i> equals SONETSYNC

Table 2-505. RTRV-SYNCN Output Parameters (cont 4 of 18)

Parameter Name	Description
<i>e1_1</i>	This parameter refers to the frame format of the E1 external timing reference input, and the E1 sync output signal on the main-1 circuit pack. <i>e1_1</i> applies only when <i>syncrtc</i> equals SDHSYNC. The valid values for E1 Format are: ■ FAS Frame Alignment Signal. ■ CRC4 Cyclic Redundancy Check-4 multiframe alignment. ■ — (dash) Unequipped, LINETIMED
<i>e1_2</i>	These are the same as the values of <i>e1_1</i> except for the timing function on the main-2 circuit pack. <i>e1_2</i> applies only when <i>syncrtc</i> equals SDHSYNC.
<i>provisioned_mode</i>	Provisioned Mode. This is the provisioned synchronization mode of the timing generator function, as set in the SET-SYNCN command. The valid values are: ■ FREERUNNING Timing derived from internal oscillator ■ EXTERNAL Timing derived from DS1 External reference. Starting in Release 7.0, when <i>provisioned_mode</i> is set to EXTERNAL, timing is derived from a DS1 External reference when <i>syncrtc</i> equals SONETSYNC and from an E1 External reference when <i>syncrtc</i> equals SDHSYNC ■ EXT_SYNCOUT Same as EXTERNAL with DS1 sync output mode enabled. Starting in Release 7.0, when <i>provisioned_mode</i> is set to EXT_SYNCOUT and <i>syncrtc</i> equals SONETSYNC, timing is derived from the DS1 External reference and DS1 sync output is enabled. When <i>syncrtc</i> equals SDHSYNC timing is derived from the E1 External reference and E1 sync output is enabled.

Table 2-505. RTRV-SYNCN Output Parameters (cont 5 of 18)

Parameter Name	Description
	■ LINETIMED Timing derived from optical signal in the MAIN slots. Starting in Release 7.0, line timing may be derived from the OC-n optical signal on any circuit pack in the MAIN, FN or Growth slots. ■ LINE_SYNCOUT Same as LINETIMED with DS1 sync output mode enabled. Starting in Release 7.0, when <i>provisioned_mode</i> is set to LINE_SYNCOUT and <i>syncctrl</i> equals SONETSYNC, DS1 sync output is enabled. When <i>syncctrl</i> equals SDHSYNC, E1 sync output is enabled.
<i>active_timing_mode</i>	Active timing mode. This is the active timing synchronization mode of the system. The value may be any of the values listed above for <i>provisioned_mode</i>, or one of the following: ■ HOLDOVER Timing generator is operating in Holdover Mode because the provisioned references are not available, or because the system has been manually switched to Holdover Mode, or the system is provisioned for non-revertive mode switching. ■ NO_TIMING Circuit packs with timing function are configured to be unequipped. ■ ? Timing mode is unreadable.
<i>ref_1</i>	Reference port 1. Input State refers to the state of the External timing reference port 1 (with or without sync out enabled). The values are: ■ IS in service ■ AUTO automatic (reference is not available) ■ — (dash) <i>provisioned_mode</i> is not EXTERNAL or EXT_SYNCOUT, or the corresponding main pack is provisioned to be unequipped
<i>ref_2</i>	Same as <i>ref_1</i> but for External timing reference port 2.

Table 2-505. RTRV-SYNCN Output Parameters (cont 6 of 18)

Parameter Name	Description
<i>active_circuit_pack</i>	This parameter indicates which timing generator is currently active. The value is main-1, main-2, or - (neither). In a multi-shelf DCS system, {shelf}-main-1 and {shelf}-main-2, where {shelf} identifies a subshelf number, are also valid values.
<i>active_reference_line</i>	This parameter is the active reference for the timing generator. When the <i>provisioned_mode</i> is External, with or without sync out enabled, this parameter has one of the following values: ■ REF-1 The active timing reference is set to the timing reference port one. ■ REF-2 The active timing reference is set to the timing reference port two. ■ — (dash) External references are in auto input state. When the active timing mode is HOLDOVER, this parameter is the timing reference that was active when the system went into Holdover Mode. When the <i>provisioned_mode</i> is LINETIMED or LINE_SYNCOUT, this parameter has one of the following values: ■ MAIN-1-1 ■ MAIN-2-1 Starting in Release 7.0, when the <i>provisioned_mode</i> is LINETIMED or LINE_SYNCOUT, <i>active_reference_line</i> may have as its value the AID of any optical line on any circuit pack in the MAIN, FN or Growth slots. When the active timing mode is HOLDOVER, this parameter is the timing reference that was active when the system went into Holdover Mode. When the <i>provisioned_mode</i> is FREERUNNING, this parameter has the following value: ■ — (dash)
<i>mode_switching</i>	This parameter indicates whether the mode switching for the timing generator is revertive or nonrevertive. This parameter is not applicable when the provisioned synchronization mode is FREERUNNING

Table 2-505. RTRV-SYCN Output Parameters (cont 7 of 18)

Parameter Name	Description
	■ REVERTIVE Revertive mode switching. If the system is provisioned for revertive mode switching, it will automatically switch from holdover mode to the <i>provisioned_mode</i> when a good reference becomes available. ■ NONREVERTIVE Nonrevertive mode switching. If the system is provisioned for nonrevertive mode, it will switch to holdover mode (as a result of a timing reference failure) and remain in this mode until it is manually switched back to the provisioned timing mode by the OPR-SYCN command. ■ — (dash) Not applicable. The <i>provisioned_mode</i> is FREERUNNING.
<i>last_reference_switch</i>	Last Reference Switch Time. This is the date and time of the last switch of the external timing reference. It has an initial power-up value of NA which is retained until a reference switch occurs. The value of Switch Time (the instant a switch occurs) is obtained from the system clock. This parameter applies only when the <i>provisioned_mode</i> is External with or without sync output enabled. When the <i>provisioned_mode</i> is not External with or without sync output enabled, the value “—” is returned. The date is reported in MM-DD format, where MM is the month of the year ranging from 01 to 12; and DD is the day of the month ranging from 01 to 31. The time is reported in HH-MM-SS format, where HH is the hour in a 24 hour format ranging from 00 to 23; MM is the minute ranging from 00 to 59; and SS is the second ranging from 00 to 59. ■ MM-DD Date and time of last switch. The <i>provisioned_mode</i> is EXTERNAL or EXT_SYNCOUT. ■ NA The NE is externally timed but there has not been a reference switch since the last time that the NE has powered-up. ■ — (dash) Not applicable. The <i>provisioned_mode</i> is not EXTERNAL or EXT_SYNCOUT, or the corresponding main pack is provisioned to be unequipped.

Table 2-505. RTRV-SYCN Output Parameters (cont 8 of 18)

Parameter Name	Description
<i>refswmod</i>	■ REVERTIVE-1 automatic switching of external references or lines is revertive. REF-1 (external timing) or MAIN-1-1 (line timing) has priority. Starting in Release 7.0, when the NE is provisioned for line timing, the reference in slot 1 of the MAIN, FN or Growth line pair indicated by the value of <i>sync_source</i> AID has priority. ■ REVERTIVE-2 automatic switching of external references or lines is revertive. REF-2 (external timing) or MAIN-2-1 (line timing) has priority. Starting in Release 7.0, when the NE is provisioned for line timing, the reference in slot 2 of the MAIN, FN or Growth slot group indicated by the value of <i>sync_source</i> AID has priority. ■ NONREVERTIVE automatic switching of external references or lines is nonrevertive ■ — (dash) <i>provisioned_mode</i> is FREERUNNING
<i>ds1_provisioned_mode</i>	■ — (dash) DS1 sync output is disabled ■ SYNC_OUT DS1 sync output is enabled ■ — (dash) <i>provisioned_mode</i> is FREERUNNING Starting in Release 7.0, <i>ds1_provisioned_mode</i> applies only when <i>syncctrl</i> equals SONETSYNC.
<i>e1_provisioned_mode</i>	■ — (dash) E1 sync output is disabled ■ SYNC_OUT E1 sync output is enabled ■ — (dash) <i>provisioned_mode</i> is FREERUNNING <i>e1_provisioned_mode</i> applies only when <i>syncctrl</i> equals SDHSYNC.

Table 2-505. RTRV-SYNCN Output Parameters (cont 9 of 18)

Parameter Name	Description
<i>ais_threshold</i>	This parameter sets the minimum acceptable quality level of the active optical line source, based on the received synchronization message. When the received quality level drops below the minimum, an AIS signal is transmitted on the DS1 sync output signals. The SONET <i>ais_threshold</i> values are: ■ LEVEL7 Send DS1 AIS for incoming quality level 7 (Traceable SONET Minimum Clock - SMC) or greater (i.e, quality level 7 or 8 or greater). ■ LEVEL6 Send DS1 AIS for incoming quality level 6 (Traceable Stratum 3 - ST3) or greater. ■ LEVEL5 Send DS1 AIS for incoming quality level 5 (Traceable Stratum 3E - ST3E) or greater. ■ LEVEL4 Send DS1 AIS for incoming quality level 4 (Traceable Transit Node Clock - TNC) or greater. ■ LEVEL3 Send DS1 AIS for incoming quality level 3 (Traceable Stratum 2 - ST2) or greater. ■ LEVEL2 Send DS1 AIS for incoming quality level 2 (Sync Traceability Unknown - STU) or greater. ■ — (dash) Shelf <i>provisioned_mode</i> is not LINE_SYNCOUT or EXT_SYNCOUT. When <i>syncrtc</i> is provisioned to SDHSYNC, the <i>ais_threshold</i> values are: ■ LEVEL4 Send E1 AIS for incoming quality level 4; SDH Equipment Clock (SEC), or greater. ■ LEVEL3 Send E1 AIS for incoming quality level 3; Synchronization Supply Unit - Type B (SSU_B), or greater. ■ LEVEL2 Send E1 AIS for incoming quality level 2; Synchronization Supply Unit - Type A (SSU_A), or greater.

Table 2-505. RTRV-SYNCN Output Parameters (cont 10 of 18)

Parameter Name	Description
	■ — (dash) Shelf <i>provisioned_mode</i> is not LINE_SYNCOUT or EXT_SYNCOUT.
<i>refout_1</i>	This parameter shows the status of the sync output signal. ■ GOOD This status indicates that the sync output from the main-1 pack is traceable to the incoming optical line that is used as the timing source. ■ AIS AIS is inserted if a failure exists that prohibits tracing of the sync output to the incoming optical line that is used as the timing source. ■ — (dash) Indicates the main-1 slot is in the unequipped state or <i>provisioned_mode</i> is not LINE_SYNCOUT or EXT_SYNCOUT. ■ ? The main-1 pack is unreadable, or slot is equipped and empty.
<i>refout_2</i>	Same as <i>refout_1</i> except for the output signal from the main-2 circuit pack.
<i>ds1_active_reference</i>	This shows the actual optical line that the DS1 sync output is being derived from. Starting in Release 7.0, <i>ds1_active_reference</i> applies only when <i>syncrtc</i> equals SONETSYNC. Valid values are: ■ MAIN-1-1 ■ MAIN-2-1 Starting in Release 7.0, when the shelf <i>provisioned_mode</i> is LINE_SYNCOUT or EXT_SYNCOUT, the DS1 sync output is derived from the active line timing reference and thus the value of <i>ds1_active_reference</i> may be the AID of any optical line in the MAIN, FN or Growth slots. ■ — (dash) Shelf <i>provisioned_mode</i> is not LINE_SYNCOUT or EXT_SYNCOUT.

Table 2-505. RTRV-SYNCN Output Parameters (cont 11 of 18)

Parameter Name	Description
<i>e1_active_reference</i>	This shows the actual optical line from which the E1 sync output is being derived. <i>e1_active_reference</i> applies only when <i>syncrtc</i> equals SDHSYNC. The values are: ■ (line timing reference AID) When the shelf <i>provisioned_mode</i> is LINE_SYNCOUT or EXT_SYNCOUT, the E1 sync output is derived from the active line timing reference and thus the value of <i>e1_active_reference</i> may be the AID of any optical line in the MAIN, FN or Growth slots. ■ — (dash) Shelf <i>provisioned_mode</i> is not LINE_SYNCOUT or EXT_SYNCOUT.
<i>ds1_1equ</i>	DS1 Sync Output Equalization. This shows the equalization on the DS1 sync output of the main-1 circuit pack. The valid values are: Starting in Release 7.0, <i>ds1_1equ</i> applies only when <i>syncrtc</i> equals SONETSYNC The valid values are: ■ 20 The maximum length for 600 Type cable is at 131 feet or for 1249 Type cable is at 90 feet. ■ 40 The maximum length for 600 Type cable is at 262 feet or for 1249 Type cable is at 180 feet. ■ 60 The maximum length for 600 Type cable is at 393 feet or for 1249 Type cable is at 270 feet. ■ 80 The maximum length for 600 Type cable is at 524 feet or for 1249 Type cable is at 360 feet. ■ 100 The maximum length for 600 Type cable is at 655 feet or for 1249 Type cable is at 450 feet. ■ — (dash) <i>provisioned_mode</i> is not LINE_SYNCOUT or EXT_SYNCOUT.
<i>ds1_2equ</i>	Same as <i>ds1_1equ</i> except for the DS1 output signal from the main-2 circuit pack.

Table 2-505. RTRV-SYNCN Output Parameters (cont 12 of 18)

Parameter Name	Description
	Starting in Release 7.0, <i>ds1_2equ</i> applies only when <i>syncrtc</i> equals SONETSYNC
<i>sync_autoreconfiguration</i> <i>syncrtc</i>	This capability allows the system to choose the best timing source to use when it is provisioned for line timing. The valid values are ■ ENABLED ■ DISABLED ■ — (dash)
	System Synchronization Characteristic. <i>syncrtc</i> has the following values: ■ SONETSYNC SONET synchronization characteristics, including DS1 external references and SONET sync message interpretation. ■ SDHSYNC SDH synchronization characteristics, including E1 external references and SDH sync message interpretation.
<i>ext_issm</i>	External timing reference SSM support. <i>ext_issm</i> indicates if SSM is enabled or disabled on the input and output external timing references. This parameter applies only when the <i>provisioned_mode</i> is EXT, EXT_SYNCOUT or LINE_SYNCOUT. The values are ■ ENABLED SSM is enabled on the input and output external timing references ■ DISABLED SSM is disabled on the input and output external timing references ■ — (dash) <i>provisioned_mode</i> is not EXT, EXT_SYNCOUT or LINE_SYNCOUT, or if the MAIN circuit packs are not VLF MAINs.

Table 2-505. RTRV-SYNCN Output Parameters (cont 13 of 18)

Parameter Name	Description
<i>frcdus</i>	Force “DUS” on output timing references SSM. This parameter applies only when <i>provisioned_mode</i> is LINE_SYNCOUT or EXT_SYNCOUT and when <i>ext_issm</i>=ENABLED. The values are ■ ENABLED The SSM on the output timing references is set to DUS. ■ DISABLED The SSM on the output timing references is set to the appropriate value for based on the input SSM and the state of the NE. ■ — (dash) <i>provisioned_mode</i> is not LINE_SYNCOUT or EXT_SYNCOUT and if <i>ext_issm</i> is not ENABLED, or if the MAIN circuit packs are not VLF MAINs.
<i>ext_isa</i>	E1 S_a bit to use for SSM on the input E1 external timing references. This parameter applies only when <i>syncrtc</i> is SDH-SYNC and when <i>provisioned_mode</i> is EXT or EXT_SYNCOUT. Values are ■ SA4 ■ SA5 ■ SA6 ■ SA7 ■ SA8. ■ — (dash) <i>provisioned_mode</i> is not EXT or EXT_SYNCOUT and if <i>syncrtc</i> is not SDHSYNC, or if the MAIN circuit packs are not VLF MAINs.

Table 2-505. RTRV-SYNCN Output Parameters (cont 14 of 18)

Parameter Name	Description
<i>ext_osa</i>	E1 S_a bit to use for SSM on the output E1 external timing references. This parameter applies only when <i>syncctrl</i> is SDH-SYNC and when <i>provisioned_mode</i> is LINE_SYNCOUT or EXT_SYNCOUT. Values are ■ SA4 ■ SA5 ■ SA6 ■ SA7 ■ SA8. ■ — (dash) <i>provisioned_mode</i> is not LINE_SYNCOUT or EXT_SYNCOUT and if <i>syncctrl</i> is not SDHSYNC, or if the MAIN circuit packs are not VLF MAINs.
<i>This section of the report is available only if some of the optical interfaces have been provisioned for Sbyte sync messaging using the ENT-rr command. The sync message parameters are reported in the format syncmsg_aid_in_out_type_n=optintf/input_msg/output_msg/type</i> <i>Starting in Release 7.1, this section of the report is also available if the NE is provisioned for input and/or output external timing references (<i>provisioned_mode</i> is EXT, EXT_SYNCOUT or LINE_SYNCOUT) and sync messaging is enabled on the input and output external timing references using SET-SYNCN: ext_issm.</i> <i>For OLIUs with pluggable optics, this section of the report is available only for equipped sockets.</i> <i>Starting in Release 7.1, this section of the report is not available for the LNW705 Muxponder circuit pack client ports that are provisioned as OC-n ports (see ENT-OTPE:signaltype).</i>	
<i>optintf</i>	This parameter is the aid of an optical interface. Starting in Release 7.1, <i>optintf</i> may also be the aid of an external timing reference.
<i>input_msg</i>	This parameter reports the value of the synchronization message received in the S1 byte of the optical interface. Starting in Release 7.1, when the NE is provisioned for input external timing references, this parameter reports the value of the synchronization message received on an input timing reference. <i>input_msg</i> has one of the following values:

Table 2-505. RTRV-SYNCN Output Parameters (cont 15 of 18)

Parameter Name	Description
	■ DISABLED Indicates that the field is not applicable (for example, if synchronization messaging is disabled). ■ ? Indicates that the message is not readable (for example, due to a line failure). The following value may also be reported for the input output timing references when <i>provisioned_mode</i> is LINE_SYNCOUT and <i>ext_issm</i> is ENABLED, that is, there is an <i>output_msg</i> for the output external references to be reported, but the input timing references are not enabled. ■ — (dash) Indicates that the field is not applicable. Starting in Release 7.0, the input synchronization message interpretation depends on whether the provisioned value of <i>syncrtc</i> is SONETSYNC or SDHSYNC. The following are the SONET S1 input messages applicable for optical interfaces: Starting in Release 7.1, the following are the SONET input messages are applicable for optical interfaces and for ESF DS1 external timing references: ■ DUS Do not Use. The interface is not suitable for synchronization timing (Quality Level 9). ■ PNO Provisionable by the Network Operator. The interface is receiving the reserved message on S1 byte (Quality Level 9). The system treats this message the same as DUS. ■ UNDEFINED The interface is receiving a message on the S1 byte that is not defined by the standards (Quality Level 9). The system treats this message the same as DUS. ■ UNDEFINED If synchronization messaging is enabled on the input DS1 external reference but the there is no SSM code word in the input external reference signal.

Table 2-505. RTRV-SYNCN Output Parameters (cont 16 of 18)

Parameter Name	Description
	■ SMC Traceable SONET Minimum Clock. The interface is receiving timing from a system in holdover or free running (Quality Level 7). ■ ST3 Traceable Stratum 3. The interface is receiving timing from a Stratum 3 clock source (Quality Level 6). ■ ST3E Traceable Stratum 3E. The interface is receiving timing from a Stratum 3E clock source (Quality Level 5). ■ TNC Traceable Transit Node Clock. The interface is receiving timing from a Transit Node clock source (Quality Level 4). ■ ST2 Traceable Stratum 2. The interface is receiving timing from a Stratum 2 clock source (Quality Level 3). ■ STU Synchronized - Traceability Unknown. This interface is receiving timing from a good quality clock source (Quality Level 2). ■ PRS The interface is receiving timing from a Stratum 1 clock source (Quality Level 1). When <i>syncsrc</i> is provisioned to SDHSYNC, the <i>input_msg</i> values are: ■ DUS Do not Use. The interface is not suitable for synchronization timing (Quality Level 5). ■ UNDEFINED The interface is receiving a message on the S1 byte that is not defined by the standards (Quality Level 5). The system treats this message the same as DUS. ■ UNDEFINED If synchronization messaging is enabled on the input E1 external reference but there is no SSM code word in the input external reference signal. ■ SEC SDH Equipment Clock (Quality Level 4).

Table 2-505. RTRV-SYNCN Output Parameters (cont 17 of 18)

Parameter Name	Description
	■ SSU_B Synchronization Supply Unit - Type B (SSU_B)(Quality Level 3). ■ SSU_A Synchronization Supply Unit - Transfer Node (SSU_A) (Quality Level 2). ■ PRC Primary Reference Clock (Quality Level 1). ■ SSM0 Quality Unknown (Quality Level 0). Starting in Release 7.1, when <i>syncrtc</i> is provisioned to SDHSYNC, the preceding SDH input messages are applicable for optical interfaces and for E1 CRC4 external timing references.
<i>output_msg</i>	Output Message. This identifies the output message sent out on each optical line interface. The valid values for this parameter are the same as those listed for <i>input_msg</i>. Starting in Release 7.1, when the NE is provisioned for output external timing references, this parameter identifies the output message sent out on each optical line interface and output timing reference. The following value may also be reported for the optical interfaces. ■ DISABLED Indicates that the field is not applicable (for example, if synchronization messaging is disabled). The following value may also be reported for the external output timing references when <i>provisioned_mode</i> is EXT and <i>ext_issm</i> is ENABLED, that is, there is an <i>input_msg</i> for the input external references to be reported, but output timing references are not enabled. ■ — (dash) Indicates that the field is not applicable.
<i>type</i>	This identifies the type of sync messaging the optical interface was provisioned for. The valid values are ■ SBYTE ■ DISABLED

Table 2-505. RTRV-SYNCN Output Parameters (cont 18 of 18)

Parameter Name	Description
	Starting in Release 7.1, when the NE is provisioned for input or output external timing references, this parameter may also have the following value: ■ EXT_REF

EXAMPLE INPUT/OUTPUT

RTRV-SYNCN:TID123:all:c033c

```
IP c033c
<
TID123 70-01-01 00:00:49
M c033c COMPLD
  "sync_source=-,timing_message=-"
  "ds1_1=-/-,ds1_2=-/-"
  "provisioned_mode=freeRunning"
  "active_timing_mode=freeRunning"
  "ref_1=-,ref_2=-"
  "active_circuit_pack=main-1"
  "active_reference_line=-"
  "mode_switching=-"
  "last_reference_switch=-"
  "ds1_provisioned_mode=-"
  "ais_threshold=-"
  "refout_1=-,refout_2=-"
  "ds1_active_reference=-"
  "ds1_1equ=-,ds1_2equ=-"
>

TID123 70-01-01 00:00:49
M c033c COMPLD
  "syncmsg_aid_in_out_type_1=main-1-1/ST3/ST3/sbyte"
  "syncmsg_aid_in_out_type_2=main-2-1/ST3/ST3/sbyte"
  "syncmsg_aid_in_out_type_3=fn-a-1-1/?/ST3/sbyte"
  "syncmsg_aid_in_out_type_4=fn-a-1-2/?/ST3/sbyte"
  "syncmsg_aid_in_out_type_5=fn-a-1-3/?/ST3/sbyte"
  "syncmsg_aid_in_out_type_6=fn-a-1-4/?/ST3/sbyte"
  "syncmsg_aid_in_out_type_7=fn-a-2-1/?/ST3/sbyte"
  "syncmsg_aid_in_out_type_8=fn-a-2-2/?/ST3/sbyte"
>

TID123 70-01-01 00:00:50
M c033c COMPLD
  "syncmsg_aid_in_out_type_9=fn-a-2-3/?/ST3/sbyte"
  "syncmsg_aid_in_out_type_10=fn-a-2-4/?/ST3/sbyte"
  "sync_autoreconfiguration=-"
;
```

Starting in Release 4.0, the following is an example output:

```
RTRV-SYNCN:TID123:all:c033c

IP c033c
<
TID123 70-01-01 00:00:49
M c033c COMPLD
  "sync_source=-,timing_message=-"
  "ds1_1=-/-,ds1_2=-/-"
  "provisioned_mode=freeRunning"
  "active_timing_mode=freeRunning"
  "ref_1=-,ref_2=-"
  "active_circuit_pack=main-1"
  "active_reference_line=-"
  "mode_switching=-"
  "last_reference_switch=-"
  "refswmod=-"
  "ds1_provisioned_mode=-"
  "ais_threshold=-"
  "refout_1=-,refout_2=-"
  "ds1_active_reference=-"
  "ds1_1equ=-,ds1_2equ=-"
>

TID123 70-01-01 00:00:49
M c033c COMPLD
  "syncmsg_aid_in_out_type_1=main-1-1/ST3/ST3/sbyte"
  "syncmsg_aid_in_out_type_2=main-2-1/ST3/ST3/sbyte"
  "sync_autoreconfiguration=-"
;
```

Starting in Release 4.0, the following is an another example output:

RTRV-SYNCN:TID123:all:c033c

```
IP c033c
<
TID123 70-01-01 00:00:49
M c033c COMPLD
  "sync_source=main-1-1,timing_message=for_shelf_only"
  "ds1_1=-/-,ds1_2=-/-"
  "provisioned_mode=linetimed"
  "active_timing_mode=linetimed"
  "ref_1=-,ref_2=-"
  "active_circuit_pack=main-1"
  "active_reference_line=main-1-1"
  "mode_switching=revertive"
  "last_reference_switch=-"
  "refswmod=revertive-1"
  "ds1_provisioned_mode=-"
  "ais_threshold=-"
  "refout_1=-,refout_2=-"
  "ds1_active_reference=-"
  "ds1_1equ=-,ds1_2equ=-"
>

TID123 70-01-01 00:00:49
M c033c COMPLD
  "syncmsg_aid_in_out_type_1=main-1-1/STU/DUS/sbyte"
  "syncmsg_aid_in_out_type_2=main-2-1/STU/STU/sbyte"
  "sync_autoreconfiguration=enabled"
;
```

Starting in Release 4.0, the following is an example output when sync messaging is disabled:

RTRV-SYNCN:TID123:all:c033c

```
IP c033c
<
TID123 70-01-01 00:00:49
M c033c COMPLD
  "sync_source=main-1-1,timing_message=for_shelf_only"
  "ds1_1=-/-,ds1_2=-/-"
  "provisioned_mode=linetimed"
  "active_timing_mode=linetimed"
  "ref_1=-,ref_2=-"
  "active_circuit_pack=main-1"
  "active_reference_line=main-1-1"
  "mode_switching=revertive"
  "last_reference_switch=-"
  "refswmod=revertive-2"
  "ds1_provisioned_mode=-"
  "ais_threshold=-"
  "refout_1=-,refout_2=-"
  "ds1_active_reference=-"
  "ds1_1equ=-,ds1_2equ=-"
>

TID123 70-01-01 00:00:49
M c033c COMPLD
  "syncmsg_aid_in_out_type_1=main-1-1/disabled/disabled/disabled"
  "syncmsg_aid_in_out_type_2=main-2-1/disabled/disabled/disabled"
  "sync_autoreconfiguration=disabled"
;
```

Starting in Release 7.0, the following is an example output when *syncctrl* is provisioned to SONETSYNC:

RTRV-SYNCN:TID123:all:c033c

```
IP c033c
<
TID123 07-01-01 00:00:49
M c033c COMPLD
  "sync_source=growth-2-1,timing_message=for_shelf_only"
  "ds1_1=-/-,ds1_2=-/-"
  "provisioned_mode=linetimed"
  "active_timing_mode=linetimed"
  "ref_1=-,ref_2=-"
  "active_circuit_pack=main-1"
  "active_reference_line=growth-2-1"
  "mode_switching=revertive"
  "last_reference_switch=-"
  "refswmod=revertive-1"
  "ds1_provisioned_mode=-"
  "ais_threshold=-"
  "refout_1=-,refout_2=-"
  "ds1_active_reference=-"
  "ds1_1equ=-,ds1_2equ=-"
>

TID123 70-01-01 00:00:49
M c033c COMPLD
  "syncmsg_aid_in_out_type_1=growth-1-1/STU/STU/sbyte"
  "syncmsg_aid_in_out_type_2=growth-2-1/STU/DUS/sbyte"
  "sync_autoreconfiguration=enabled"
  "syncccrtc=sonetsync"
;
```

Starting in Release 7.0, the following is an example output when *syncccrtc* is provisioned to SDHSYNC:

RTRV-SYNCN:TID123:all:c033c

```
IP c033c
<
TID123 07-01-01 00:00:49
M c033c COMPLD
  "sync_source=growth-2-1,timing_message=for_shelf_only"
  "e1_1=-,e1_2=-"
  "provisioned_mode=linetimed"
  "active_timing_mode=linetimed"
  "ref_1=-,ref_2=-"
  "active_circuit_pack=main-1"
  "active_reference_line=growth-2-1"
  "mode_switching=revertive"
  "last_reference_switch=-"
  "refswmod=revertive-1"
  "e1_provisioned_mode=-"
  "ais_threshold=-"
  "refout_1=-,refout_2=-"
  "e1_active_reference=-"
>

TID123 70-01-01 00:00:49
M c033c COMPLD
  "syncmsg_aid_in_out_type_1=growth-1-1/SSU_A/SSU_A/sbyte"
  "syncmsg_aid_in_out_type_2=growth-2-1/SSU_A/DUS/sbyte"
  "sync_autoreconfiguration=enabled"
  "syncccrtc=sdhsync"
;
```

Starting in Release 7.1, the following is an example output when *syncccrtc* is provisioned to SONETSYNC:

RTRV-SYNCN:TID123:all:c033c

```
IP c033c
<
TID123 07-01-01 00:00:49
M c033c COMPLD
  "sync_source=main-1-1,timing_message=for_ds1_outputs_only"
  "ds1_1=b8zs/esf,ds1_2=b8zs/esf"
  "provisioned_mode=ext_syncout"
  "active_timing_mode=ext_syncout"
  "ref_1=is,ref_2=is"
  "active_circuit_pack=main-1"
  "active_reference_line=ref-1"
  "mode_switching=revertive"
  "last_reference_switch=-"
  "refswmod=revertive-1"
  "ds1_provisioned_mode=sync_out"
  "ais_threshold=level6"
  "refout_1=good,refout_2=good"
  "ds1_active_reference=main-1-1"
  "ds1_1equ=80,ds1_2equ=80"
>
TID123 70-01-01 00:00:49
M c033c COMPLD
  "syncmsg_aid_in_out_type_1=main-1-1/STU/PRS/sbyte"
  "syncmsg_aid_in_out_type_2=main-2-1/STU/PRS/sbyte"
  "syncmsg_aid_in_out_type_3=growth-1-1/STU/PRS/sbyte"
  "syncmsg_aid_in_out_type_4=growth-2-1/STU/PRS/sbyte"
  "syncmsg_aid_in_out_type_5=ref-1/PRS/STU/ext_ref"
  "syncmsg_aid_in_out_type_6=ref-2/PRS/STU/ext_ref"
  "sync_autoreconfiguration=disabled"
  "syncctrlc=sonetsync"
  "ext_issm=enabled,frcdus=disabled"
;
```

Starting in Release 7.1, the following is an example output when *syncctrlc* is provisioned to SDHSYNC:

RTRV-SYNCN:TID123:all:c033c

```
IP c033c
<
TID123 07-01-01 00:00:49
M c033c COMPLD
  "sync_source=main-1-1,timing_message=for_e1_outputs_only"
  "e1_1=crc4,e1_2=crc4"
  "provisioned_mode=ext_syncout"
  "active_timing_mode=ext_syncout"
  "ref_1=is,ref_2=is"
  "active_circuit_pack=main-1"
  "active_reference_line=ref-1"
  "mode_switching=revertive"
  "last_reference_switch=-"
  "refswmod=revertive-1"
  "e1_provisioned_mode=sync_out"
  "ais_threshold=level4"
  "refout_1=good,refout_2=good"
  "e1_active_reference=main-1-1"
>

TID123 70-01-01 00:00:49
M c033c COMPLD
  "syncmsg_aid_in_out_type_1=main-1-1/SSM0/PRC/sbyte"
  "syncmsg_aid_in_out_type_2=main-2-1/SSM0/PRC/sbyte"
  "syncmsg_aid_in_out_type_3=growth-1-1/SSM0/PRC/sbyte"
  "syncmsg_aid_in_out_type_4=growth-2-1/SSM0/PRC/sbyte"
  "syncmsg_aid_in_out_type_5=ref-1/PRC/SSM0/ext_ref"
  "syncmsg_aid_in_out_type_6=ref-2/PRC/SSM0/ext_ref"
  "sync_autoreconfiguration=disabled"
  "syncctrlc=sdhsync"
  "ext_issm=enabled,frcdus=disabled"
  "ext_isa=sa4,ext_osa=sa4"
;
```

Starting in Release 9.0, the following is an example output when retrieving subshelf synchronization information:

```
RTRV-SYNCN:TID123:2-all:c033c

IP c033c
<
TID123 07-01-01 00:00:49
M c033c COMPLD
  "sync_source=2-main-1-1,timing_message=for_shelf_only"
  "ds1_1=-"
  "provisioned_mode=linetimed"
  "active_timing_mode=linetimed"
  "ref_1=-,ref_2=-"
  "active_circuit_pack=2-main-1"
  "active_reference_line=2-main-1-1"
  "mode_switching=revertive"
  "last_reference_switch=-"
  "refswmod=nonrevertive"
  "ds1_provisioned_mode=-"
  "ais_threshold=-"
  "refout_1=-,refout_2=-"
  "ds1_active_reference=-"
  "ds1_1equ=-,ds1_2equ=-"
>
TID123 70-01-01 00:00:49
M c033c COMPLD
  "syncmsg_aid_in_out_type_1=2-main-1-1/STU/PRS/sbyte"
  "syncmsg_aid_in_out_type_2=2-main-2-1/STU/PRS/sbyte"
  "sync_autoreconfiguration=enabled"
  "synccrtc=sonetsync"
  "ext_issm=-,frcdus=-"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the *aid* value is missing, invalid, or conflicts with the command code modifier.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier */
;
```

Prior to Release 4.0, the NE returns the following error response when both main optical slots are in the auto state.

```
sid date time
M  ctag DENY
   ENEQ
/* Equipage, Not Equipped, Both Main slots are unequipped */
;
```

Beginning with Release 4.0, a report is generated when both main optical slots are in the unequipped state, and the above error response is not returned.

RELATED TL1 MESSAGES

ENT-rr

OPR-SYNCNSW

SET-SYNCN

NAME

RTRV-SYS: Retrieve System

The **RTRV-SYS** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-SYS:*tid::ctag;*

DESCRIPTION

The **RTRV-SYS** command retrieves system attributes associated with the NE at the system level, but not associated with any particular facility or equipment unit. Some, but not all, of the system level attributes are provisioned by the TL1 command **ENT-SYS**.

This command retrieves the NE's TL1 TCP/IP gateway NE (GNE) status as provisioned by the related command **ENT-SYS**. Refer to the **ENT-SYS** command for more information about the TL1 TCP/IP GNE.

Execution of this command will not be recorded in the Security log.

The **RTRV-SYS** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-506. RTRV-SYS Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. This is the name of the NE to which the command is addressed.
<i>ctag</i>	Correlation Tag. This is included in the command by the user and is repeated by the NE in the response to allow the user to associate the command and response commands.

OUTPUT FORMAT

The following output message is returned:

```
IP ctag
<
    sid date time
M ctag COMPLD
    "product=DMX"
    "tid=tid, gne=x, x25ps=x"
    "rnestat=x, tcpipgw=x, [agne=x, almgrp=x]"
    ["agne_address=x"]
    ["agne_address=y"]
    "idle=x"
    "macaddress1=x, macaddress2=y"
    "dormant_rel(nesw)=xx.xx.xx, dormant_rel(ethsw)=xx.xx.xx"
    "dormant_rel(ds1sw)=none, dormant_rel(ds3sw)=xx.xx.xx"
    "apply_act(nesw)=x, sched_date=xx-xx-xx, sched_time=xx-xx-xx"
    ["apply_act(ethsw)=install, sched_date=00-00-00, sched_time=00-00-00"]
    ["apply_act(ds1sw)=install, sched_date=00-00-00, sched_time=00-00-00"]
    ["apply_act(ds3sw)=install, sched_date=00-00-00, sched_time=00-00-00"]
;
```

Starting in Release 2.0, if the NE fully complies with the request, the following output message is returned:

```
IP ctag
<
    sid date time
M ctag COMPLD
    "product=x"
    "tid=x, gne=x, x25ps=x"
    "rnestat=x, tcpipgw=x, ftp=x"
    ["agne=x, almgrp=x"]
    ["agne_address=x"]
    ["agne_address=y"]
    "idle=x"
    "macaddress1=x, macaddress2=y"
    "dormant_rel=xx.xx.xx"
    "apply_act=x, apply_type=x"
    "sched_date=xx-xx-xx, sched_time=xx-xx-xx"
    "other_rel=xx.xx.xx, other_prodtype=x"
;
```

Starting in Release 2.1, if the NE fully complies with the request, the following output message is returned:

```
IP ctag
<

    sid date time
M ctag COMPLD
    "product=x"
    "tid=x,gne=x,x25ps=x"
    "rnestat=x,tcpipgw=x,ftp=x"
    ["agne=x,almgrp=x"]
    ["agne_address=x"]
    ["agne_address=y"]
    "idle=x"
    "macaddress1=x,macaddress2=y"
    "dormant_rel=xx.xx.xx"
    "apply_act=x,apply_type=x"
    "sched_date=xx-xx-xx,sched_time=xx-xx-xx"
    "other_rel=xx.xx.xx,other_prodtype=x"
    "nemode=x"
;
```

Starting in Release 3.0, if the NE fully complies with the request, the following output message is returned:

```
IP ctag
<

    sid date time
M ctag COMPLD
  "product=x"
  "tid=x,gne=x,x25ps=x"
  "rnestat=x,tcpipgw=x,ftp=x"
  ["agne=x,almgrp=x"]
  ["agne_address=x"]
  ["agne_address=y"]
  "idle=x"
  "macaddress1=x,macaddress2=y"
  "dormant_rel=xx.xx.xx"
  "apply_act=x,apply_type=x"
  "sched_date=xx-xx-xx,sched_time=xx-xx-xx"
  "other_rel=xx.xx.xx,other_prodtype=x"
  "nemode=x"
  "ntp=x"
  "utco=x"
  "ftamftpgw=x"
  "syscontact=\"x\""
  "syslocation=\"x\""
  "snmpauthtrap=x"
;
```

Starting in Release 3.1, if the NE fully complies with the request, the following output message is returned:

```
IP ctag
<

    sid date time
M ctag COMPLD
"product=x"
"tid=x,gne=x,x25ps=x"
"rnestat=x,tcpipgw=x,ftp=x"
["agne=x,almgrp=x"]
["agne_address=x"]
["agne_address=y"]
"idle=x"
"macaddress1=x,macaddress2=y"
"dormant_rel=xx.xx.xx"
"apply_act=x,apply_type=x"
"sched_date=xx-xx-xx,sched_time=xx-xx-xx"
"other_rel=xx.xx.xx,other_prodtype=x"
"nemode=x"
"ntp=x"
"utco=x"
"ftamftpgw=x"
"syscontact=\"x\""
"syslocation=\"x\""
"snmpauthtrap=x"
"slogthrshld=x,hlogthrshld=x"
"uniprotprio=x"
"autolcnt=x,autolswint=x,autolrelint=x"
;
```

Starting in Release 4.0, if the NE fully complies with the request, the following output message is returned:

```
IP ctag
<

    sid date time
M ctag COMPLD
  "product=x"
  "tid=x, gne=x, x25ps=x"
  "rnestat=x, tcpipgw=x, ftp=x"
  ["agne=x, almgrp=x"]
  ["agne_address=x"]
  ["agne_address=y"]
  "idle=x"
  "macaddress1=x, macaddress2=y"
  "dormant_rel=xx.xx.xx"
  "apply_act=x, apply_type=x"
  "sched_date=xx-xx-xx, sched_time=xx-xx-xx"
  "other_rel=xx.xx.xx, other_prodtype=x"
  "nemode=x"
  "ntp=x"
  "utco=x"
  "ftamftpgw=x"
  "syscontact=\"x\""
  "syslocation=\"x\""
  "snmpauthtrap=x"
  "uniprotprio=x"
  "slogthrshld=x, hlogthrshld=x"
  "autolcnt=x, autolswint=x, autolrelint=x"
  "wtrename=x"
;
```

Starting in Release 5.1, if the NE fully complies with the request, the following output message is returned:

```
IP ctag
<

    sid date time
M ctag COMPLD
"product=x"
"tid=x, gne=x, x25ps=x"
"vrsn=xx.xx.xx"
"rnestat=x, tcpipgw=x, ftp=x"
["agne=x, almgrp=x"]
["agne_address=x"]
["agne_address=y"]
"idle=x"
"macaddress1=x, macaddress2=y"
"dormant_rel=xx.xx.xx"
"apply_act=x, apply_type=x"
"sched_date=xx-xx-xx, sched_time=xx-xx-xx"
"other_rel=xx.xx.xx, other_prodtype=x"
"nemode=x"
"ntp=x"
"utco=x"
"ftamftpgw=x"
"syscontact=\"x\""
"syslocation=\"x\""
"snmpauthtrap=x"
"uniprotprio=x"
"slogthrshld=x, hlogthrshld=x"
"autolcnt=x, autolswint=x, autolrelint=x"
"wtrename=x"
;
```

Starting in Release 6.0, if the NE fully complies with the request, the following output message is returned:

```
IP ctag
<

    sid date time
M ctag COMPLD
  "product=x"
  "tid=x"
  "active_rel=xx.xx.xx"
  "rnestat=x, tcpipgw=x, ftp=x"
  ["agne=x, almgrp=x"]
  ["agne_address=x"]
  ["agne_address=y"]
  "idle=x"
  "macaddress1=x, macaddress2=y"
  "previous_rel=xx.xx.xx"
  "dormant_rel=xx.xx.xx"
  "apply_act=x, apply_type=x"
  "sched_date=xx-xx-xx, sched_time=xx-xx-xx, sched_generic=x"
  "other_rel=xx.xx.xx, other_prodtype=x"
  "nemode=x"
  "ntp=x"
  "utco=x"
  "ftamftpgw=x"
  "syscontact=\"x\""
  "syslocation=\"x\""
  "snmpauthtrap=x"
  "uniprotprio=x"
  "slogthrshld=x, hlogthrshld=x"
  "autolcnt=x, autolswint=x, autolrelint=x"
  "wtrename=x"
;
```


Starting in Release 7.0, if the NE fully complies with the request, the following output message is returned:

```
IP ctag
<

    sid date time
M ctag COMPLD
"product=x"
"tid=x"
"active_rel=xx.xx.xx"
"rnestat=x, tcpipgw=x, ftp=x"
["agne=x, almgrp=x"]
["agne_address=x"]
["agne_address=y"]
"idle=x"
"macaddress1=x, macaddress2=y"
"previous_rel=xx.xx.xx"
"dormant_rel=xx.xx.xx"
"apply_act=x, apply_type=x"
"sched_date=xx-xx-xx, sched_time=xx-xx-xx, sched_generic=x"
"other_rel=xx.xx.xx, other_prodtype=x"
"nemode=x"
"ntp=x"
"utco=x"
"ftamftpgw=x"
"syscontact=\"x\""
"syslocation=\"x\""
"snmpauthtrap=x"
"uniprotprio=x"
"slogthrshld=x, hlogthrshld=x"
"autolcnt=x, autolswint=x, autolrelint=x"
"wtrename=x"
"portmntc_default=x, tribmntc_default=x"
;
```

Starting in Release 9.0, if the NE fully complies with the request, the following output message is returned:

```
IP ctag
<

    sid date time
M ctag COMPLD
  "product=x"
  "tid=x"
  "active_rel=xx.xx.xx"
  "rnestat=x,tcpipgw=x,ftp=x"
  ["agne=x,almgrp=x"]
  ["agne_address=x"]
  ["agne_address=y"]
  "idle=x"
  "macaddress1=x,macaddress2=y"
  "previous_rel=xx.xx.xx"
  "dormant_rel=xx.xx.xx"
  "apply_act=x,apply_type=x"
  "sched_date=xx-xx-xx,sched_time=xx-xx-xx,sched_generic=x"
  "other_rel=xx.xx.xx,other_prodtype=x"
  "nemode=x"
  "ntp=x"
  "utco=x"
  "ftamftpgw=x"
  "syscontact=\"x\""
  "syslocation=\"x\""
  "snmpauthtrap=x"
  "uniprotprio=x"
  "slogthrshld=x,hlogthrshld=x"
  "autolcnt=x,autolswint=x,autolrelint=x"
  "wtrename=x"
  "portmntc_default=x,tribmntc_default=x"
  "pdheqfltctl=x"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The parameters listed there also apply to this command.

Table 2-507. RTRV-SYS Output Parameters (cont 1 of 13)

Parameter Name	Description
<i>active_rel</i>	Starting in Release 1.0, this parameter replaces the parameter <i>vrsln</i>. <i>active_rel</i> is the version of the software generic running on the NE. The software release number is the numeric format XX.XX.XX. For each of the 3 fields, leading zeros are not shown. If the NE is in Maintenance Mode, <i>active_rel</i> will return "?". RTRV-GENERIC may be used to return the active releases on all NVMs.
<i>agne</i>	Alarm Gateway NE. This parameter is only output if Remote NE Status <i>rnestat</i>=ENABLED. Starting in Release 5.0, this parameter is only output if Remote NE Status <i>rnestat</i>=ENABLED or ENABLEFE. This parameter has a value of YES or NO, which indicates whether or not this system is an AGNE for its alarm group. One AGNE is needed for each alarm group to support the message communications for Remote NE Status feature. Any NE in an alarm group can be an AGNE (although it is recommended that a TL1 TCP/IP GNE or TL1/X.25 GNE not be provisioned as an AGNE, also). One other NE in the same alarm group may be provisioned as a backup AGNE, if required. An NE with Remote NE Status (<i>rnestat</i>) enabled but no AGNE in its alarm group reports an "AGNE Communications failure" alarm. Starting in Release 5.0, for an NE to be an AGNE, the Remote NE Status parameter <i>rnestat</i> must be ENABLED or ENABLEFE. Starting in Release 6.0, X.25 and TL1/X.25 GNE are not supported.
<i>agne_address</i>	AGNE address. This parameter is only output if <i>rnestat</i>=ENABLED. Starting in Release 5.0, this parameter is only output if <i>rnestat</i>=ENABLED or ENABLEFE.

Table 2-507. RTRV-SYS Output Parameters (cont 2 of 13)

Parameter Name	Description
	The <i>agne_address</i> is the TID of the AGNE (<i>agne</i>) for the alarm group (<i>almgrp</i>) of the addressed NE. The AGNE could be the addressed NE or any other NE in the alarm group. If a second AGNE is provisioned as a backup for the alarm group, the second AGNE is reported by repeating the <i>agne_address</i>=TID construct. If there is no AGNE in the alarm group, then this parameter is not included in the output. Under some circumstances, the agne address may be unknown, such as when the NSAP to TID translation times out after an agne disconnect from the network. Starting in Release 5.0, when this occurs, RTRV-SYS will return a value of "?" for the <i>agne_address</i>, that is, "<i>agne_address</i>=?".
<i>almgrp</i>	Alarm group. This parameter is only output if Remote NE Status <i>rnestat</i>=ENABLED. This parameter has a numeric value of 1 through 255. All NEs with DCC or OSI LAN connectivity, whether nearby or not, that have the same Alarm Group number are members of the same alarm group. All members of an alarm group share Remote NE Status information with each other, but not with NEs in different alarm groups. For an NE to be assigned to an alarm group, the Remote NE Status parameter (<i>rnestat</i>) must be ENABLED. Starting in Release 5.0, for an NE to be assigned to an alarm group, the Remote NE Status parameter (<i>rnestat</i>) must be ENABLED or ENABLEFE.
<i>apply_act(pgmdtype)</i>	Apply action (program type). For program type NESW, this parameter has the value INSTALL to indicate that the activation of the dormant NE software generic is in progress or scheduled otherwise; this parameter value is a NULL. For program type NESW, ETHSW, DS1SW, or DS3SW, this parameter has a value of INSTALL to indicate the dormant circuit pack software is currently being activated; otherwise, this parameter is not included in the output. The supported program types are: ■ NESW - for the NE (SYSCTL) software generic, ■ ETHSW - for the 1 GbE and 10/100 Mb/s Fast Ethernet circuit pack software, ■ DS1SW - for low-speed DS1 circuit pack software, ■ DS3SW - for the low-speed DS3/EC1 circuit pack software

Table 2-507. RTRV-SYS Output Parameters (cont 3 of 13)

Parameter Name	Description
	Note: The APPLY command cannot be scheduled for the Ethernet, DS1 and DS3/EC1 circuit packs. If a dormant NE (SYSCTL) software generic (NESW) is stored by the NE, and the APPLY command is currently scheduled with <i>action</i>=CANCEL, this parameter value is reported as a null, i.e., "<i>apply_act</i>(NESW)=, <i>sched_date</i>= and <i>sched_time</i>".
<i>apply_act</i>	Apply action. This parameter has the value INSTALL to indicate that the activation of the dormant software generic is in progress or scheduled; otherwise, this parameter value is NULL (refer to the APPLY command). If this parameter value is null, each of the next three parameter values are also reported as null, too, such as: "<i>apply_act</i>=, <i>apply_type</i>=" and "<i>sched_date</i>=, <i>sched_time</i>".
<i>apply_type</i>	Apply type. This parameter is associated with the <i>apply_act</i> parameter. If <i>apply_act</i>=INSTALL, this parameter specifies the criteria for Ethernet, DS3/EC1 and DS1 circuit pack software upgrades; otherwise, this parameter value is NULL. Starting Release 3.0, TMUX is an additional circuit pack supported on DMX, and applies to the <i>apply_type</i> description wherever DS1/DS3 applies. Starting Release 7.0, in addition to Ethernet, DS3/EC1, DS1 and TMUX circuit packs, <i>apply_type</i> specifies the criteria for software upgrades for smart OLIU circuit packs. The dormant software generic is always activated on the system controller even if it is the same version as the currently executing software generic. Starting in Release 6.0, the user may select the dormant release or previous release to apply. The selection is reported by <i>sched_generic</i>. FORCED The NE upgrades all the Ethernet, DS3/EC1 and DS1 circuit packs, even if the version of software on those circuit packs is the <i>same</i> as that included in the dormant software generic.

Table 2-507. RTRV-SYS Output Parameters (cont 4 of 13)

Parameter Name	Description
	SMART The NE only upgrades the Ethernet, DS3/EC1 and DS1circuit packs if the version of software on a circuit pack is <i>different</i> than that included in the dormant software generic. SMART-ALM-OVERRIDE Starting in Release 7.0, upgrades smart circuit packs if the version of software on a circuit pack is <i>different</i> than that included in the dormant software generic, including smart OLIUs that have existing failures or protection switches. SMART-ALM-OVERRIDE overrides the smart OLIU failure conditions the would result in a denial of an apply_type=SMART. Refer to the RTRV-EQPT command for Ethernet, DS3/EC1 and DS1 circuit pack-specific software version information.
<i>autolcnt</i>	Autolock count: maximum number of consecutive non-pack-removal APS switches allowed in the provisioned switch interval (<i>autolswint</i>) before the group is put into the autolock state. For the function equipment groups, the autolock count clears when this autolock release timer expires, when an INHIBIT, FRCD or NORM SW - TOPROTN switch command or a SW - TOWKG RESET switch command is issued, or when a pack is removed from the group, whichever occurs first. For the MAIN slots, the autolock count clears when the autolock release timer expires, when an OPR - SYNCNSW RESET CIRCUITPACK switch command is issued, or when a pack is removed from the group, whichever occurs first. When the autolock count or switch interval (<i>autolswint</i>) is re-provisioned, any autolock counts that have not effected an autolock yet will be cleared and restarted. Values: integer 0 to 20. Default: 0. When the value is 0, the autolock feature is disabled. Note that the autolock feature applies to groups equipped with the 12 DS3/EC1 pack (LNW16), the TMUX pack (LNW18), the 48 DS3/EC1 pack (LNW19), and to the MAIN group, regardless of equipage.
<i>autolrelint</i>	Autolock release interval: the maximum time interval of the lock, i.e. the group in the autolock state.

Table 2-507. RTRV-SYS Output Parameters (cont 5 of 13)

Parameter Name	Description
	For the function equipment groups, the autolock state clears when this autolock release timer expires, when an INHIBIT, FRCD or NORM SW - TOPROTN switch command or a SW - TOWKG RESET switch command is issued, or when a pack is removed from the group, whichever occurs first. For the MAIN slots, the autolock state clears when the autolock release timer expires, when an OPR - SYNCNSW RESET CIRCUITPACK switch command is issued, or when a pack is removed from the group, whichever occurs first. The reprovisioning of autolock release interval has no effect on existing autolocks' release timers. Values: integer 1 to 1440 minutes. Default: 1440 minutes.
<i>autolswint</i>	Autolock switch interval: the time interval for the maximum number of non-pack-removal APS switches (<i>autolcnt</i>) to occur before the group is put into the autolock state. The autolock switch interval begins when the first APS occurs. When the oldest counted switch is earlier than the provisioned interval, it is no longer counted, and the interval then begins with the next oldest switch. Values: integer 1 to 1440 minutes. Default: 25 minutes.
<i>dormant_rel</i> (<i>pgmtype</i>)	Dormant release (program type). For each program type (PGMTYPE), this parameter reports the dormant software release number, if any, in the numeric format XX.XX.XX. The supported program types are: ■ NESW - for the NE (SYSCTL) software generic, ■ ETHSW - for the 1 GbE and 10/100 Mb/s Fast Ethernet circuit pack software, ■ DS1SW - for low-speed DS1 circuit pack software, ■ DS3SW - for the low-speed DS3/EC1 circuit pack software. The dormant software release number: <i>dormant_rel</i>(PGMTYPE)=none if the NE does not have dormant software for that program type. Starting 2.0, dormant_rel parameter does not need pgmtype since software generics for all circuit packs would be applied in a bundle rather individually.

Table 2-507. RTRV-SYS Output Parameters (cont 6 of 13)

Parameter Name	Description
<i>dormant_rel</i>	Dormant release. This parameter reports the dormant software release number in the numeric format XX.XX.XX. If the NE doesn't have a dormant software generic, e.g., if a software download was interrupted prior to completion, the value of this parameter is NONE. (Refer to the INS-PRGM, CPY-MEM and CPY-PRGM commands.) Starting in Release 5.0, at most one dormant software generic can be stored in the system at a time. This software generic can be for the local NE type or it can be for a different product type. If the dormant software release is for the local NE type, it will be reported as the <i>dormant_rel</i>, the parameter <i>other_rel</i> will be reported as NONE and the parameter <i>other_prodtype</i> value will be NULL. Starting in Release 6.0, a DMX release prior to Release 6.0 may be downloaded to the NE. Since this release cannot run on an LNW2 system controller, it will be reported as the <i>other_rel</i> and the parameter <i>other_prodtype</i> parameter will be reported as DMX. If the NE is in Maintenance Mode, <i>dormant_rel</i> will return "?". RTRV-GENERIC may be used to return the dormant releases on all NVMs.
<i>ftamftpgw</i>	FTAM-FTP Gateway. This parameter can be used to enable or disable FTAM-FTP Gateway function. This values are ENABLED or DISABLED. When enabled, it allows the NE to act as File Transfer Translation Device (FTTD) i.e. achieves file transfer between an FTP server and remote NE relying on FTAM protocol for file transfer, by translating between FTP connection to FTAM association and vice-versa.
<i>ftp</i>	File Transfer Protocol (FTP). This parameter indicates if the NE is ENABLED or DISABLED to send and receive FTP file transfers, that is, directly to/from an FTP-GNE, or through an FTP-GNE to/from an FTP-RNE also using IP tunneling. Software downloads and provisionable database backup and restore are supported using FTP file transfers.
<i>gne</i>	TL1/X.25 Gateway NE (GNE). If the X.25 port is connected and there is active communication at least at the X.25 protocol level (not necessarily a TL1 login), this parameter is reported as ACTIVE. Otherwise this parameter is reported as LIMITED (because the NE always supports TL1 on its serial ports).

Table 2-507. RTRV-SYS Output Parameters (cont 7 of 13)

Parameter Name	Description				
	Starting in Release 6.0, <i>gne</i> is not supported.				
<i>hlogthrshld</i>	History Log Overflow Message: History Log Warning Threshold. The percentage of entries entered since the last "History Log Overflow" event message was issued. When this threshold is reached another "History Log Overflow" event message is issued and the threshold counter is reset to zero. Values: 0% to 90% in increments of 10%. Default: 90%. A value of 0% shall inhibit the issuing of the "History Log Overflow" event message.				
<i>idle</i>	Idle channel signal. This signal determines whether an 'AIS' or 'Unequipped' signal should be inserted toward the SONET line in VT1.5 and STS-1 channels that are not cross-connected. The value may be AIS (default) or UNEQUIPPED. <table> <tr> <td>AIS</td><td>When idle is set to AIS , STS-1 or VT1.5 AIS is inserted towards the SONET line from SONET the interfaces if the channel is not cross-connected, or if a low-speed slot is not equipped, but the function unit is STS-1 cross-connected.</td></tr> <tr> <td>UNEQUIPPED</td><td>When idle is set to UNEQUIPPED, the STS-1 or VT1.5 unequipped signal is inserted towards the SONET line from the SONET interfaces if the channel is not cross-connected.</td></tr> </table>	AIS	When idle is set to AIS , STS-1 or VT1.5 AIS is inserted towards the SONET line from SONET the interfaces if the channel is not cross-connected, or if a low-speed slot is not equipped, but the function unit is STS-1 cross-connected.	UNEQUIPPED	When idle is set to UNEQUIPPED, the STS-1 or VT1.5 unequipped signal is inserted towards the SONET line from the SONET interfaces if the channel is not cross-connected.
AIS	When idle is set to AIS , STS-1 or VT1.5 AIS is inserted towards the SONET line from SONET the interfaces if the channel is not cross-connected, or if a low-speed slot is not equipped, but the function unit is STS-1 cross-connected.				
UNEQUIPPED	When idle is set to UNEQUIPPED, the STS-1 or VT1.5 unequipped signal is inserted towards the SONET line from the SONET interfaces if the channel is not cross-connected.				
<i>lpbkcond</i>	Loopback Condition reporting. <i>lpbkcond</i> controls whether or not loopbacks are managed as standing conditions. Values: <table> <tr> <td>ENABLED</td><td>Standing conditions are reported for loopbacks. The ABN LED is lit if there is one or more existing loopbacks in the system.</td></tr> <tr> <td>DISABLED</td><td>Standing conditions are not reported for loopbacks. The ABN LED is unaffected by loopback provisioning.</td></tr> </table>	ENABLED	Standing conditions are reported for loopbacks. The ABN LED is lit if there is one or more existing loopbacks in the system.	DISABLED	Standing conditions are not reported for loopbacks. The ABN LED is unaffected by loopback provisioning.
ENABLED	Standing conditions are reported for loopbacks. The ABN LED is lit if there is one or more existing loopbacks in the system.				
DISABLED	Standing conditions are not reported for loopbacks. The ABN LED is unaffected by loopback provisioning.				
<i>macaddress1</i>	MAC address of the front IAO LAN port. This address is stored (burned) on the SYSCTL's EEPROM by the factory and it is unique. The 6 bytes of the MAC address are displayed using 12 hexadecimal digits.				

Table 2-507. RTRV-SYS Output Parameters (cont 8 of 13)

Parameter Name	Description																
<i>macaddress2</i>	MAC address of the rear IAO LAN port. This address is unique. The 6 bytes of the MAC address are displayed using 12 hexadecimal digits. This is the MAC address that is always used as the NE's unique system ID field within the NE's OSI NSAP address (refer to the ENT - ULSDCC - L3 command for more information).																
<i>nemode</i>	Network Element Mode. Upgrading a ring from a lower line rate to a higher line rate requires that a network element be provisioned into a special ring upgrade mode. The values of the parameter <i>nemode</i> are NORMAL and RING-UPGRADE. Starting in Release 6.0, <i>nemode</i> may have the value MAINTENANCE to indicate that the NE is in Maintenance Mode. See RTRV - GENERIC.																
<i>ntp</i>	Network Time Protocol (NTP). This parameter can be used to enable or disable NTP on the NE. Only NTP client mode is supported. When NTP is enabled the NE clock will be synchronized to UTC time. NTP servers must be configured using the ent-ntp-server command in order for the NE to obtain time, and may be: ENABLED: This allows the NE to send and receive NTP information. DISABLED: This prevents the NE from sending or receiving NTP information.																
<i>other_prodtype</i>	Other product type. This parameter reports the product type of the other software generic reported as <i>other_rel</i>; otherwise, this parameter value is NULL. <table> <tr> <td>DMXPRESS</td><td>DMXpress</td></tr> <tr> <td>DMXTEND</td><td>DMXtend</td></tr> <tr> <td>DMXPLORE</td><td>DMXplore</td></tr> <tr> <td>1850TSS-5</td><td>1850TSS-5</td></tr> <tr> <td>DDMOC3</td><td>DDM-2000 OC-3</td></tr> <tr> <td>DDMOC12</td><td>DDM-2000 OC-12</td></tr> <tr> <td>FBRRCH</td><td>FiberReach</td></tr> <tr> <td>DMX</td><td>DMX release prior to 6.0</td></tr> </table>	DMXPRESS	DMXpress	DMXTEND	DMXtend	DMXPLORE	DMXplore	1850TSS-5	1850TSS-5	DDMOC3	DDM-2000 OC-3	DDMOC12	DDM-2000 OC-12	FBRRCH	FiberReach	DMX	DMX release prior to 6.0
DMXPRESS	DMXpress																
DMXTEND	DMXtend																
DMXPLORE	DMXplore																
1850TSS-5	1850TSS-5																
DDMOC3	DDM-2000 OC-3																
DDMOC12	DDM-2000 OC-12																
FBRRCH	FiberReach																
DMX	DMX release prior to 6.0																

Table 2-507. RTRV-SYS Output Parameters (cont 9 of 13)

Parameter Name	Description
<i>other_rel</i>	Other product type release. This parameter reports the software release number, in the numeric format XX.XX.XX, of another software generic for a compatible product type stored by DMX; otherwise, this parameter value is NONE. (Refer to the CPY-MEM and CPY-PRGM commands for more information.) Starting in Release 5.0, at most one dormant software generic can be stored in the system at a time. This software generic can be for the local NE type or it can be for a different product type. If the dormant software release is for a different NE type, it will be reported as the <i>other_rel</i> along with the appropriate value for parameter <i>other_prodtype</i>. The parameter <i>dormant_rel</i> will be reported as NONE. If the NE is in Maintenance Mode, <i>other_rel</i> will return “?”. RTRV-GENERIC may be used to return the other releases on all NVMs (reported as <i>dormant_rel</i>).
<i>pdheqfltctl</i>	PDH port Equipment Fault Control. <i>pdheqfltctl</i> controls the fault analysis for PDH ports on equipment-protected packs (Equation Q).
	Values:
	ENABLED Port-level fault analysis is enabled
	DISABLED Port-level fault analysis is disabled
<i>portmntc_default</i>	<i>portmntc_default</i> specifies the default setting for the port maintenance control state when a port or line is created. Values: ALLOWED, INHIBITED. The port maintenance control state controls the setting up of loopbacks on a port using OPR-LPBK and testing transmission on DS1, E1 and DS3 ports using TEST-TRMSN. Its value is changed by INH-PORTMNTC and ALW-PORTMNTC and is retrieved by RTRV-PORTMNTC.
<i>previous_rel</i>	Starting in Release 1.0, this parameter is the version of the previously active software generic on the NE. When a new generic is installed on the NE using the APPLY command, the previously active release is renamed <i>previous_rel</i>, and the newly installed release is labeled <i>active_rel</i>. The software release number is the numeric format XX.XX.XX. For each of the 3 fields, leading zeros are not shown. If there is no valid previous release, this parameter returns “?”.

Table 2-507. RTRV-SYS Output Parameters (cont 10 of 13)

Parameter Name	Description
	If the NE is in Maintenance Mode, <i>previous_rel</i> will return “?”. RTRV-GENERIC may be used to return the previous releases on all NVMs.
<i>product</i>	Product identifier. This identifies the type of product. The value is DMX.
<i>rnestat</i>	Remote NE (RNE) status. This parameter indicates if the Remote NE Status feature is ENABLED or DISABLED. Operation of the Remote NE Status feature is also affected by the <i>agne</i> , <i>almgrp</i> and <i>agne_address</i> parameters below. Starting in Release 5.0, <i>rnestat</i> may also have the value ENABLEFE. When <i>rnestat</i> is set to this value, the local user panel and the office alarms will only illuminate the FE LED, but not the LEDs indicating the severity of the alarm, when a remote alarm is detected. The user panel and office panel LEDs indicating severity of alarms (CR, MJ, MN) will only be illuminated for local alarms. Except for the affect on LEDs, setting <i>rnestat</i> to ENABLEFE behaves the same as if <i>rnestat</i> is set to ENABLED.
<i>sched_date</i>	Scheduled date. This parameter is associated with the <i>apply_act</i> (PGMTYPE) parameter in the same row of output. If dormant software is currently being activated, this parameter is output as <i>sched_date</i> =00-00-00 for that program type. For program type ETHSW, DS1SW or DS3SW, this parameter is only included in the output if the dormant circuit pack software is currently being activated. If <i>apply_act</i> (NESW)=INSTALL, this parameter indicates the date the dormant NE software generic is scheduled to be activated in the numeric format YY-MM-DD; otherwise, this parameter value is a NULL. If a dormant NE (SYSCTL) software generic (NESW) is stored by the NE, and the APPLY command is currently scheduled with <i>action</i> =CANCEL, this parameter value is reported as a null. Scheduled date. This parameter is associated with the <i>apply_act</i> parameter. If dormant software is currently being activated, this parameter is output as <i>sched_date</i> =00-00-00.

Table 2-507. RTRV-SYS Output Parameters (cont 11 of 13)

Parameter Name	Description
	If <i>apply_act</i>=INSTALL, this parameter indicates the date the dormant software generic is scheduled to be activated in the numeric format YY-MM-DD; otherwise, this parameter value is NULL. Starting in Release 6.0, when the user specifies <i>apply_act</i>=INSTALL or <i>apply_act</i>=INSTALL_NOW, the user can select to install the <i>previous_rel</i> or <i>dormant_rel</i> generic. The selected generic is reported by RTRV-SYS:sched_generic
<i>sched_time</i>	Schedule time. This parameter is associated with the <i>apply_act</i>(PGMTYPE) parameter in the same row of output. If dormant software is currently being activated, this parameter is output as <i>sched_time</i>=00-00-00 for that program type. For program type ETHSW, DS1SW or DS3SW, this parameter is only included in the output if the dormant circuit pack software is currently being activated. If <i>apply_act</i>(NESW)=INSTALL, this parameter indicates the date the dormant NE software generic is scheduled to be activated in the numeric format YY-MM-DD; otherwise, this parameter value is a NULL. If a dormant NE (SYSCTL) software generic (NESW) is stored by the NE, and the APPLY command is currently scheduled with <i>action</i>=CANCEL, this parameter value is reported as a null. This parameter is associated with the <i>apply_act</i> parameter. If dormant software is currently being activated, this parameter is output as <i>sched_time</i>=00-00-00. If <i>apply_act</i>=INSTALL, this parameter indicates the time of day the dormant software generic is scheduled to be activated in the numeric format HH-MM-SS; otherwise, this parameter value is NULL. Starting in Release 6.0, when the user specifies <i>apply_act</i>=INSTALL or <i>apply_act</i>=INSTALL_NOW, the user can select to install the <i>previous_rel</i> or <i>dormant_rel</i> generic. The selected generic is reported by RTRV-SYS:sched_generic
<i>sched_generic</i>	The generic selected by APPLY:generic for installation. The values are PREVIOUS_REL or DORMANT_REL.

Table 2-507. RTRV-SYS Output Parameters (cont 12 of 13)

Parameter Name	Description
<i>slogthrshld</i>	Security Log Overflow Message: Security Log Warning Threshold. The percentage of entries entered since the last "Security Log Overflow" event message was issued. When this threshold is reached another "Security Log Overflow" event message is issued and the threshold counter is reset to zero. Values: 0 % to 90% in increments of 10%. Default: 90%. A value of 0% inhibits the issuing of the "Security Log Overflow" event message.
<i>snmpauthtrap</i>	SNMP authentication failure trap enable. Values are ENABLED and DISABLED. Default is ENABLED.
<i>syscontact</i>	The contact person for this Network Element, together with information on how to contact this person. This parameter is an text string of up to 255 characters in length. The string can contain any alphanumeric or special character except quotes that do not have a special meaning to the CIT or OS on which the command is entered. This parameter is used to support the SNMP MIB (RFC 1907).
<i>syslocation</i>	The physical location of this network element. This parameter is an text string of up to 255 characters in length. The string can contain any alphanumeric so special character except quotes that do not have a special meaning to the CIT or OS on which the command is entered. This parameter is used to support the SNMP MIB (RFC 1907).
<i>tcpipgw</i>	TL1 TCP/IP gateway. This parameter indicates whether or not the NE will accept and respond to TL1 messages using a TCP/IP connection over the IAO LAN ports. The possible values are ENABLED or DISABLED.
<i>tid</i>	Target identifier. This is the system name.
<i>tribmntc_default</i>	<i>tribmntc_default</i> specifies the Initialization setting for the tributary maintenance control state for tributaries that are added when cross-connections are provisioned via ENT-CRS-rr or ENT-ROLL . Values: ALLOWED, INHIBITED. The tributary maintenance control state controls the use of tributaries when setting test access sessions are set up using CONN-TACC . Its value is changed by INH-TRIBMNTC and ALW-TRIBMNTC and is retrieved by RTRV-TRIBMNTC .

Table 2-507. RTRV-SYS Output Parameters (cont 13 of 13)

Parameter Name	Description				
<i>uniprotprio</i>	This parameter specifies the protection switching priority scheme used in 1+1 applications. The legal values are: <table> <tr> <td>FRCD</td><td>A forced switch is not preempted by a failure of the protection line in 1+1 applications. (default)</td></tr> <tr> <td>SFPROT</td><td>A signal failure on the protection side preempts a forced switch in 1+1 applications.</td></tr> </table>	FRCD	A forced switch is not preempted by a failure of the protection line in 1+1 applications. (default)	SFPROT	A signal failure on the protection side preempts a forced switch in 1+1 applications.
FRCD	A forced switch is not preempted by a failure of the protection line in 1+1 applications. (default)				
SFPROT	A signal failure on the protection side preempts a forced switch in 1+1 applications.				
<i>utco</i>	Coordinated Universal Time Offset (UTCOffset). This parameter can be used to specify the offset of local time from UTC time. This parameter is only applied to UTC time when NTP is enabled. NTP is based on UTC time. Valid values are between -24:00 and +24:00, exclusive. The <i>utco</i> parameter has the form: [+ -]HHMM. HH expresses the hour and must be a value between 00 and 23, inclusive. MM expresses the minute and must be a value between 00 and 59, inclusive. Leading zeros must be used for single digit numbers.				
<i>vrsn</i>	Version of the program. The software release number in the numeric format XX.XX.XX of the current active generic on the SYSCTL. For each of the 3 fields, leading zeros are not shown. Starting in Release 6.0, this parameter is replaced by the parameter <i>active_rel</i>.				
<i>wtrename</i>	Wait to Rename timer for Optimized Bidirectional 1+1 Optical Protection. Values: 0 to 60 minutes in 1 minute steps. Default: 5 minutes. This parameter applies to ports for which RTRV-rr:application=1+1_OPTM				
<i>x25ps</i>	X.25 packet size. The <i>x25ps</i> parameter may have a value of 256 or 128. This parameter indicates the packet size used for the X.25 protocol. Starting in Release 6.0, <i>x25ps</i> is not supported.				

EXAMPLE INPUT/OUTPUT

The following example shows a **RTRV-SYS** command/response when:

- the addressed NE is a TL1/X.25 GNE
- the Remote NE (RNE) Status feature is enabled
- the addressed NE is the AGNE for the alarm group
- a dormant NE (SYSCTL) software generic (nesw) is stored by the NE
- the **APPLY** command is currently scheduled with **action=INSTALL**

```
RTRV-SYS:LT-DMX::12345;
```

```
IP 12345  
<
```

```
LT-DMX 00-04-08 01:10:00  
M 123456 COMPLD  
"product=DMX"  
"tid=LT-DMX,gne=active,x25ps=256"  
"rnestat=enabled,tcpipgw=disabled,agne=yes,almgrp=147"  
"agne_address=LT-DMX"  
"idle=ais"  
"macaddress1=08006a1ad000,macaddress2=08006a1ad06e"  
"dormant_rel(nesw)=1.0.1,dormant_rel(ethsw)=none"  
"dormant_rel(ds1sw)=none,dormant_rel(ds3sw)=none"  
"apply_act(nesw)=install,sched_date=00-04-08,sched_time=01-15-00"  
;
```

The following example shows a **RTRV-SYS** command/response when:

- the addressed NE is a TL1 TCP/IP GNE
- the Remote NE Status feature is disabled
- dormant DS3/EC1 circuit pack software is stored by the NE
- the **APPLY** command is in the process of activating the dormant software on the DS3/EC1 circuit packs


```
RTRV-SYS:LT-DMX::12345;
```

```
IP 12345
```

```
<
```

```
LT-DMX 00-04-08 01:10:00
```

```
M 123456 COMPLD
```

```
"product=DMX"
```

```
"tid=LT-DMX,gne=limited,x25ps=256"
```

```
"rnestat=disabled,tcpipgw=enabled,"
```

```
"idle=ais"
```

```
"macaddress1=08006a1ad000,macaddress2=08006a1ad06e"
```

```
"dormant_rel(nesw)=none,dormant_rel(ethsw)=none"
```

```
"dormant_rel(ds1sw)=none,dormant_rel(ds3sw)=6.1.1"
```

```
"apply_act(nesw)=,sched_date=,sched_time=
```

```
"apply_act(ds3sw)=install,sched_date=00-00-00,sched_time=00-00-00"
```

```
;
```

The following example shows a **RTRV-SYS** command/response when:

- the addressed NE is a TL1 TCP/IP GNE
- the Remote NE Status feature is disabled
- dormant NE (SYSCTL) and Ethernet circuit pack software is stored by the NE
- the **APPLY** command is currently scheduled for the NE (SYSCTL) software generic with **action**=INSTALL .

Use the **RTRV-EQPT** command to determine if the dormant software is activated on the Ethernet circuit packs.

:

RTRV-SYS:LT-DMX::12345;

IP 12345

<

LT-DMX 00-04-08 01:10:00

M 123456 COMPLD

"product=DMX"

"tid=LT-DMX, gne=limited, x25ps=256"

"rnestat=disabled, tcpipgw=enabled, "

"idle=ais"

"macaddress1=08006a1ad000, macaddress2=08006a1ad06e"

"dormant_rel(nesw)=1.0.1, dormant_rel(ethsw)=1.0.1"

"dormant_rel(ds1sw)=none, dormant_rel(ds3sw)=none"

"apply_act(nesw)=install, sched_date=00-04-08, sched_time=01-15-00"

;

Starting in Release 2.0, the following example shows a **RTRV-SYS** command/response when:

- the addressed DMX is a TL1 TCP/IP GNE
- the Remote NE Status feature is enabled
- FTP file transfers are enabled
- the addressed DMX is the Alarm Gateway NE (AGNE) for the alarm group
- a dormant software generic and a DDM-2000 OC-3 software generic are stored by the DMX
- the **APPLY** command is not currently scheduled.

```
RTRV-SYS:LT-DMX::12345;  
  
IP 12345  
<  
  
LT-DMX 02-07-18 01:10:00  
M 123456 COMPLD  
  "product=DMX"  
  "tid=LT-DMX, gne=limited, x25ps=256"  
  "rnestat=enabled, tcpipgw=enabled, ftp=enabled"  
  "agne=yes, almgrp=147"  
  "agne_address=LT-DMX"  
  "idle=ais"  
  "macaddress1=08006a1ad000, macaddress2=08006a1ad06e"  
  "dormant_rel=2.0.0"  
  "apply_act=, apply_type="  
  "sched_date=, sched_time="  
  "other_rel=15.0.1, other_prodtype=ddmoc3"  
;
```

Starting in Release 2.0, the following example shows a **RTRV-SYS** command/response when:

- the addressed DMX is a TL1/X.25 GNE and TL1 TCP/IP GNE
- the Remote NE Status feature is enabled
- FTP file transfers are enabled
- the addressed DMX is not the AGNE for the alarm group
- a new dormant software generic and a DMXpress software generic are stored by the DMX
- the **APPLY** command is scheduled to activate the dormant software generic.

RTRV-SYS:LT-DMX::12345;

IP 12345

<

LT-DMX 02-07-18 01:10:00

M 123456 COMPLD

"product=DMX"

"tid=LT-DMX,gne=active,x25ps=256"

"rnestat=enabled,tcpipgw=disabled,ftp=enabled"

"agne=no,almgrp=147"

"agne_address=LT-OTHER"

"idle=ais"

"macaddress1=08006a1ad000,macaddress2=08006a1ad06e"

"dormant_rel=3.0.0"

"apply_act=install,apply_type=smart"

"sched_date=02-07-18,sched_time=01-15-00"

"other_rel=1.0.0,other_prodtype=dmxpress"

;

Starting in Release 2.0, the following example shows a **RTRV-SYS** command/response when:

- the addressed NE is *not* a TL1 X.25 GNE or TL1 TCP/IP GNE
- the Remote NE Status feature is disabled
- FTP file transfers are disabled
- no dormant software generic or software generic for another product type are stored by the NE

```
RTRV-SYS:LT-DMX::12345;  
  
IP 12345  
<  
  
    LT-DMX 02-07-18 01:10:00  
M 123456 COMPLD  
  "product=DMX"  
  "tid=LT-DMX,gne=limited,x25ps=256"  
  "rnestat=disabled,tcpipgw=disabled,ftp=disabled"  
  "idle=ais"  
  "macaddress1=08006a1ad000,macaddress2=08006a1ad06e"  
  "dormant_rel=none"  
  "apply_act=,apply_type="  
  "sched_date=,sched_time="  
  "other_rel=none,other_prodtype="  
;
```

Starting in Release 2.1, the following example shows a **RTRV-SYS** command/response when:

- the addressed NE is *not* a TL1 X.25 GNE or TL1 TCP/IP GNE
- the Remote NE Status feature is disabled
- FTP file transfers are disabled
- no dormant software generic or software generic for another product type are stored by the NE
- **nemode** is normal.

```
RTRV-SYS:LT-DMX::12345;
```

```
IP 12345
```

```
<
```

```
LT-DMX 02-07-18 01:10:00
```

```
M 123456 COMPLD
```

```
"product=DMX"
```

```
"tid=LT-DMX,gne=limited,x25ps=256"
```

```
"rnestat=disabled,tcpipgw=disabled,ftp=disabled"
```

```
"idle=ais"
```

```
"macaddress1=08006a1ad000,macaddress2=08006a1ad06e"
```

```
"dormant_rel=none"
```

```
"apply_act=,apply_type=
```

```
"sched_date=,sched_time=
```

```
"other_rel=none,other_prodtype=
```

```
"nemode=normal"
```

```
;
```

Starting in Release 2.1, the following example shows a **RTRV-SYS** command/response when:

- the addressed NE is *not* a TL1 X.25 GNE or TL1 TCP/IP GNE
- the Remote NE Status feature is disabled
- FTP file transfers are disabled
- no dormant software generic or software generic for another product type are stored by the NE
- **nemode** is ring-upgrade.

```
RTRV-SYS:LT-DMX::12345;  
  
IP 12345  
<  
  
    LT-DMX 02-07-18 01:10:00  
M 123456 COMPLD  
  "product=DMX"  
  "tid=LT-DMX, gne=limited, x25ps=256"  
  "rnestat=disabled, tcpipgw=disabled, ftp=disabled"  
  "idle=ais"  
  "macaddress1=08006a1ad000, macaddress2=08006a1ad06e"  
  "dormant_rel=none"  
  "apply_act=, apply_type="  
  "sched_date=, sched_time="  
  "other_rel=none, other_prodtype="  
  "nemode=ring-upgrade"  
;
```

Starting in Release 3.0, the following example shows a **RTRV-SYS** command/response when:

- the addressed NE is *not* a TL1 X.25 GNE or TL1 TCP/IP GNE
- the Remote NE Status feature is disabled
- FTP file transfers are disabled
- no dormant software generic or software generic for another product type are stored by the NE
- **nemode** is normal.
- the NTP feature is enabled with a UTC offset
- The FTAM-FTP Gateway function is enabled along with FTP Client
- The system contact and system location are defined
- The SNMP Authentication Trap is enabled

```
RTRV-SYS:LT-DMX::12345;  
  
IP 12345  
<  
  
    LT-DMX 02-07-18 01:10:00  
M 123456 COMPLD  
  "product=DMX"  
  "tid=LT-DMX,gne=limited,x25ps=256"  
  "rnestat=disabled,tcpipgw=disabled,ftp=disabled"  
  "idle=ais"  
  "macaddress1=08006a1ad000,macaddress2=08006a1ad06e"  
  "dormant_rel=none"  
  "apply_act=,apply_type="  
  "sched_date=,sched_time="  
  "other_rel=none,other_prodtype="  
  "nemode=normal"  
  "ntp=enabled"  
  "utco=-0330"  
  "ftamftpgw=disabled"  
  "syscontact=\"J-Smith-978-960-9999\""  
  "syslocation=\"Merrimack-Valley-room-21-2F21\""  
  "snmpauthtrap=enabled"  
;
```

Starting in Release 3.0, the following example shows a **RTRV-SYS** command/
response when:

- the addressed NE is *not* a TL1 X.25 GNE or TL1 TCP/IP GNE
- the Remote NE Status feature is disabled
- no dormant software generic or software generic for another product type are stored by the NE
- **nemode** is normal
- the NTP feature is disabled with a UTC offset zero
- The FTAM-FTP Gateway function is enabled along with FTP Client
- The system contact and system location are defined
- The SNMP Authentication Trap is enabled


```
RTRV-SYS:LT-DMX::12345;  
  
IP 12345  
<  
  
    LT-DMX 02-07-18 01:10:00  
M 123456 COMPLD  
  "product=DMX"  
  "tid=LT-DMX,gne=limited,x25ps=256"  
  "rnestat=disabled,tcpipgw=disabled,ftp=enabled"  
  "idle=ais"  
  "macaddress1=08006a1ad000,macaddress2=08006a1ad06e"  
  "dormant_rel=none"  
  "apply_act=,apply_type="  
  "sched_date=,sched_time="  
  "other_rel=none,other_prodtype="  
  "nemode=normal"  
  "ntp=disabled"  
  "utco=+0000"  
  "ftamftpgw=enabled"  
  "syscontact=\"J-Smith-978-960-9999\""  
  "syslocation=\"Merrimack-Valley-room-21-2F21\""  
  "snmpauthtrap=enabled"  
;
```

Starting in Release 3.0, the following example shows a **RTRV-SYS** command/ response when:

- the addressed NE is *not* a TL1 X.25 GNE or TL1 TCP/IP GNE
- the Remote NE Status feature is enabled
- FTP file transfers are disabled (would use FTAM for file transfer)
- no dormant software generic or software generic for another product type are stored by the NE
- **nemode** is normal.
- the NTP feature is disabled with a UTC offset zero
- The FTAM-FTP Gateway function is disabled
- The system contact and system location are defined
- The SNMP Authentication Trap is enabled

```
RTRV-SYS:LT-DMX::12345;  
  
IP 12345  
<  
  
    LT-DMX 02-07-18 01:10:00  
M 123456 COMPLD  
  "product=DMX"  
  "tid=LT-DMX,gne=limited,x25ps=256"  
  "rnestat=enabled,tcpipgw=disabled,ftp=disabled"  
  "idle=ais"  
  "macaddress1=08006a1ad000,macaddress2=08006a1ad06e"  
  "dormant_rel=none"  
  "apply_act=,apply_type="  
  "sched_date=,sched_time="  
  "other_rel=none,other_prodtype="  
  "nemode=normal"  
  "ntp=disabled"  
  "utco=+0000"  
  "ftamftpgw=disabled"  
  "syscontact=\"J-Smith-978-960-9999\""  
  "syslocation=\"Merrimack-Valley-room-21-2F21\""  
  "snmpauthtrap=enabled"  
;
```

Starting in Release 3.1, the following example shows a **RTRV-SYS** command/response when:

- the addressed NE is *not* a TL1 X.25 GNE or TL1 TCP/IP GNE
- the Remote NE Status feature is enabled
- FTP file transfers are disabled (would use FTAM for file transfer)
- no dormant software generic or software generic for another product type are stored by the NE
- **nemode** is normal.
- the NTP feature is disabled with a UTC offset zero
- The FTAM-FTP Gateway function is disabled
- The system contact and system location are defined
- The SNMP Authentication Trap is enabled

```
RTRV-SYS:LT-DMX::12345;

IP 12345
<

    LT-DMX 02-07-18 01:10:00
M 123456 COMPLD
  "product=DMX"
  "tid=LT-DMX,gne=limited,x25ps=256"
  "rnestat=enabled,tcpipgw=disabled,ftp=disabled"
  "idle=ais"
  "macaddress1=08006a1ad000,macaddress2=08006a1ad06e"
  "dormant_rel=none"
  "apply_act=,apply_type="
  "sched_date=,sched_time="
  "other_rel=none,other_prodtype="
  "nemode=normal"
  "ntp=disabled"
  "utco=+0000"
  "ftamftpgw=disabled"
  "syscontact=\"J-Smith-978-960-9999\""
  "syslocation=\"Merrimack-Valley-room-21-2F21\""
  "snmpauthtrap=enabled"
  "slogthrshld=80%,hlogthrshld=90%"
  "uniprotprio=frcd"
  "autolcnt=0,autolswint=25,autolrelint=1440"
;
```

Starting in Release 4.0, the following example shows a **RTRV-SYS** command/ response when:

- the addressed NE is *not* a TL1 X.25 GNE or TL1 TCP/IP GNE
- the Remote NE Status feature is enabled
- FTP file transfers are disabled (would use FTAM for file transfer)
- no dormant software generic or software generic for another product type are stored by the NE
- **nemode** is normal.
- the NTP feature is disabled with a UTC offset zero
- The FTAM-FTP Gateway function is disabled
- The system contact and system location are defined
- The SNMP Authentication Trap is enabled

```
RTRV-SYS:LT-DMX::12345;

IP 12345
<

LT-DMX 02-07-18 01:10:00
M 123456 COMPLD
"product=DMX"
"tid=LT-DMX, gne=limited, x25ps=256"
"rnestat=enabled, tcpipgw=disabled, ftp=disabled"
"idle=ais"
"macaddress1=08006a1ad000, macaddress2=08006a1ad06e"
"dormant_rel=none"
"apply_act=, apply_type="
"sched_date=, sched_time="
"other_rel=none, other_prodtype="
"nemode=normal"
"ntp=disabled"
"utco=+0000"
"ftamftpgw=disabled"
"syscontact=\"J-Smith-978-960-9999\""
"syslocation=\"Merrimack-Valley-room-21-2F21\""
"snmpauthtrap=enabled"
"slogthrshld=80%, hlogthrshld=90%"
"uniprotprio=frcd"
"autolcnt=0, autolswint=25, autolrelint=1440"
"wtrename=5"

;
```

Starting in Release 5.1, the following example shows a **RTRV-SYS** command/response when:

- the Remote NE Status feature is enabled
- FTP file transfers are disabled (would use FTAM for file transfer)
- no dormant software generic or software generic for another product type are stored by the NE
- **nemode** is normal.
- the NTP feature is disabled with a UTC offset zero
- The FTAM-FTP Gateway function is disabled
- The system contact and system location are defined
- The SNMP Authentication Trap is enabled

```
RTRV-SYS:LT-DMX::12345;

IP 12345
<

    LT-DMX 05-10-21 01:10:00
M 123456 COMPLD
  "product=DMX"
  "tid=LT-DMX, gne=limited, x25ps=256"
  "vrsn=5.1.0"
  "rnestat=enabled, tcpipgw=disabled, ftp=disabled"
  "idle=ais"
  "macaddress1=08006a1ad000, macaddress2=08006a1ad06e"
  "dormant_rel=none"
  "apply_act=, apply_type="
  "sched_date=, sched_time="
  "other_rel=none, other_prodtype="
  "nemode=normal"
  "ntp=disabled"
  "utco=+0000"
  "ftamftpgw=disabled"
  "syscontact=\"J-Smith-978-960-9999\""
  "syslocation=\"Merrimack-Valley-room-21-2F21\""
  "snmpauthtrap=enabled"
  "slogthrshld=80%, hlogthrshld=90%"
  "uniprotprio=frcd"
  "autolcnt=0, autolswint=25, autolrelint=1440"
  "wtrename=5"
;
```

Starting in Release 6.0, the following example shows a **RTRV-SYS** command/response when:

- the Remote NE Status feature is enabled
- FTP file transfers are disabled (would use FTAM for file transfer)
- **nemode** is normal.
- the NTP feature is disabled with a UTC offset zero
- The FTAM-FTP Gateway function is disabled
- The system contact and system location are defined
- The SNMP Authentication Trap is enabled

```
RTRV-SYS:LT-DMX::123456;

IP 123456
<

    LT-DMX 06-01-07 01:10:00
M 123456 COMPLD
  "product=DMX"
  "tid=LT-DMX"
  "active_rel=6.0.5"
  "rnestat=enabled,tcpipegw=disabled,ftp=disabled"
  "idle=ais"
  "macaddress1=08006a1ad000,macaddress2=08006a1ad06e"
  "previous_rel=6.0.0"
  "dormant_rel=none"
  "apply_act=,apply_type="
  "sched_date=,sched_time=,sched_generic="
  "other_rel=4.0.2,other_prodtype=DMXTEND"
  "nemode=normal"
  "ntp=disabled"
  "utco=+0000"
  "ftamftpgw=disabled"
  "syscontact=\"J-Smith-978-960-9999\""
  "syslocation=\"Merrimack-Valley-room-21-2F21\""
  "snmpauthtrap=enabled"
  "slogthrshld=80%,hlogthrshld=90%"
  "uniprotprio=frcd"
  "autolcnt=0,autolswint=25,autolrelint=1440"
  "wtrename=5"
;
```

Starting in Release 7.0, the following is an example of a **RTRV-SYS** command/
response:

```
RTRV-SYS:LT-DMX::123456;

IP 123456
<

    LT-DMX 06-01-07 01:10:00
M 123456 COMPLD
  "product=DMX"
  "tid=LT-DMX"
  "active_rel=6.0.5"
  "rnestat=enabled,tcpipgw=disabled,ftp=disabled"
  "idle=ais"
  "macaddress1=08006a1ad000,macaddress2=08006a1ad06e"
  "previous_rel=6.0.0"
  "dormant_rel=none"
  "apply_act=,apply_type="
  "sched_date=,sched_time=,sched_generic="
  "other_rel=4.0.2,other_prodtype=DMXTEND"
  "nemode=normal"
  "ntp=disabled"
  "utco=+0000"
  "ftamftpgw=disabled"
  "syscontact=\"J-Smith-978-960-9999\""
  "syslocation=\"Merrimack-Valley-room-21-2F21\""
  "snmpauthtrap=enabled"
  "slogthrshld=80%,hlogthrshld=90%"
  "uniprotprio=frcd"
  "autolcnt=0,autolswint=25,autolrelint=1440"
  "wtrename=5"
  "portmntc_default=enabled,tribmntc_default=enabled"
;
```

ERROR MESSAGES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

RELATED TL1 MESSAGES

APPLY

CPY-MEM

CPY-PRGM

ENT-IPMAP

ENT-SYS

RTRV-SYS
TL1 Message Details

RTRV-SYS
Alcatel-Lucent 1665 DMX, R9.0

ENT - ULS

INS - PRGM

RTRV - EQPT

SW - TOPROTN

SW - TOWKG

NAME

RTRV-TACC-rr: Retrieve Test Access

RTRV-TACC-rr command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 4.0

LOGIN PRIVILEGE

The **RTRV-TACC-rr** command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-TACC-modifier:*tid:tatrib1:ctag;*

Beginning in Release 7.0:

RTRV-TACC-modifier:*tid:[tatrib1]:ctag[:::spec_block];*

DESCRIPTION

The **RTRV-TACC-rr** command is used to retrieve the test access information about one or more of the test access tributaries in the network element. Only the primary test access tributary is specified for retrieval.

Beginning in Release 7.0, this command also retrieves sessions established to an internal test head, in shelves equipped with VLF mains (see Appendix D).

This command is not service-affecting.

Execution of this command is not recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-508. RTRV - TACC - rr Input Parameters

Parameter Name	Description
<i>modifier</i>	This is the message modifier for the RTRV - TACC - rr command. It indicates the cross-connection rate on which the retrieve test access command is to act. The modifier is a required field, and must only have one of the following values: ■ VT1 This is for VT1.5 or DS1-level test access. ■ STS1 This is for STS-1 or DS3-level test access. ■ STS3c This is for STS-3c-level test access. ■ ALL This is for all test access rates.
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description for this parameter.
<i>tatrib1</i>	Specifies the Primary Test Access Tributary Identifier AID for which the test access activity is to be retrieved. ALL is a valid value. When ALL is specified, the information on all the primary test tributaries that are currently under test, which match the <i>modifier</i>, are retrieved. Channel and Ring Channel AIDs are valid. ALL is a valid value in any field that normally allows it. Beginning in Release 6.0, logical ring channel AIDs are used to specify all test access tributaries. Refer to Appendix A - AID Tables for the syntax of supported aids. Beginning in Release 7.0, this parameter may be omitted, if retrieving only <i>tsn</i>-initiated sessions. When retrieving both <i>tsn</i>- and <i>tatrib1</i>-initiated sessions, <i>tsn</i> and <i>tatrib1</i> must both be ALL. If neither <i>tsn</i> nor <i>tatrib1</i> is supplied, then both are defaulted to ALL.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	The following table specifies the <i>spec_block</i> parameters:

Table 2-509. RTRV - TACC - rr Input *spec_block* Parameters

Parameter Name	Description of Spec Block Parameters
<i>tsn</i>	Test session number. Beginning in Release 7.0, <i>tsn</i> is used to retrieve information about sessions established to an internal test head, in shelves equipped with VLF mains. Valid values are 1-12, and ALL. This parameter may be omitted, if retrieving only <i>tatrib1</i>-initiated sessions. When retrieving both <i>tsn</i>- and <i>tatrib1</i>-initiated sessions, <i>tsn</i> and <i>tatrib1</i> must both be ALL. If neither <i>tsn</i> nor <i>tatrib1</i> is supplied, then both are defaulted to ALL

OUTPUT FORMAT

The network element returns the following normal response for a successful **RTRV TACC** command:

```
sid date time
M  ctag COMPLD
   "tatrib1:rate:spec_block"
   .
   .
   "tatrib1:rate:spec_block"
;
```

Beginning in Release 7.0, the network element returns the following normal response for a successful **RTRV - TACC** command:

```
sid date time
M  ctag COMPLD
   "tatrib1:rate:spec_block"
   .
   .
   "tatrib1:rate:spec_block"
   ":rate:spec_block"
   .
   .
   ":rate:spec_block"
;
```

All **tatrib1**-initiated sessions matching the request are returned first, followed by all **tsn**-initiated sessions matching the request.

Upon receiving a valid **RTRV-TACC-rr** command, the NE responds with the completion message shown below if there are no failures to report and if no test access activity is found matching the specified request in the system:

```
sid date time
M  ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also.

Table 2-510. RTRV-TACC-rr Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>rate</i>	Specifies the rate of the signal that is being tested. The value is either STS1 or VT1. Beginning in Release 7.0, the value may also be STS3c.

Table 2-510. RTRV-TACC-rr Output Parameters (cont 2 of 2)

Parameter Name	Description
<i>tatrib1</i>	This is the AID of the primary Test Access Tributary for a single test access session. The value is a specific Channel or Ring Channel AID. Beginning in Release 6.0, logical ring channel aids are used to report all test access tributaries. Beginning in Release 7.0, this parameter is NULL for <i>tsn</i>-initiated sessions.
<i>spec_block</i>	The following table contains the <i>spec_block</i> parameters and values.

Table 2-511. RTRV-TACC-rr Output spec_block Parameters (cont 1 of 3)

Parameter Name	Description
<i>etrib</i>	Retrieves the E-tributary AID for the test session. The value is a specific Channel or Ring Channel AID. Beginning in Release 6.0, logical ring channel aids are used to report all tributaries under test.
<i>ftrib</i>	Retrieves the F-tributary AID for the test session. The value is a specific Channel or Ring Channel AID. If there is no F-tributary this parameter is omitted. Beginning in Release 6.0, logical ring channel aids are used to report all tributaries under test.
<i>tatrib2</i>	Retrieves the secondary Test Access Tributary for the test session. The value is a specific Channel or Ring Channel AID. If there is no secondary Test Access Tributary this parameter is omitted. Beginning in Release 6.0, logical ring channel aids are used to report all test access tributaries.
<i>tstmde</i>	Test Mode. This parameter specifies the test mode retrieved. Valid values are:

Table 2-511. RTRV - TACC - rr Output spec_block Parameters (cont 2 of 3)

Parameter Name	Description
	■ MONE This is a non-service-affecting monitor of the E leg of a cross-connect, or of an idle tributary. In a UPSR application, the monitor point is after the path selector. ■ SPLTE Split access E-end mode of test access. This test access mode splits the connection between the E end and F end of a cross connection. ■ MONEF This monitors the E and F legs of a cross-connect. In a UPSR application, the monitor point is after the path selector. ■ SPLTEF Split E-end and F-end mode of test access. This test access mode splits both ends of a cross connection to allow testing at both the E end and F end. ■ SPLTA Split the A-direction of test access. This mode splits the connection between the E end and F end of a cross-connection.
<i>tsn</i>	Test session number. This parameter identifies a test session established to an internal test head. It is supplied for <i>tsn</i> -initiated sessions, and omitted for <i>tatrib1</i> -initiated sessions.
<i>ttsig_gen</i>	Test signal generator. This parameter retrieves whether a test signal is being inserted. This parameter is only included for <i>tsn</i>-initiated sessions. Valid values are: ■ PRS A generator is assigned to the session, and a PRBS signal is being inserted (see CHG - TTSIG). ■ NULL No generator is assigned to the session. In SPLT modes, AIS is being inserted.
<i>ttsig_det</i>	Test signal detector. This parameter retrieves whether a test signal is, or was previously, being monitored. This parameter is only included for <i>tsn</i>-initiated sessions. Valid values are:

Table 2-511. RTRV-TACC-rr Output spec_block Parameters (cont 3 of 3)

Parameter Name	Description
■ PRS	A detector is assigned to the session. A PRBS signal is being monitored and errors counted (see MEAS-SIG). Binned counts are available for retrieval (see RTRV-RSLT).
■ BA	A detector is not currently assigned to the session. Previously, a detector was assigned, and binned counts are available for retrieval (see RTRV-RSLT).
■ NULL	No detector is assigned to the session. No counts from a previous monitoring command are available.

EXAMPLE INPUT/OUTPUT

The following example shows the successful completion of the **RTRV-TACC-rr** command by the network element. It retrieves test access information on a main pass-through STS1 cross connection with a test access session established to function group D:

```
RTRV-TACC-STs1:LT-TID123:d-4-ALL:123456;
IP 123456
<
LT-TID123 03-09-26 16:42:11
M 123456 COMPLD
"d-4-1:STs1:TSTMDE=MONEF, TATRIB2=d-4-2, ETRIB=m1-1-12, FTRIB=m2-1-12"
;
```

Beginning in Release 6.0, the previous example appears as follows:

```
RTRV-TACC-STs1:LT-TID123:d1-4-ALL:123456;
IP 123456
<
LT-TID123 03-09-26 16:42:11
M 123456 COMPLD
"d1-4-1:STs1:TSTMDE=MONEF, TATRIB2=d1-4-2, ETRIB=m1-1-12, FTRIB=m2-1-12"
;
```

The following example shows the successful completion of the **RTRV-TACC-rr** command by the network element. It retrieves test access information on two main BLSR STS1 add/drop connections to DS3s (in function group B) with test access sessions established to function group D:

```
RTRV-TACC-STs1:LT-TID123:d-All:123456;  
IP 123456  
<  
  LT-TID123 03-09-26 16:42:11  
M 123456 COMPLD  
  "d-1-1:STS1:TSTMDE=SPLTEF,TATRIb2=d-1-2,ETRIb=m1-1-3,FTRIb=b-1"  
  "d-2-1:STS1:TSTMDE=MONEF,TATRIb2=d-2-2,ETRIb=m1-1-4,FTRIb=b-2"  
;
```

Beginning in Release 6.0, the previous example appears as follows:

```
RTRV-TACC-STs1:LT-TID123:d1-All:123456;  
IP 123456  
<  
  LT-TID123 03-09-26 16:42:11  
M 123456 COMPLD  
  "d1-1-1:STS1:TSTMDE=SPLTEF,TATRIb2=d1-1-2,ETRIb=m1-1-3,FTRIb=b1-1"  
  "d1-2-1:STS1:TSTMDE=MONEF,TATRIb2=d1-2-2,ETRIb=m1-1-4,FTRIb=b1-2"  
;
```

The following example shows the successful completion of the **RTRV-TACC-rr** command by the network element. It retrieves test access information on a main UPSR STS1 add/drop connection to an OC-3 (in function group D) with a test access session also established to function group D:

```
RTRV-TACC-STs1:LT-TID123:d-2-1:123456;  
IP 123456  
<  
  LT-TID123 03-09-26 16:42:11  
M 123456 COMPLD  
  "d-2-1:STS1:TSTMDE=SPLTEF,TATRIb2=d-2-2,ETRIb=m-1-1,FTRIb=d-3-1"  
;
```

Beginning in Release 6.0, the previous example appears as follows:


```
RTRV-TACC-STS1:LT-TID123:d1-2-1:123456;  
IP 123456  
<  
  LT-TID123 03-09-26 16:42:11  
M 123456 COMPLD  
  "d1-2-1:STS1:TSTMDE=SPLTEF,TATRIB2=d1-2-2,ETRIB=m1-1-1,FTRIB=d1-3-1"  
;
```

The following example shows the successful completion of the **RTRV-TACC-rr** command by the network element. It retrieves test access information on two VT1.5 1+1 connections from DS1s in function group A to main, with test access sessions established to function group D:

```
RTRV-TACC-ALL:LT-TID123:ALL:123456;  
IP 123456  
<  
  LT-TID123 03-09-26 16:42:11  
M 123456 COMPLD  
  "d-2-9-1-1:VT1:TSTMDE=SPLTE,ETRIB=a-1-2-1,FTRIB=m-1-2-1-1"  
  "d-2-9-1-2:VT1:TSTMDE=MONE,ETRIB=a-1-2-2,FTRIB=m-1-3-1-1"  
;
```

Beginning in Release 6.0, the previous example appears as follows:

```
RTRV-TACC-ALL:LT-TID123:ALL:123456;  
IP 123456  
<  
  LT-TID123 03-09-26 16:42:11  
M 123456 COMPLD  
  "d1-2-9-1-1:VT1:TSTMDE=SPLTE,ETRIB=a1-1-2-1,FTRIB=m1-1-2-1-1"  
  "d1-2-9-1-2:VT1:TSTMDE=MONE,ETRIB=a1-1-2-2,FTRIB=m1-1-3-1-1"  
;
```

Beginning in Release 7.0, the following example retrieves all test access activity in the shelf:

```
RTRV-TACC-ALL:LT-TID123:ALL:123456::tsn=all;  
IP 123456  
<  
  LT-TID123 07-07-11 04:29:17  
M 123456 COMPLD  
  "d1-2-9-1-1:VT1:TSTMDE=SPLTE,ETRIB=a1-1-2-1,FTRIB=m1-1-2-1-1"  
  "d1-2-9-1-2:VT1:TSTMDE=MONE,ETRIB=a1-1-2-2,FTRIB=m1-1-3-1-1"  
  ":STS1:TSTMDE=SPLTA,ETRIB=m1-1-17,TSN=6,TSTSIG_GEN=PRS,TSTSIG_DET="  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The requirements listed there may also apply to the **RTRV-TACC-rr** command.

If the system receives a **RTRV-TACC-rr** command with a *modifier* not accepted by the command, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

Beginning in Release 7.0, the above response is also returned if the request is for *tsn*-initiated sessions only, and the modifier is invalid for *tsn*-initiated sessions.

If the system receives a **RTRV-TACC-rr** request without a required *tatrib1* parameter, or if the *tatrib1* is invalid for the *modifier* provided, the following error response is returned to the user:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier, AID is missing, wrong or  
inconsistent with modifier */  
;
```

RELATED TL1 MESSAGES

CHG-ACCMD-rr

CONN-TACC-rr

RTRV-TACC
TL1 Message Details

RTRV-TACC
Alcatel-Lucent 1665 DMX, R9.0

DISC-TACC-rr

CHG-TSTSIG-rr

MEAS-SIG-rr

RTRV-RSLT

NAME

RTRV-TH: Retrieve Threshold

The **RTRV-TH** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

Input format of **RTRV-TH** is as shown below.

RTRV-TH-*modifier:tid:aid:ctag::[montype],[locn],tmper[,fmt];*

Beginning in release 3.0, the input format of **RTRV-TH** is as shown below.

RTRV-TH-
modifier:tid:[aid]:ctag::[montype],[locn],[dirn],[tmper][,fmt];

Beginning in release 4.0, the input format of **RTRV-TH** is as shown below.

RTRV-TH-
modifier:tid:[aid]:ctag::[montype],[locn],[tmper][,fmt];

DESCRIPTION

RTRV-TH instructs a network element (NE) to retrieve the current threshold level of one or more monitored parameters, which will trigger an autonomous message if the parameter count equals or exceeds the threshold.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-512. RTRV-TH Input Parameters (cont 1 of 4)

Parameter Name	Description
<i>modifier</i>	Command code modifier. The valid modifiers are:

Table 2-512. RTRV-TH Input Parameters (cont 2 of 4)

Parameter Name	Description
ALL	This retrieves the threshold levels for all of the following facility types:
E1	This retrieves threshold levels for the E1 level.
EC1	This retrieves threshold levels for EC-1 interfaces.
OC3	This retrieves threshold levels for OC-3 interfaces
OC12	This retrieves threshold levels for OC-12 interfaces.
OC48	This retrieves threshold levels for OC-48 interfaces.
OC192	This retrieves threshold levels for OC-192 interfaces.
STS1	This retrieves threshold levels for STS1 interfaces.
STS3c	This retrieves threshold levels for STS3c interfaces.
STS12c	This retrieves threshold levels for STS12c interfaces.
STS48c	This retrieves threshold levels for STS48c interfaces.
T1	This retrieves threshold levels for DS1 interfaces.
T3	This retrieves threshold levels for DS3 interfaces..
VT1	This retrieves threshold levels for VT1.5 interfaces.
VC12	This retrieves threshold levels for VC12 interfaces.
FE	This retrieves threshold levels for Ethernet FE interfaces.
1GE	This retrieves threshold levels for Ethernet GE interfaces.
DATA	This retrieves threshold levels for Data interfaces.
STP	This sets the threshold level for Spanning Tree Protocol counters.
OCH	This retrieves threshold levels for optical channels.
OTS	This retrieves threshold levels for the optical transmission section.
ODU2	This retrieves threshold levels for optical channel data unit 2.
OTU2	This retrieves threshold levels for optical channel transport unit 2.

Table 2-512. RTRV-TH Input Parameters (cont 3 of 4)

Parameter Name	Description
tid	Target Identifier. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.
aid	Access Identifier. This identifies the facility for which the threshold levels are being retrieved. The aid can only have the value ALL. If the command code modifier is ALL, the aid may be NULL, and will default to ALL. Beginning in Release 9.0, in a multi-shelf DCS system, ALL and NULL both apply to the entire system.
ctag	Correlation Tag. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.
montype	Monitored parameter Type. This is the performance monitoring parameter type for which a threshold is being retrieved. The valid values are listed in Appendix B. If montype is NULL, the default is to retrieve all applicable monitored parameter types, except for T1 and T3 CVP parameter, where the fmt parameter is used as a filter.
locn	Location. This is the location value for the facility identified by the aid. The valid locations are: FEND Far-end (for modifiers T1 and T3 only). Beginning in Release 4.0, FEND is valid for all modifiers for which locn is a valid parameter. NEND Near-end. A NULL value for locn is interpreted as if locn = NEND. locn is not a valid parameter for the following modifiers: FE 1GE DATA STP
dirn	Direction. This specifies the direction in which the threshold was set. The value of direction must be omitted or NA (not applicable). If omitted, the default value is NA. Beginning in Release 4.0, dirn is no longer an input parameter.

Table 2-512. RTRV-TH Input Parameters (cont 4 of 4)

Parameter Name	Description
<i>tmper</i>	Time Period. This is the accumulation time period for the PM information. The only valid time periods are: 15-MIN 1-DAY If the <i>tmper</i> value is supported, but conflicts with the command code modifier, an error response is returned. A NULL value for <i>tmper</i> is interpreted as 15-MIN.
<i>fmt</i>	Format. Note that ALL is not a valid value for this parameter, and that the thresholds for which <i>fmt</i> applies must be separately retrieved. This parameter is valid when the <i>modifier</i> is T1, <i>montype</i> is CVP, and <i>locn</i> is NEND. The valid values are: SF The retrieved threshold is used for DS1 interfaces with RTRV-rr <i>fmt</i>=SF. ESF The retrieved threshold is used for DS1 interfaces with RTRV-rr <i>fmt</i>=ESF or ESN. (default) This parameter is valid when the <i>modifier</i> is T3, <i>montype</i> is CVP, and <i>locn</i> is NEND. This parameter will have one of the following values: PBIT The retrieved threshold is used for near-end CVP monitoring for DS3 interfaces with RTRV-rr <i>fmt</i>=PBIT. (default) FMBIT The retrieved threshold is used for near-end CVP monitoring for DS3 interfaces with RTRV-rr <i>fmt</i>=FMBIT. CPBIT The retrieved threshold is used for near-end CVP monitoring for DS3 interfaces with RTRV-rr <i>fmt</i>=CPBIT.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "aid,aidtype:montype, locn, dirn, thlev, tmper, fmt"
  .      .      .      .
  .      .      .      .
  .      .      .      .
  "aid,aidtype:montype, locn, dirn, thlev, tmper, fmt"
;
```

When the **modifier** is **ALL**, the output order, by **aidtype**, is:

- OC192
- OC48
- OC12
- OC3
- EC1
- STS1
- STS3c
- STS12c
- STS48c
- T3
- VT1
- VC12
- T1
- E1
- FE
- 1GE
- 10GE
- DATA
- STP

- OCH
- OTS
- ODU2

— OTU2

OUTPUT PARAMETERS

Table 2-513. RTRV-TH Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This identifies the facility for which the threshold levels are being reported. The only allowed value of <i>aid</i> is ALL.
<i>aidtype</i>	AID Type. The <i>aidtype</i> field is the same as the valid values of the command code modifier .
<i>montype</i>	Monitored parameter type for which a threshold is being reported.
<i>locn</i>	Location. This is the location value for the facility identified by the <i>aidtype</i> . The valid locations are: FEND Far-end NEND Near-end For <i>aidtype</i> FE and 1GE, <i>locn</i> is not a valid parameter. For <i>aidtype</i> DATA, <i>locn</i> is not a valid parameter. For <i>aidtype</i> STP, <i>locn</i> is not a valid parameter.
<i>dirn</i>	Direction. This identifies the direction in which the threshold was set and is relative to the facility identified by the <i>aidtype</i> . The value of direction is NA (<i>not applicable</i>).
<i>thlev</i>	Current Threshold Level for the monitored parameter. A threshold value of zero (0) indicates that thresholding for that <i>montype</i> is disabled. For optical analog <i>montypes</i> TOPRL, TOPRH, OPT, OPTH, OPTL, OPR, OPRL and OPRH, a threshold value of 9999 indicates that thresholding for that <i>montype</i> is disabled.
<i>tmper</i>	Accumulation Time Period for the PM information. The valid time periods are 15-MIN, and 1-DAY.
<i>fmt</i>	Format.

Table 2-513. RTRV-TH Output Parameters (cont 2 of 2)

Parameter Name	Description
	This parameter is returned when the <i>aidtype</i> is T1 or T3, <i>montype</i> is CVP, and <i>locn</i> is NEND. See Table 2-512 for values. If the parameter does not apply, the report will display NA (not applicable) for that parameter.

EXAMPLE INPUT/OUTPUT

```
rtrv-th-oc3:LT-TID123:all:123456::cvl,nend,1-day;  
IP 123456  
<  
  LT-TID123 00-03-22 16:12:12  
M 123456 COMPLD  
  "ALL,OC3:CVL,NEND,NA,691,1-DAY,NA"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **SET-TH** command.

The NE returns the following error response if the *aid* value is invalid, or conflicts with the *modifier*.

```
sid date time  
M ctag DENY  
  IIAC  
  /* Input, Invalid ACcess identifier, AID is missing, wrong or  
  inconsistent with modifier */  
;
```

The NE returns the following error response if the **montype** value is not supported, or conflicts with the **modifier**.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid MONTYPE */
;
```

The NE returns the following error response if the **locn** value is invalid, or conflicts with the **modifier**.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid LOCN */
;
```

The NE returns the following error response if the **dirn** value is invalid:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid DIRN */
;
```

The NE returns the following error response if the **tmper** value is invalid:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid TMPER */
;
```

The NE returns the following error response if the *fmt* value is invalid, or conflicts with the *modifier*, *montype*, or *locn* (for example, **RTRV-TH-T3** with a *fmt* value of **ESF**).

```
sid date time
M  ctag DENY
   IDNV
/* Input, Data Not Valid, invalid FMT */
;
```

RELATED TL1 MESSAGES

ENT-rr

REPT PM

RTRV-PM

RTRV-PMSCHED

SCHED-PMREPT

SET-TH

NAME

RTRV - TL1MSGMAP: Retrieve TL1 Autonomous Message Mapping

The **RTRV - TL1MSGMAP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV - TL1MSGMAP: *tid::ctag::[acid]*;

DESCRIPTION

This command can be used to retrieve the assignment of TL1 autonomous message types to OS types (***acids***). TL1 autonomous messages are not reported unless they are assigned to an OS type.

Execution of this command will not be recorded in the Security log.

The **RTRV - TL1MSGMAP** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-514. RTRV - TL1MSGMAP Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation tag. Refer to RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>acid</i>	Application context identity (ID). This is the OS type; the supported values are listed below:

Table 2-514. RTRV - TL1MSGMAP Input Parameters (cont 2 of 2)

Parameter Name	Description
ALL	All (default) of the following OS types
TL1MAINTENANCE	<i>Maintenance</i> OS type
TL1MEMORYADMINISTRATION	<i>Memory administration</i> OS type
TL1TEST	<i>Test</i> OS type
TL1PEERCOMM	<i>Peer communications</i> OS type
TL1OTHER1	<i>Other</i> OS type
TL1OTHER2	<i>Another</i> OS type

OUTPUT FORMAT

If the NE fully complies with the request, the following output report is returned.

```
IP ctag
<

  sid date time
M  ctag COMPLD
  "acid:msgtype,state"
    .      .      .
    .      .      .
    .      .      .
  "acid:msgtype,state"
;
```

Output lines are ordered first by **acid** (application context ID), then by **msgtype** in the order those parameters are listed in the following table.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command also. Additional parameters that specifically apply to this command response are defined in the following table:

Table 2-515. RTRV - TL1MSGMAP Output Parameters

Parameter Name	Description														
<i>acid</i>	Application context identity (ID). This is the OS type; the supported values are: <table> <tr> <td>TL1MAINTENANCE</td><td><i>Maintenance</i> OS type.</td></tr> <tr> <td>TL1MEMORYADMINISTRATION</td><td><i>Memory administration</i> OS type.</td></tr> <tr> <td>TL1TEST</td><td><i>Test</i> OS type.</td></tr> <tr> <td>TL1PEERCOMM</td><td><i>Peer communications</i> OS type.</td></tr> <tr> <td>TL1OTHER1</td><td><i>Other</i> OS type.</td></tr> <tr> <td>TL1OTHER2</td><td><i>Another</i> OS type.</td></tr> </table>	TL1MAINTENANCE	<i>Maintenance</i> OS type.	TL1MEMORYADMINISTRATION	<i>Memory administration</i> OS type.	TL1TEST	<i>Test</i> OS type.	TL1PEERCOMM	<i>Peer communications</i> OS type.	TL1OTHER1	<i>Other</i> OS type.	TL1OTHER2	<i>Another</i> OS type.		
TL1MAINTENANCE	<i>Maintenance</i> OS type.														
TL1MEMORYADMINISTRATION	<i>Memory administration</i> OS type.														
TL1TEST	<i>Test</i> OS type.														
TL1PEERCOMM	<i>Peer communications</i> OS type.														
TL1OTHER1	<i>Other</i> OS type.														
TL1OTHER2	<i>Another</i> OS type.														
<i>msgtype</i>	TL1 autonomous message type. The supported values are: <table> <tr> <td>ALM</td><td>REPT ALM messages report the occurrence of alarms.</td></tr> <tr> <td>ENV</td><td>REPT ALM ENV messages report the occurrence of environmental alarms.</td></tr> <tr> <td>CON</td><td>REPT COND messages periodically report the active status conditions.</td></tr> <tr> <td>DB</td><td>REPT DBCHG messages report the occurrence of provisioning changes.</td></tr> <tr> <td>EVT</td><td>REPT EVT messages report the occurrence of status conditions (events).</td></tr> <tr> <td>PM</td><td>REPT PM messages report performance monitoring data on a scheduled basis.</td></tr> <tr> <td>SW</td><td>REPT SW messages report automatic equipment protection switches.</td></tr> </table>	ALM	REPT ALM messages report the occurrence of alarms.	ENV	REPT ALM ENV messages report the occurrence of environmental alarms.	CON	REPT COND messages periodically report the active status conditions.	DB	REPT DBCHG messages report the occurrence of provisioning changes.	EVT	REPT EVT messages report the occurrence of status conditions (events).	PM	REPT PM messages report performance monitoring data on a scheduled basis.	SW	REPT SW messages report automatic equipment protection switches.
ALM	REPT ALM messages report the occurrence of alarms.														
ENV	REPT ALM ENV messages report the occurrence of environmental alarms.														
CON	REPT COND messages periodically report the active status conditions.														
DB	REPT DBCHG messages report the occurrence of provisioning changes.														
EVT	REPT EVT messages report the occurrence of status conditions (events).														
PM	REPT PM messages report performance monitoring data on a scheduled basis.														
SW	REPT SW messages report automatic equipment protection switches.														
<i>state</i>	State. The supported values are: <table> <tr> <td>ENABLED</td><td>TL1 autonomous message type (<i>msgtype</i>) is assigned to the OS type (<i>acid</i>).</td></tr> <tr> <td>DISABLED</td><td>TL1 autonomous message type (<i>msgtype</i>) is <i>not</i> assigned to the OS type (<i>acid</i>).</td></tr> </table>	ENABLED	TL1 autonomous message type (<i>msgtype</i>) is assigned to the OS type (<i>acid</i>).	DISABLED	TL1 autonomous message type (<i>msgtype</i>) is <i>not</i> assigned to the OS type (<i>acid</i>).										
ENABLED	TL1 autonomous message type (<i>msgtype</i>) is assigned to the OS type (<i>acid</i>).														
DISABLED	TL1 autonomous message type (<i>msgtype</i>) is <i>not</i> assigned to the OS type (<i>acid</i>).														

EXAMPLE INPUT/OUTPUT

```
RTRV-TL1MSGMAP:TID123::123456::tl1maintenance;
```

```
IP 123456
```

```
<
```

```
TID123 00-03-22 16:12:12
```

```
M 123456 COMPLD
```

```
"TL1MAINTENANCE:ALM,ENABLED"
```

```
"TL1MAINTENANCE:ENV,ENABLED"
```

```
"TL1MAINTENANCE:CON,ENABLED"
```

```
"TL1MAINTENANCE:DB,DISABLED"
```

```
"TL1MAINTENANCE:EVT,ENABLED"
```

```
"TL1MAINTENANCE:PM,ENABLED"
```

```
"TL1MAINTENANCE:SW,ENABLED"
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

The NE returns the following error response if the *acid* value is invalid:

```
sid date time
```

```
M ctag DENY
```

```
IDNV
```

```
/* Input, Data Not Valid, invalid ACID */;
```

```
;
```

RELATED TL1 MESSAGES

DLT-IPMAP

ENT-IPMAP

ENT-OSACMAP

ENT-TL1MSGMAP

RTRV-IPMAP

RTRV-OSACMAP

NAME

RTRV-TMSLT: Retrieve Timeslot

The **RTRV-TMSLT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 3.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-TMSLT:*tid*:*[aid]*:*ctag*::*timeslot*[*,**rid*];

DESCRIPTION

The **RTRV-TMSLT** command can be initiated by users to retrieve a timeslot utilization report, organized by node, for all nodes in a BLSR. The command is only functional, however, in rings with automatic ring discovery enabled. The report shows all cross-connections on a user-specified timeslot throughout the entire ring. MLTPT and UNSWITCHED cross-connections on BLSR channels at the local node are not included in the command response. MLTPT and UNSWITCHED cross-connections at remote nodes are reported as 2WAYPR cross-connections.

One use of the command is to indicate parts of the ring available for new circuits.

Beginning in Release 3.1.1, MLTPT and UNSWITCHED cross-connections on BLSR channels at the local node are included in the command response.

Beginning in Release 6.0, *cct*=MLTPT is no longer supported. Multipoint cross-connections on BLSR channels at the local node are reported as UNSWITCHED cross-connections.

Beginning in Release 4.0, **RTRV-TMSLT** provides support for VT1 cross-connections in a BSLR. Retrieval continues to be supported only on an STS1 granular timeslot basis.

1. For those commands in which *timeslot*=**ALL**,
 - a. At each node in the ring for which a given timeslot is used in a VT-accessed STS1 cross-connection the response will include an indication that the cross-connection is VT-accessed.

- b. At each node in the ring for which the VTs within a given timeslot are VT cross-connected, the response will indicate that the STS timeslot is cross-connected at the VT rate, but the specifics of the VT1 cross-connections are not reported.
2. For those commands with a specific value of the **timeslot** parameter,
 - a. At each node in the ring for which the specified timeslot is used in a VT-accessed STS1 cross-connection, the response will indicate that the cross-connection is VT-accessed.
 - b. At each node in the ring for which the VTs within the specified timeslot are VT cross-connected, the response will report each VT1 cross-connection.

Beginning in Release 6.0, support for 2-way cross-connections is discontinued. In addition all cross-connections are reported using logical ring channel aids.

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 30. RTRV - TMSLT Input Parameters

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV - HDR command for input parameters syntax and description of this parameter.
aid	Access Identifier. See Appendix A - AID Tables. This is the access identifier for a 2F (BLSR) protection group. Either the aid or the rid, but not both, must be specified. Beginning in Release 6.0, a line-pair aid will no longer be accepted as the identifier of a 2F protection group. Instead the aid of the line in slot 1 becomes the identifier.
ctag	Correlation Tag. Refer to the RTRV - HDR command for input parameter syntax and description of this parameter.
rid	Ring Identification Name. Value: The ring ID parameter is a quoted text string of up to 15 ASCII characters. The permitted character set consists of the 7-bit hex values of [20-7E] (i.e., printable ASCII characters found in the English language), with the following exceptions: the ; (semicolon), " (double quote) and \ (backslash) characters are not allowed. Either the rid or the aid, but not both must be specified.

Table 30. RTRV - TMSLT Input Parameters

Parameter Name	Description
<i>timeslot</i>	Timeslot: Timeslot number for which the attribute is retrieved. Omission of this parameter results in retrieval for all timeslots. Value(s): ■ 1 ... 48 for OC-48 BLSR protection group ■ 1 ... 192 for OC-192 BLSR protection group ■ ALL

OUTPUT FORMAT

If the network element fully complies with the timeslot retrieval request, the following output message is returned.

```

sid date time
M ctag COMPLD
  "rid"
  "ntid,nid,src_aid,dest_aid,cct,rate:spec_block"
  "ntid,nid,src_aid,dest_aid,cct,rate:spec_block"
  . . .
  "ntid,nid,src_aid,dest_aid,cct,rate:spec_block"
;
```

Beginning in Release 4.0, if the network element fully complies with the timeslot retrieval request, the following output message is returned.

```

sid date time
M ctag COMPLD
  "rid"
  "ntid,nid,src_aid,dest_aid,cct,rate,rnvttyp:spec_block"
  "ntid,nid,src_aid,dest_aid,cct,rate,rnvttyp:spec_block"
  . . .
  "ntid,nid,src_aid,dest_aid,cct,rate,rnvttyp:spec_block"
;
```

Beginning in Release 6.0, if the network element fully complies with the timeslot retrieval request, the following output message is returned.

```
sid date time
M ctag COMPLD
  "rid"
  "ntid,nid,src_aid,dest_aid,cct,rate,rnvttyp[,src2_aid]:spec_block"
  "ntid,nid,src_aid,dest_aid,cct,rate,rnvttyp[,src2_aid]:spec_block"
  . . .
  "ntid,nid,src_aid,dest_aid,cct,rate,rnvttyp[,src2_aid]:spec_block"
;
```

Cross-connections are reported beginning at the local node and proceeding around the ring in the east direction.

The NE returns cross-connections in ascending order based on the STS number of the *dest_aid* where the value of STS number as a function of the group type is main<fna<fnb<fnc<fnd<growth.

For a given timeslot the NE returns cross-connections in the order indicated without duplication.

- 1-way or 2-way cross-connections to the west including 2-way through connections
- 1-way or 2-way cross-connections to the east
- 1-way drops from the west
- 1-way drops from the east

Beginning in Release 6.0, for a given timeslot the NE returns cross-connections in the order indicated without duplication.

- 1-way cross-connections to the west including through connections
- 1-way cross-connections to the east including through connections
- 1-way drops from the west
- 1-way drops from the east

The response to **RTRV-TMSLT** specifies the cross-connection, if any, which uses the specified *timeslot* even if the *timeslot* is not on a cross-connection boundary. The *src_aid* and *dest_aid* of the reported cross-connection reflect the provisioned cross-connection aids and not the specified *timeslot*.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response may also apply to this command.

The following table shows the additional output parameters that apply to the **RTRV-TMSLT** command.

Table 2-516. RTRV-TMSLT Output Parameters (cont 1 of 3)

Parameter Name	Description
<i>rid</i>	Ring Identification Name. Value: The ring ID parameter is a quoted text string of up to 15 ASCII characters. The permitted character set consists of the 7-bit hex values of [20-7E] (i.e., printable ASCII characters found in the English language), with the following exceptions: the ; (semicolon), " (double quote) and \ (backslash) characters are not allowed.
<i>ntid</i>	Node Target Identifier. The <i>tid</i> of the node on which the reported cross-connection exists. Refer to the RTRV-HDR command for input parameters syntax and description of this parameter.
<i>nid</i>	Node Identifier. The identity of the node on which the reported cross-connection exists.
<i>mvttyp</i>	Ring Node VT Type: <i>mvttyp</i> indicates the level of support for VT BLSR access for the ring node. Values ■ TYPE1 The node does not support any VT BLSR access ■ TYPE2 The node supports VT-accessed STS1 pass-through cross-connections ■ TYPE3 The node supports VT cross-connections and VT-accessed STS1 pass-through cross-connections

Table 2-516. RTRV - TMSLT Output Parameters (cont 2 of 3)

Parameter Name	Description
<i>src_aid</i>	Source AID. This is the AID of the cross-connect input. If the input is in a BLSR protection group, <i>src_aid</i> is a ring channel aid. Beginning in Release 6.0, <i>src_aid</i> identifies the input of a 1WAY cross-connection or the first input of a 1WAYPR cross-connection. Values: ■ See the AID table in OSEG Appendix A ■ REMAID This value is reported as the input aid of an add/drop cross-connection at a remote node. ■ REM-[E,W]-TS# This value is reported as the ring aid on a non-DMX remote node. E represents the east port, W represents the west port and TS# identifies the timeslot number on the OC-n interface. ■ - The "-" (dash) is reported in the response to the RTRV - TMSLT command with <i>timeslot=ALL</i>, when reporting a VT-connected STS1. Beginning in Release 6.0, logical ring channel aids are used to specify the source of a cross-connection. Refer to Appendix A - AID Tables for the supported aids and to Appendix E - Cross-connections for a definition of the logical ring channels.
<i>dest_aid</i>	Destination AID. This is the AID of the cross-connect output. If the output is in a BLSR protection group, <i>dest_aid</i> is a ring channel aid. Values: ■ See the AID table in OSEG Appendix A. ■ REMAID This value is reported as the output aid of an add/drop cross-connection at a remote node. ■ REM-[E,W]-TS# This value is reported as the ring aid on a non-DMX remote node. E represents the east port, W represents the west port and TS# identifies the timeslot number on the OC-n interface. Beginning in Release 6.0, logical ring channel aids are used to specify the destination of a cross-connection. Refer to Appendix A - AID Tables for the supported aids and to Appendix E - Cross-connections for a definition of the logical ring channels.

Table 2-516. RTRV - TMSLT Output Parameters (cont 3 of 3)

Parameter Name	Description
<i>cct</i>	Cross-connect type. This parameter specifies the type of cross-connection and has one of the following values: ■ 2WAYPR ■ 1WAY ■ 1WAYPR ■ - The "-" (dash) is reported in the response to the RTRV - TMSLT command with <i>timeslot=ALL</i>, when reporting a VT-connected STS1. Beginning in Release 6.0, 2WAYPR is no longer a supported value.
<i>rate</i>	The provisioned cross-connection rate. Values: ■ STS1 ■ STS3c ■ STS12c ■ STS48c ■ VT1
<i>src2_aid</i>	Second Source Access Identifier. See "Appendix A - AID Tables". <i>src2_aid</i> identifies the second input of a 1WAYPR cross-connection. It is reported only for 1WAYPR cross-connections on the local node. Values: ■ logical ring channel aid. Refer to Appendix A - AID Tables for the supported aids and to Appendix E - Cross-connections for a definition of the logical ring channels.
<i>spec_block</i>	See the following table for all <i>spec_block</i> parameters.

Table 2-517. RTRV-TMSLT Output spec_block Parameters (cont 1 of 3)

Parameter	Description of Spec_Block Parameters
<i>chappl</i>	Channel application: <i>chappl</i> indicates that the cross-connection is an unswitched cross-connection. For these cross-connections, internal equipment protection is disabled. <i>chappl</i> is only reported for cross-connections on the local node. Values: ■ UNSWITCHED For supported path-protected cross-connections from UPSR interfaces, <i>chappl</i>=UNSWITCHED also indicates that path switching is disabled. Beginning in Release 6.0, <i>chappl</i>=UNSWITCHED is no longer reported for path-protected cross-connections from UPSR interfaces. Beginning in Release 6.0, multipoint cross-connections are reported as unswitched cross-connections.
<i>circuitid</i>	Circuit Identifier. <i>circuitid</i> is a quoted text string of up to 36 characters consisting of 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language), with the following exceptions: the ; (semicolon), " (double quote), and \ (backslash) characters are not permitted within the quoted string. <i>circuitid</i> is only reported for cross-connection on the local node. <i>circuitid</i> is a provisionable attribute of an STSn rate cross-connection. Beginning in Release 5.0, <i>circuitid</i> is a provisionable attribute of a VT1 rate cross-connection.
<i>loca</i>	Identifies the <i>tid</i> of the node of at which the service carried on the specified cross-connection is added to the BLSR. A non-NULL <i>loca</i> is reported if the <i>src_aid</i> is a tributary in a BLSR port protection group. <i>loca</i> is not applicable to ADD connections and is not reported if a value is not available. Values: See <i>tid</i> in the RTRV-HDR command. <i>loca</i> is not supported on cross-connections for which <i>cct</i>=MLTPT or <i>chappl</i>=UNSWITCHED. Beginning in Release 6.0, <i>cct</i>=MLTPT is no longer supported. Multipoint cross-connections are reported with <i>chappl</i>=UNSWITCHED.

Table 2-517. RTRV - TMSLT Output spec_block Parameters (cont 2 of 3)

Parameter	Description of Spec_Block Parameters
<i>locz</i>	Identifies the <i>tid</i> of the node of at which the service carried on the specified cross-connection is dropped from the BLSR. A non-NULL <i>locz</i> is reported if the <i>dest_aid</i> is a tributary in a BLSR port protection group. <i>locz</i> is not applicable to DROP connections and is not reported if a value is not available. Values: See <i>tid</i> in the RTRV - HDR command. <i>locz</i> is not supported on cross-connections for which <i>cct</i>=MLTPT or <i>chappl</i>=UNSWITCHED. Beginning in Release 6.0, <i>cct</i>=MLTPT is no longer supported. Multipoint cross-connections are reported with <i>chappl</i>=UNSWITCHED.
<i>vtacc</i>	VT Accessed: <i>vtacc</i> is an attribute of a STS1 BLSR pass-through cross-connection. It specifies whether or not the STS1 transports VTs which are cross-connected at the VT1 rate at other nodes in the circuit. Values: ■ YES VT-accessed <i>vtacc</i> is not reported if the STS1 is not VT-accessed
<i>vtloca</i>	Identifies the TID associated with <i>src_aid</i> of a VT1 cross-connection carrying service originating from or destined to a node which is not in the inactive ring map. <i>vtloca</i> is the source node tid of a VT1 BLSR cross-connection. A non-Null <i>vtloca</i> is reported for VT1 cross-connections if and only if <i>src_aid</i> is a VT1.5 in a BLSR protection group, subject to the following exceptions: <i>vtloca</i> is not reported for VT1 pass-through cross-connections and VT1 UNSWITCHED cross-connections. Values: See <i>tid</i> in the RTRV - HDR command.

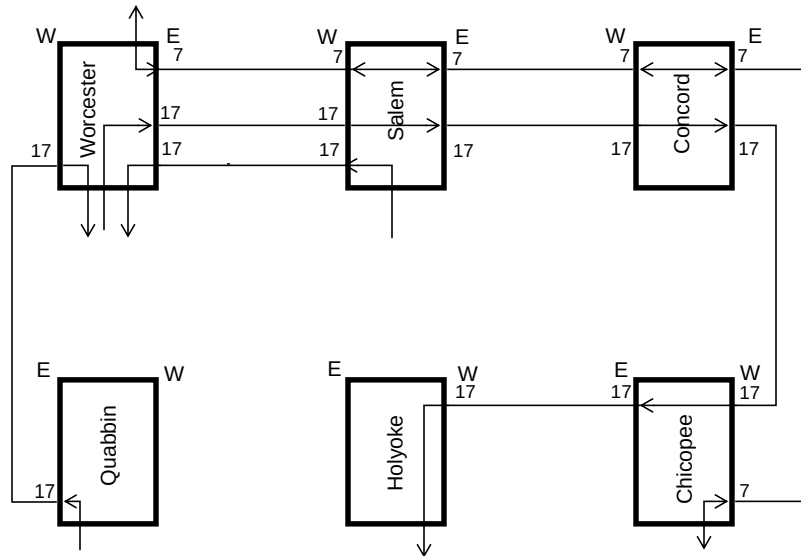
Table 2-517. RTRV-TMSLT Output spec_block Parameters (cont 3 of 3)

Parameter	Description of Spec_Block Parameters
<i>vtlocz</i>	Identifies the TID associated with <i>dest_aid</i> of a VT1 cross-connection carrying service originating from or destined to a node which is not in the inactive ring map. <i>vtlocz</i> is the destination node tid of a VT1 BLSR cross-connection. A non-Null <i>vtlocz</i> is reported for VT1 cross-connections if and only if <i>dest_aid</i> is a VT1.5 in a BLSR protection group, subject to the following exceptions: <i>vtlocz</i> is not reported for 1-way VT1 cross-connections, VT1 pass-through cross-connections and VT1 UNSWITCHED cross-connections. Values: See <i>tid</i> in the RTRV-HDR command. Beginning in Release 6.0, <i>vtlocz</i> is no longer reported since it is not applicable to 1-way cross-connections and all reported cross-connections are 1-way cross-connections.
<i>xcappl</i>	Cross-connection Application: <i>xcappl</i> is provided as a means to identify the application in which the cross-connection is used. The management system can use <i>xcappl</i> in conjunction with <i>xcnum</i> to uniquely identify a set of cross-connections associated with one instance of an application. <i>xcappl</i> is only reported for cross-connections on the local node. Values: 0-255 The mapping of applications to numeric values is a management system function.
<i>xcnum</i>	Cross-Connection Number: <i>xcnum</i> is provided as a means to identify the instance of the application (<i>xcappl</i>) in which the cross-connection is used. The management system can use <i>xcnum</i> in conjunction with <i>xcappl</i> to uniquely identify a set of cross-connections associated with one instance of an application. <i>xcnum</i> is only reported for cross-connections on the local node. Values: Any 9-digit number is acceptable. The suggested format of the 9 digits is as follows: 2 digits for the slot, 2 digits for the port, 3 digits for the STS tributary and 2 digits for the VT tributary. The default value is 000000000.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, support for **2WAYPR** cross-connections is discontinued. 2-way connectivity is achieved by provisioning multiple 1-way cross-connections. In addition all cross-connections are reported using logical

ring channel aids. Consequently, unless otherwise specified, the following examples should be considered invalid in Release 6.0.

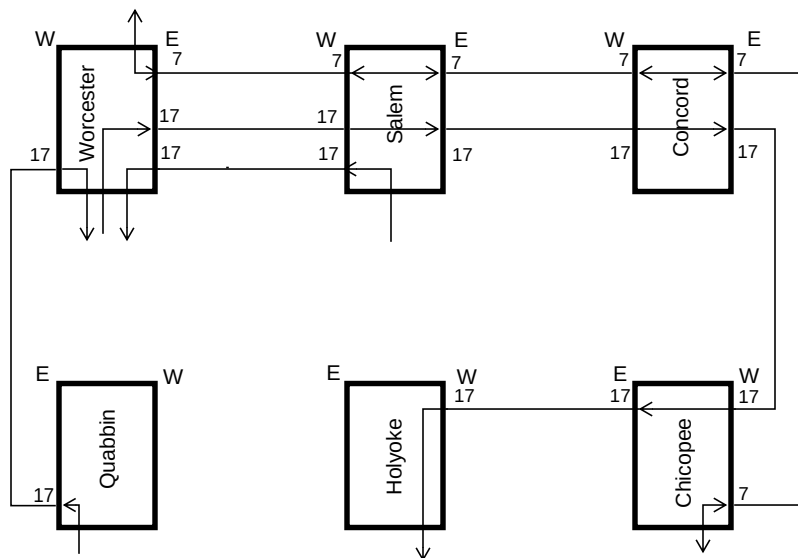


The following example, which is based on the ring illustrated above, shows the output for a **RTRV-TMSLT** command that requests cross-connect information for timeslot 7 on ring23 at the worcester node. All nodes in the ring are DMX nodes.

```
RTRV-TMSLT:worcester::123456::7,"ring23";
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g-2-4,m2-1-7,2WAYPR,STS3c:locz=chicopee,
circuitid=\"Worcester Chicopee #1\"
"salem,5,m2-1-7,m1-1-7,2WAYPR,STS3c:loca=chicopee,locz=worcester"
"concord,3,m2-1-7,m1-1-7,2WAYPR,STS3c:loca=chicopee,locz=worcester"
"chicopee,2,REMAID,m1-1-7,2WAYPR,STS3c:locz=worcester"
;
```

Beginning in Release 4.0, the response in the previous example contains the *rnvtyp* parameter as shown below.

```
RTRV - TMSLT:worcester::123456::7,"ring23";
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g-2-4,m2-1-7,2WAYPR,STS3c,TYPE1:locz=chicopee,
circuitid=\"Worcester Chicopee #1\"
"salem,5,m2-1-7,m1-1-7,2WAYPR,STS3c,TYPE1:loca=chicopee,
locz=worcester"
"concord,3,m2-1-7,m1-1-7,2WAYPR,STS3c,TYPE1:loca=chicopee,
locz=worcester"
"chicopee,2,REMAID,m1-1-7,2WAYPR,STS3c,TYPE1:locz=worcester"
;
```



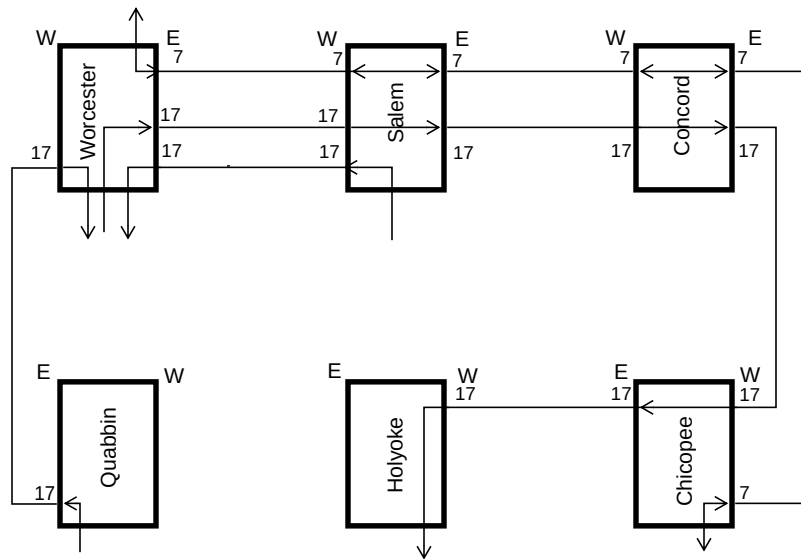
The following example, which is based on the ring illustrated above, shows the output for a **RTRV - TMSLT** command that requests cross-connect information for

all timeslots on BLSR protection group main-1 in the worcester node. All nodes in the ring are DMX nodes.

```
RTRV-TMSLT:worcester:main-1:123456::ALL;  
worcester 03-01-01 08:00:00  
M 123456 COMPLD  
"ring23"  
"worcester,0,g-2-4,m2-1-7,2WAYPR,STS3c:locz=chicopee,  
circuitid=\"Worcester Chicopee #1\""  
"worcester,0,c-3-1,m2-1-17,1WAYPR,STS1:locz=holyoke,  
circuitid=\"Worcester to Holyoke\""  
"worcester,0,m1-1-17,b-1-5,1WAY,STS1:loca=quabbin,  
circuitid=\"Quabbin to Worcester\""  
"worcester,0,m2-1-17,g1-1-1,1WAY,STS1:loca=salem,  
circuitid=\"Salem to Worcester\""  
"salem,5,m2-1-7,m1-1-7,2WAYPR,STS3c:loca=chicopee,locz=worcester"  
"salem,5,REMAID,m1-1-17,1WAY,STS1:locz=worcester"  
"salem,5,m1-1-17,m2-1-17,1WAY,STS1:loca=worcester,locz=holyoke"  
"concord,3,m2-1-7,m1-1-7,2WAYPR,STS3c:loca=chicopee,locz=worcester"  
"concord,3,m1-1-17,m2-1-17,1WAY,STS1:loca=worcester,locz=holyoke"  
"chicopee,2,REMAID,m1-1-7,2WAYPR,STS3c:locz=worcester"  
"chicopee,2,m1-1-17,m2-1-17,1WAY,STS1:loca=worcester,locz=holyoke"  
"holyokey,4,m1-1-17,REMAID,1WAY,STS1:loca=worcester"  
"quabbin,1,REMAID,m2-1-17,1WAY,STS1:locz=worcester"  
;
```

Beginning in Release 4.0, the response in the previous example contains the *rnvtyp* parameter as shown below.

```
RTRV-TMSLT:worcester:main-1:123456::ALL;  
worcester 03-01-01 08:00:00  
M 123456 COMPLD  
"ring23"  
"worcester,0,g-2-4,m2-1-7,2WAYPR,STS3c,TYPE1:locz=chicopee,  
circuitid=\"Worcester Chicopee #1\""  
"worcester,0,c-3-1,m2-1-17,1WAYPR,STS1,TYPE1:locz=holyoke,  
circuitid=\"Worcester to Holyoke\""  
"worcester,0,m1-1-17,b-1-5,1WAY,STS1,TYPE1:loca=quabbin,  
circuitid=\"Quabbin to Worcester\""  
"worcester,0,m2-1-17,g1-1-1,1WAY,STS1,TYPE1:loca=salem,  
circuitid=\"Salem to Worcester\""  
"salem,5,m2-1-7,m1-1-7,2WAYPR,STS3c,TYPE1:loca=chicopee,  
locz=worcester"  
"salem,5,REMAID,m1-1-17,1WAY,STS1,TYPE1:locz=worcester"  
"salem,5,m1-1-17,m2-1-17,1WAY,STS1,TYPE1:loca=worcester,  
locz=holyoke"  
"concord,3,m2-1-7,m1-1-7,2WAYPR,STS3c,TYPE1:loca=chicopee,  
locz=worcester"  
"concord,3,m1-1-17,m2-1-17,1WAY,STS1,TYPE1:loca=worcester,  
locz=holyoke"  
"chicopee,2,REMAID,m1-1-7,2WAYPR,STS3c,TYPE1:locz=worcester"  
"chicopee,2,m1-1-17,m2-1-17,1WAY,STS1,TYPE1:loca=worcester,  
locz=holyoke"  
"holyoke,4,m1-1-17,REMAID,1WAY,STS1,TYPE1:loca=worcester"  
"quabbin,1,REMAID,m2-1-17,1WAY,STS1,TYPE1:locz=worcester"  
;
```

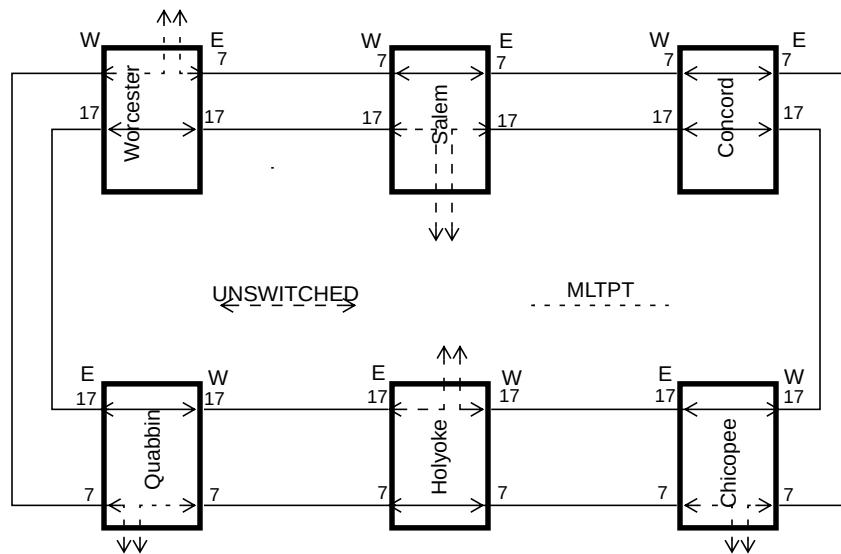



The following example, which is based on the ring illustrated above, shows the output for a **RTRV-TMSLT** command that requests cross-connect information for all timeslots on BLSR protection group main-1 in the worcester node. All nodes in the ring with the exception of the concord node are DMX nodes.

```
RTRV-TMSLT:worcester:main-1:123456::ALL;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g-2-4,m2-1-7,2WAYPR,STS3c:locz=chicopee,
circuitid=\"Worcester Chicopee #1\"
"worcester,0,c-3-1,m2-1-17,1WAYPR,STS1:locz=holyoke,
circuitid=\"Worcester to Holyoke\"
"worcester,0,m1-1-17,b-1-5,1WAY,STS1:locz=quabbin,
circuitid=\"Quabbin to Worcester\"
"worcester,0,m2-1-17,g1-1-1,1WAY,STS1:locz=salem,
circuitid=\"Salem to Worcester\"
"salem,5,m2-1-7,m1-1-7,2WAYPR,STS3c:locz=chicopee,locz=worcester"
"salem,5,REMAID,m1-1-17,1WAY,STS1:locz=worcester"
"salem,5,m1-1-17,m2-1-17,1WAY,STS1:locz=worcester,locz=holyoke"
"concord,3,REM-E-7,REM-W-7,2WAYPR,STS3c:locz=chicopee,
locz=worcester"
"concord,3,REM-W-17,REM-E-17,1WAY,STS1:locz=worcester,
locz=holyoke"
"chicopee,2,REMAID,m1-1-7,2WAYPR,STS3c:locz=worcester"
"chicopee,2,m1-1-17,m2-1-17,1WAY,STS1:locz=worcester,locz=holyoke"
"holyoke,4,m1-1-17,REMAID,1WAY,STS1:locz=worcester"
"quabbin,1,REMAID,m2-1-17,1WAY,STS1:locz=worcester"
;
```

Beginning in Release 4.0, the response in the previous example contains the *rnvtyp* parameter as shown below.

```
RTRV-TMSLT:worcester:main-1:123456::ALL;  
worcester 03-01-01 08:00:00  
M 123456 COMPLD  
"ring23"  
"worcester,0,g-2-4,m2-1-7,2WAYPR,STS3c,TYPE1:locz=chicopee,  
circuitid=\"Worcester Chicopee #1\""  
"worcester,0,c-3-1,m2-1-17,1WAYPR,STS1,TYPE1:locz=holyoke,  
circuitid=\"Worcester to Holyoke\""  
"worcester,0,m1-1-17,b-1-5,1WAY,STS1,TYPE1:loca=quabbin,  
circuitid=\"Quabbin to Worcester\""  
"worcester,0,m2-1-17,g1-1-1,1WAY,STS1,TYPE1:loca=salem,  
circuitid=\"Salem to Worcester\""  
"salem,5,m2-1-7,m1-1-7,2WAYPR,STS3c,TYPE1:loca=chicopee,  
locz=worcester"  
"salem,5,REMAID,m1-1-17,1WAY,STS1,TYPE1:locz=worcester"  
"salem,5,m1-1-17,m2-1-17,1WAY,STS1,TYPE1:loca=worcester,  
locz=holyoke"  
"concord,3,REM-E-7,REM-W-7,2WAYPR,STS3c,TYPE1:loca=chicopee,  
locz=worcester"  
"concord,3,REM-W-17,REM-E-17,1WAY,STS1,TYPE1:loca=worcester,  
locz=holyoke"  
"chicopee,2,REMAID,m1-1-7,2WAYPR,STS3c,TYPE1:locz=worcester"  
"chicopee,2,m1-1-17,m2-1-17,1WAY,STS1,TYPE1:loca=worcester,  
locz=holyoke"  
"holyokey,4,m1-1-17,REMAID,1WAY,STS1,TYPE1:loca=worcester"  
"quabbin,1,REMAID,m2-1-17,1WAY,STS1,TYPE1:locz=worcester"  
;
```

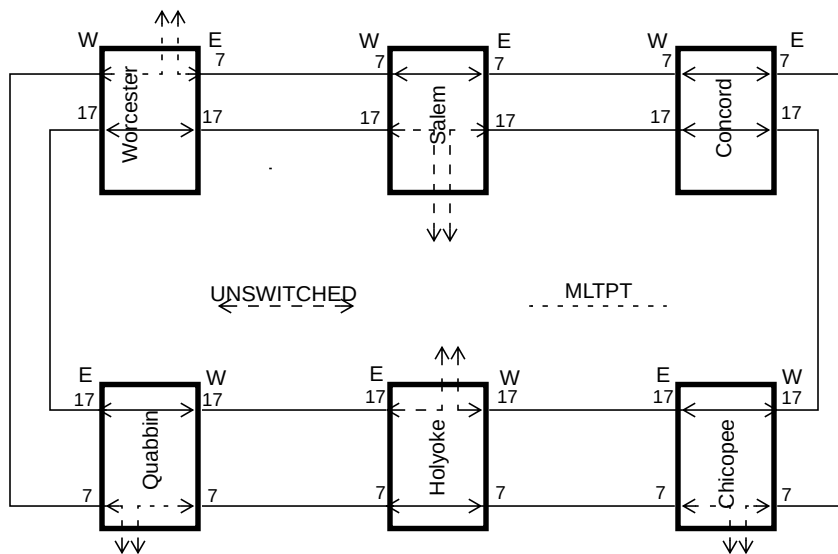


The following example, which is based on the ring illustrated above containing MLTPT cross-connections, shows the output for a **RTRV-TMSLT** command that requests cross-connect information for timeslot 7 on BLSR protection group main-1 at the worcester node. All nodes in the ring with the exception of the concord node are DMX nodes.

```
RTRV-TMSLT:worcester:main-1:123456::7;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g-v1-4,m-1-7,MLTPT,STS1"
"worcester,0,g-v2-4,m-1-7,MLTPT,STS1"
"salem,5,m2-1-7,m1-1-7,2WAYPR,STS1:loca=chicopee,locz=worcester"
"concord,3,REM-E-7,REM-W-7,2WAYPR,STS1:loca=chicopee,
locz=worcester"
"chicopee,2,REMAID,m1-1-7,2WAYPR,STS1"
"chicopee,2,REMAID,m2-1-7,2WAYPR,STS1"
"holyokey,4,m2-1-7,m1-1-7,2WAYPR,STS1:loca=quabbin,locz=chicopee"
"quabbin,1,REMAID,m1-1-7,2WAYPR,STS1"
"quabbin,1,REMAID,m2-1-7,2WAYPR,STS1"
;
```

Beginning in Release 4.0, the response in the previous example contains the *rnvtyp* parameter as shown below.

```
RTRV-TMSLT:worcester:main-1:123456::7;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g-v1-4,m-1-7,MLTPT,STS1,TYPE1"
"worcester,0,g-v2-4,m-1-7,MLTPT,STS1,TYPE1"
"salem,5,m2-1-7,m1-1-7,2WAYPR,STS1,TYPE1:loca=chicopee,
locz=worcester"
"concord,3,REM-E-7,REM-W-7,2WAYPR,STS1,TYPE1:loca=chicopee,
locz=worcester"
"chicopee,2,REMAID,m1-1-7,2WAYPR,STS1,TYPE1"
"chicopee,2,REMAID,m2-1-7,2WAYPR,STS1,TYPE1"
"holyoke,4,m2-1-7,m1-1-7,2WAYPR,STS1,TYPE1:loca=quabbin,
locz=chicopee"
"quabbin,1,REMAID,m1-1-7,2WAYPR,STS1,TYPE1"
"quabbin,1,REMAID,m2-1-7,2WAYPR,STS1,TYPE1"
;
```



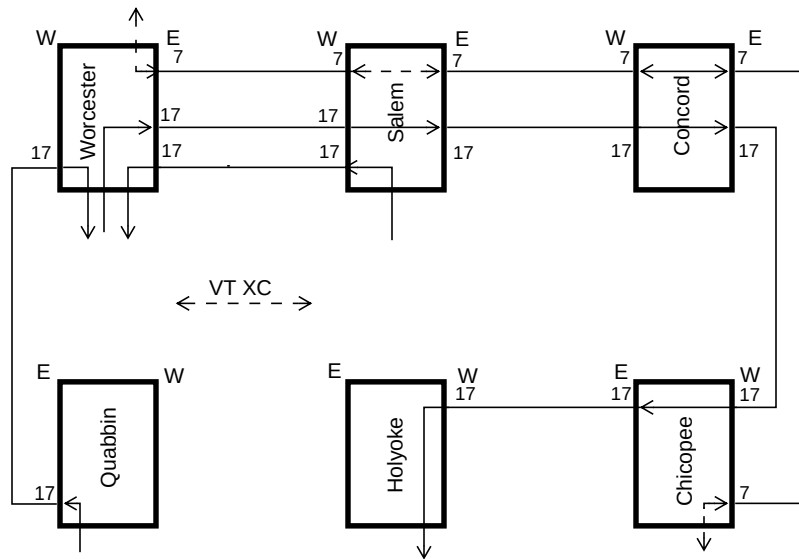
The following example, which is based on the ring illustrated above containing UNSWITCHED cross-connections, shows the output for a **RTRV-TMSLT** command that requests cross-connect information for timeslot 17 on BLSR

protection group main-1 at the salem node. All nodes in the ring with the exception of the concord node are DMX nodes.

```
RTRV - TMSLT:salem:main-1:123456::17;  
salem 03-01-01 08:00:00  
M 123456 COMPLD  
"ring23"  
"salem,5,g-1-1,m-1-17,2WAYPR,STS1:chappl=UNSWITCHED"  
"concord,3,REM-E-17,REM-W-17,2WAYPR,STS1:loca=holyoke,locz=salem"  
"chicopee,2,m2-1-17,m1-1-17,2WAYPR,STS1:loca=holyoke,locz=salem"  
"holyoke,4,REMAID,m1-1-17,2WAYPR,STS1"  
"holyoke,4,REMAID,m2-1-17,2WAYPR,STS1"  
"quabbin,1,m2-1-17,m1-1-17,2WAYPR,STS1:loca=salem,locz=holyoke"  
"worchester,0,m2-1-17,m1-1-17,2WAYPR,STS1:loca=salem,locz=holyoke"  
;
```

Beginning in Release 4.0, the response in the previous example contains the *rnvtyp* parameter as shown below.

```
RTRV - TMSLT:salem:main-1:123456::17;  
salem 03-01-01 08:00:00  
M 123456 COMPLD  
"ring23"  
"salem,5,g-1-1,m-1-17,2WAYPR,STS1,TYPE1:chappl=UNSWITCHED"  
"concord,3,REM-E-17,REM-W-17,2WAYPR,STS1,TYPE1:loca=holyoke,  
locz=salem"  
"chicopee,2,m2-1-17,m1-1-17,2WAYPR,STS1,TYPE1:loca=holyoke,  
locz=salem"  
"holyoke,4,REMAID,m1-1-17,2WAYPR,STS1,TYPE1"  
"holyoke,4,REMAID,m2-1-17,2WAYPR,STS1,TYPE1"  
"quabbin,1,m2-1-17,m1-1-17,2WAYPR,STS1,TYPE1:loca=salem,  
locz=holyoke"  
"worchester,0,m2-1-17,m1-1-17,2WAYPR,STS1,TYPE1:loca=salem,  
locz=holyoke"  
;
```

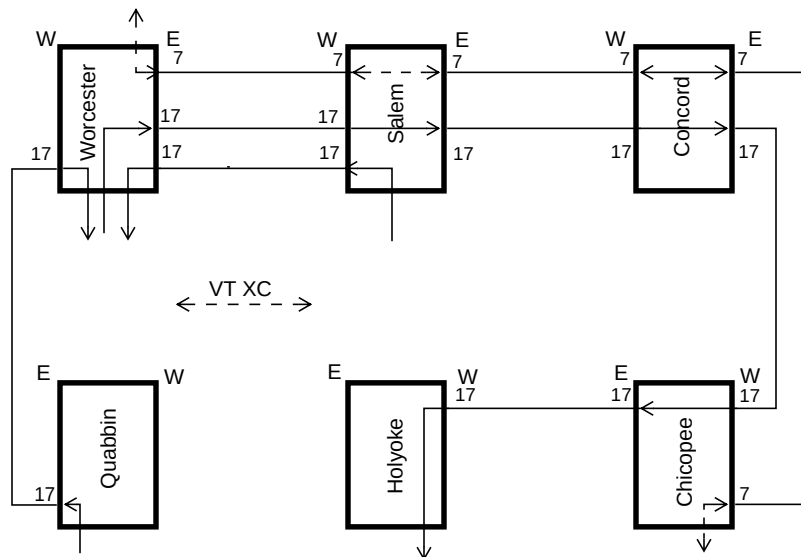


The following example, which is based on the ring illustrated above containing VT1 cross-connections, shows the output for a **RTRV-TMSLT** command that requests cross-connect information for timeslot 7 on BLSR protection group main-1 at the worcester node. All nodes in the ring are DMX nodes.

```
RTRV-TMSLT:worcester:main-1:123456::7;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g-2-4-1-1,m2-1-7-1-1,2WAYPR,VT1,TYPE3:locz=salem,
vtlocz=chicopee"
"salem,5,m2-1-7-1-1,m1-1-7-1-1,2WAYPR,VT1,TYPE3:loca=chicopee,
locz=worcester"
"concord,3,g2-1-7,g1-1-7,2WAYPR,STS1,TYPE2:loca=chicopee,
locz=salem,vtacc=YES"
"chicopee,2,REMAID,m1-1-7-1-1,2WAYPR,VT1,TYPE3:locz=salem,
vtlocz=worcester"
;
```

Beginning in Release 5.0, the response in the preceding example will contain the *circuitid* parameter for VT cross-connections on the local node as shown below.

```
RTRV - TMSLT:worcester:main-1:123456::7;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g-2-4-1-1,m2-1-7-1-1,2WAYPR,VT1,TYPE3:locz=salem,
vtlocz=chicopee,circuitid=\"Worcester Chicopee #1\""
"salem,5,m2-1-7-1-1,m1-1-7-1-1,2WAYPR,VT1,TYPE3:loca=chicopee,
locz=worcester"
"concord,3,g2-1-7,g1-1-7,2WAYPR,STS1,TYPE2:loca=chicopee,
locz=salem,vtacc=YES"
"chicopee,2,REMAID,m1-1-7-1-1,2WAYPR,VT1,TYPE3:locz=salem,
vtlocz=worcester"
;
```

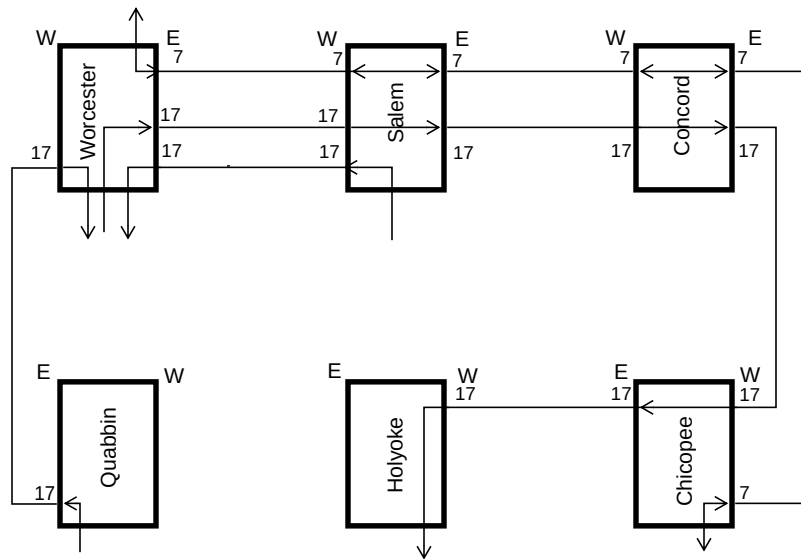


The following example, which is based on the ring illustrated above containing VT1 cross-connections, shows the output for a **RTRV - TMSLT** command that

requests cross-connect information for all timeslots on BLSR protection group main-1 in the worcester node. All nodes in the ring are DMX nodes.

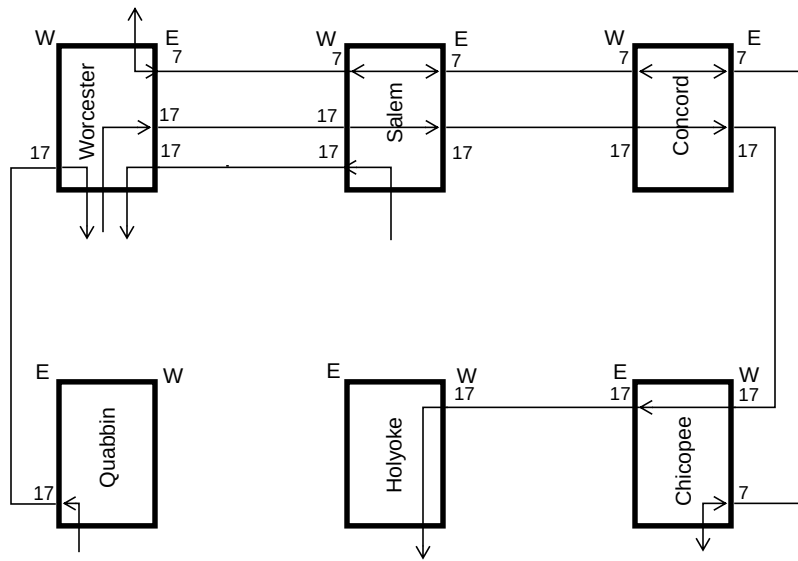
```
RTRV-TMSLT:worcester:main-1:123456::ALL;  
worcester 03-01-01 08:00:00  
M 123456 COMPLD  
"ring23"  
"worcester,0,-,m2-1-7,-,VT1,TYPE3:locz=salem"  
"worcester,0,c-3-1,m2-1-17,1WAYPR,STS1,TYPE3:locz=holyoke,  
circuitid=\"Worcester to Holyoke\""  
"worcester,0,m1-1-17,b-1-5,1WAY,STS1,TYPE3:locz=quabbin,  
circuitid=\"Quabbin to Worcester\""  
"worcester,0,m2-1-17,g1-1-1,1WAY,STS1,TYPE3:locz=salem,  
circuitid=\"Salem to Worcester\""  
"salem,5,-,m1-1-7,-,VT1,TYPE3:locz=worcester"  
"salem,5,-,m2-1-7,-,VT1,TYPE3:locz=chicopee"  
"salem,5,REMAID,m1-1-17,1WAY,STS1,TYPE3:locz=worcester"  
"salem,5,m1-1-17,m2-1-17,1WAY,STS1,TYPE3:locz=worcester,  
locz=holyoke"  
"concord,3,g2-1-2,g1-1-7,2WAYPR,STS1,TYPE2:locz=chicopee,  
locz=salem,vtacc=YES"  
"concord,3,g2-1-17,g2-1-17,1WAY,STS1,TYPE2:locz=worcester,  
locz=holyoke"  
"chicopee,2,-,m1-1-7,-,VT1,TYPE3:locz=salem"  
"chicopee,2,m1-1-17,m2-1-17,1WAY,STS1,TYPE3:locz=worcester,  
locz=holyoke"  
"holyoke,4,m1-1-17,REMAID,1WAY,STS1,TYPE1:locz=worcester"  
"quabbin,1,REMAID,m2-1-17,1WAY,STS1,TYPE1:locz=worcester"  
;
```

The following examples are valid beginning in Release 6.0.



The following example, which is based on the ring illustrated above, shows the output for a **RTRV-TMSLT** command that requests cross-connect information for timeslot 7 on ring23 at the worcester node. All nodes in the ring are DMX nodes.

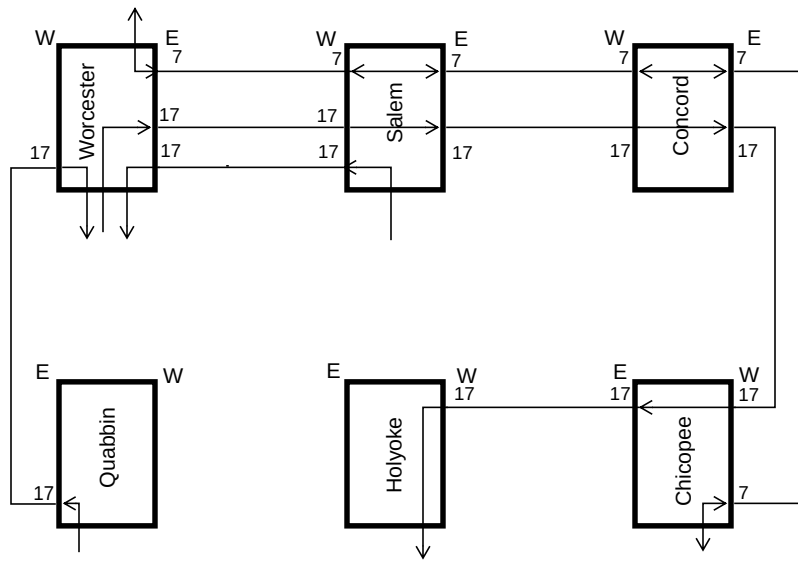
```
RTRV-TMSLT:worcester::123456::7,"ring23";
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g1-2-4,m2-1-7,1WAY,STS3c,TYPE3:circuitid=\"Worcester
Chicopee #1\",locz=chicopee,xcap=70,xcnum=110200400"
"worcester,0,m2-1-7,g1-2-4,1WAY,STS3c,TYPE3:circuitid=\"Worcester
Chicopee #1\",loca=chicopee,xcap=70,xcnum=110200400"
"salem,5,m2-1-7,m1-1-7,1WAY,STS3c,TYPE3:loca=chicopee,
locz=worcester"
"salem,5,m1-1-7,m2-1-7,1WAY,STS3c,TYPE3:loca=worcester,
locz=chicopee"
"concord,3,m2-1-7,m1-1-7,1WAY,STS3c,TYPE3:loca=chicopee,
locz=worcester"
"concord,3,m1-1-7,m2-1-7,1WAY,STS3c,TYPE3:loca=worcester,
locz=chicopee"
"chicopee,2,REMAID,m1-1-7,1WAY,STS3c,TYPE3:locz=worcester"
"chicopee,2,m1-1-7,REMAID,1WAY,STS3c,TYPE3:loca=worcester"
;
```



The following example, which is based on the ring illustrated above, shows the output for a **RTRV - TMSLT** command that requests cross-connect information for

all timeslots on BLSR protection group main-1-1 in the worcester node. All nodes in the ring are DMX nodes.

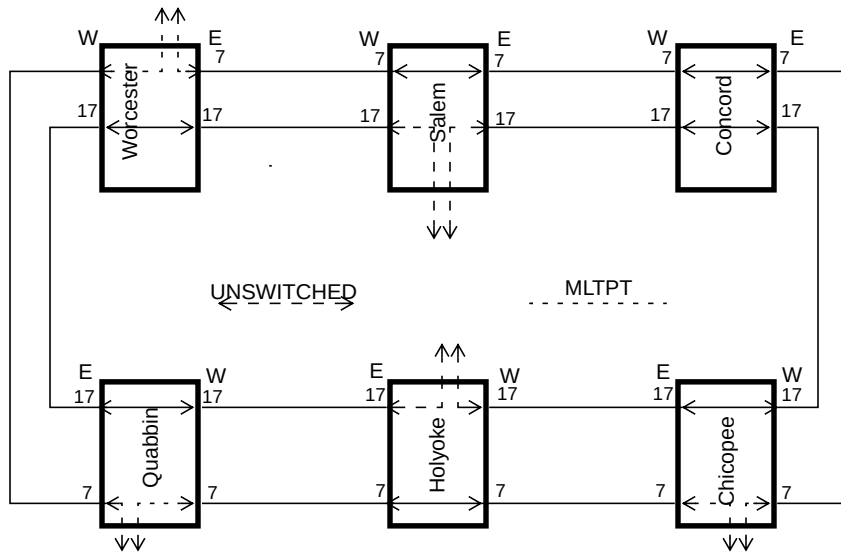
```
RTRV - TMSLT:worcester:main-1-1:123456:ALL;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g1-2-4,m2-1-7,1WAY,STS3c,TYPE3:circuitid=
\"Worcester Chicopee #1\", locz=chicopee,xcappl=70,xcnum=110200400"
"worcester,0,m2-1-7,g1-2-4,1WAY,STS3c,TYPE3:circuitid=\"Worcester
Chicopee #1\", loca=chicopee,xcappl=70,xcnum=110200400"
"worcester,0,c1-3-1,m2-1-17,1WAYPR,STS1,TYPE3,c2-3-1:circuitid=
\"Worcester to Holyoke\", locz=holyoke,xcappl=70,xcnum=070300100"
"worcester,0,m1-1-17,b1-1-5,1WAY,STS1,TYPE3:circuitid=
\"Quabbin to Worcester\" loca=quabbin,xcappl=70,xcnum=050100500"
"worcester,0,m2-1-17,g1-1-1,1WAY,STS1,TYPE3:circuitid=
\"Salem to Worcester\", loca=salem,xcappl=70,xcnum=110100100"
"salem,5,m2-1-7,m1-1-7,1WAY,STS3c,TYPE3: loca=chicopee,
locz=worcester"
"salem,5,m1-1-7,m2-1-7,1WAY,STS3c,TYPE3: loca=worcester,
locz=chicopee"
"salem,5,REMAID,m1-1-17,1WAY,STS1,TYPE1: locz=worcester"
"salem,5,m1-1-17,m2-1-17,1WAY,STS1,TYPE3: loca=worcester,
locz=holyoke"
"concord,3,m2-1-7,m1-1-7,1WAY,STS3c,TYPE3: loca=chicopee,
locz=worcester"
"concord,3,m1-1-7,m2-1-7,1WAY,STS3c,TYPE3: loca=worcester,
locz=chicopee"
"concord,3,m1-1-17,m2-1-17,1WAY,STS1,TYPE3: loca=worcester,
locz=holyoke"
"chicopee,2,REMAID,m1-1-7,2WAYPR,STS3c,TYPE3: locz=worcester"
"chicopee,2,m1-1-17,REMAID,2WAYPR,STS3c,TYPE3: loca=worcester"
"chicopee,2,m1-1-17,m2-1-17,1WAY,STS1,TYPE3: loca=worcester,
locz=holyoke"
"holyoke,4,m1-1-17,REMAID,1WAY,STS1,TYPE3: loca=worcester"
"quabbin,1,REMAID,m2-1-17,1WAY,STS1,TYPE3: locz=worcester"
;
```



The following example, which is based on the ring illustrated above, shows the output for a **RTRV - TMSLT** command that requests cross-connect information for

all timeslots on BLSR protection group main-1-1 in the worcester node. All nodes in the ring with the exception of the concord node are DMX nodes.

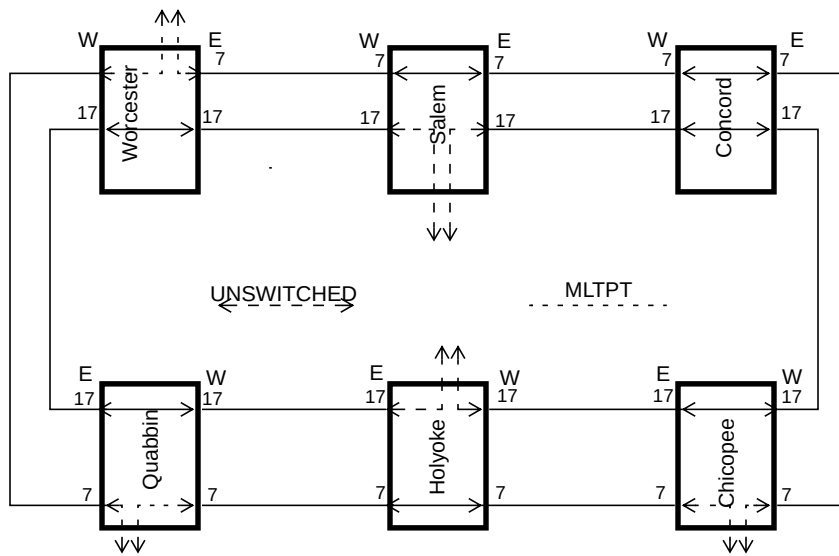
```
RTRV-TMSLT:worcester:main-1-1:123456:ALL;
worcester 03-01-01 08:00:00
M 123456 COMPLD
  "ring23"
    "worcester,0,g1-2-4,m2-1-7,1WAY,STS3c,TYPE3:circuitid=
\"Worcester Chicopee #1\", locz=chicopee,xcappl=70,xcnum=110200400"
    "worcester,0,m2-1-7,g1-2-4,1WAY,STS3c,TYPE3:circuitid=\"Worcester
Chicopee #1\", loca=chicopee,xcappl=70,xcnum=110200400"
    "worcester,0,c1-3-1,m2-1-17,1WAYPR,STS1,TYPE3,c2-3-1:circuitid=
\"Worcester to Holyoke\", locz=holyoke,xcappl=70,xcnum=070300100"
    "worcester,0,m1-1-17,b1-1-5,1WAY,STS1,TYPE3:circuitid=
\"Quabbin to Worcester\", loca=quabbin,xcappl=70,xcnum=050100500"
    "worcester,0,m2-1-17,g1-1-1,1WAY,STS1,TYPE3:circuitid=
\"Salem to Worcester\", loca=salem,xcappl=70,xcnum=110100100"
    "salem,5,m2-1-7,m1-1-7,1WAY,STS3c,TYPE3: loca=chicopee,
locz=worcester"
    "salem,5,m1-1-7,m2-1-7,1WAY,STS3c,TYPE3: loca=worcester,
locz=chicopee"
    "salem,5,REMAID,m1-1-17,1WAY,STS1,TYPE1: locz=worcester"
    "salem,5,m1-1-17,m2-1-17,1WAY,STS1,TYPE3: loca=worcester,
locz=holyoke"
    "concord,3,REM-E-7,REM-W-7,1WAY,STS3c,TYPE1: loca=chicopee,
locz=worcester"
    "concord,3,REM-W-7,REM-E-7,1WAY,STS3c,TYPE1: loca=worcester,
locz=chicopee"
    "concord,3,m1-1-17,m2-1-17,1WAY,STS1,TYPE1: loca=worcester,
locz=holyoke"
    "chicopee,2,REMAID,m1-1-7,2WAYPR,STS3c,TYPE3: locz=worcester"
    "chicopee,2,m1-1-17,REMAID,2WAYPR,STS3c,TYPE3: loca=worcester"
    "chicopee,2,m1-1-17,m2-1-17,1WAY,STS1,TYPE3: loca=worcester,
locz=holyoke"
    "holyoke,4,m1-1-17,REMAID,1WAY,STS1,TYPE3: loca=worcester"
    "quabbin,1,REMAID,m2-1-17,1WAY,STS1,TYPE3: locz=worcester"
;
```



The following example, which is based on the ring illustrated above containing MLTPT cross-connections, shows the output for a **RTRV-TMSLT** command that requests cross-connect information for timeslot 7 on BLSR protection group main-

1-1 at the worcester node. All nodes in the ring with the exception of the concord node are DMX nodes.

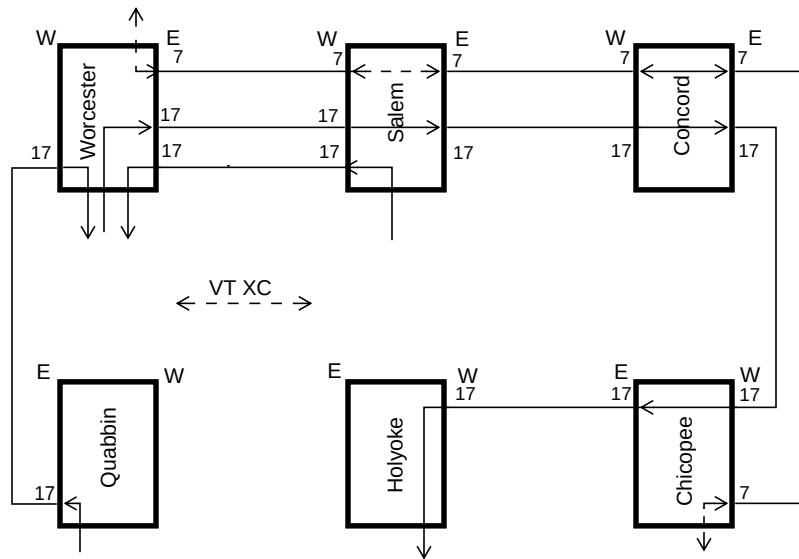
```
RTRV-TMSLT:worcester:main-1-1:123456::7;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g1-v1-4,m1-1-7,1WAY,STS1,TYPE3:chappl=UNSWITCHED,
xappl=11,xcnum=110100400"
"worcester,0,g2-v2-4,m2-1-7,1WAY,STS1,TYPE3:chappl=UNSWITCHED,
xappl=11,xcnum=110100400"
"worcester,0,m1-1-7,g1-v1-4,1WAY,STS1,TYPE3:chappl=UNSWITCHED,
xappl=11,xcnum=110100400"
"worcester,0,m2-1-7,g2-v2-4,1WAY,STS1,TYPE3:chappl=UNSWITCHED,
xappl=11,xcnum=110100400"
"salem,5,m2-1-7,m1-1-7,1WAY,STS1,TYPE3:loca=chicopee,
locz=worcester"
"salem,5,m1-1-7,m2-1-7,1WAY,STS1,TYPE3:loca=worcester,
locz=chicopee"
"concord,3,REM-E-7,REM-W-7,1WAY,STS1,TYPE3:loca=chicopee,
locz=worcester"
"concord,3,REM-W-7,REM-E-7,1WAY,STS1,TYPE3:loca=worcester,
locz=chicopee"
"chicopee,2,REMAID,m1-1-7,1WAY,STS1,TYPE1"
"chicopee,2,REMAID,m2-1-7,1WAY,STS1,TYPE1"
"chicopee,2,m1-1-7,REMAID,1WAY,STS1,TYPE1"
"chicopee,2,m2-1-7,REMAID,1WAY,STS1,TYPE1"
"holyoke,4,m2-1-7,m1-1-7,1WAY,STS1,TYPE3:loca=quabbin,
locz=chicopee"
"holyoke,4,m1-1-7,m2-1-7,1WAY,STS1,TYPE3:loca=worcester,
locz=quabbin"
"quabbin,1,REMAID,m1-1-7,1WAY,STS1,TYPE1"
"quabbin,1,REMAID,m2-1-7,1WAY,STS1,TYPE1"
"quabbin,1,m1-1-7,REMAID,1WAY,STS1,TYPE1"
"quabbin,1,m2-1-7,REMAID,1WAY,STS1,TYPE1"
;
```



The following example, which is based on the ring illustrated above containing UNSWITCHED cross-connections, shows the output for a **RTRV - TMSLT** command that requests cross-connect information for timeslot 17 on BLSR

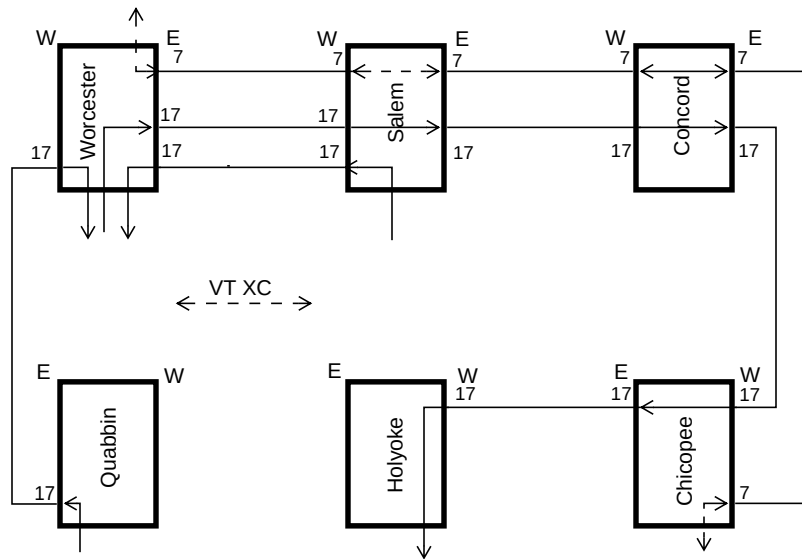
protection group main-1-1 at the salem node. All nodes in the ring with the exception of the concord node are DMX nodes.

```
RTRV-TMSLT:salem:main-1-1:123456::17;
salem 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"salem,5,g1-1-1,m1-1-17,1WAY,STS1,TYPE3:chappl=UNSWITCHED,
xcappl=23,xcnum=110100100"
"salem,5,g2-1-1,m2-1-17,1WAY,STS1,TYPE3:chappl=UNSWITCHED,
xcappl=23,xcnum=110100100"
"salem,5,m1-1-17,g1-1-1,1WAY,STS1,TYPE3:chappl=UNSWITCHED,
xcappl=23,xcnum=110100100"
"salem,5,m2-1-17,g2-1-1,1WAY,STS1,TYPE3:chappl=UNSWITCHED,
xcappl=23,xcnum=110100100"
"concord,3,REM-E-17,REM-W-17,1WAY,STS1,TYPE3:loca=holyoke,
locz=salem"
"concord,3,REM-W-17,REM-E-17,1WAY,STS1,TYPE3:loca=salem,
locz=holyoke"
"chicopee,2,m2-1-17,m1-1-17,1WAY,STS1,TYPE3:loca=holyoke,
locz=salem"
"chicopee,2,m1-1-17,m2-1-17,1WAY,STS1,TYPE3:loca=salem,
locz=holyoke"
"holyoke,4,REMAID,m1-1-17,1WAY,STS1,TYPE1"
"holyoke,4,REMAID,m2-1-17,1WAY,STS1,TYPE1"
"holyoke,4,m1-1-17,REMAID,1WAY,STS1,TYPE1"
"holyoke,4,m2-1-17,REMAID,1WAY,STS1,TYPE1"
"quabbin,1,m2-1-17,m1-1-17,1WAY,STS1,TYPE3:loca=salem,
locz=holyoke"
"quabbin,1,m1-1-17,m2-1-17,1WAY,STS1,TYPE3:loca=holyoke,
locz=salem"
"worcester,0,m2-1-17,m1-1-17,1WAY,STS1,TYPE3:loca=salem,
locz=holyoke"
"worcester,0,m1-1-17,m2-1-17,1WAY,STS1,TYPE3:loca=holyoke,
locz=salem"
;
```



The following example, which is based on the ring illustrated above containing VT1 cross-connections, shows the output for a **RTRV-TMSLT** command that requests cross-connect information for timeslot 7 on BLSR protection group main-1-1 at the worcester node. All nodes in the ring are DMX nodes.

```
RTRV-TMSLT:worcester:main-1-1:123456::7;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,g-2-4-1-1,m2-1-7-1-1,1WAY,VT1,TYPE3:circuitid=
\"worcester Chicopee #1\"locz=salem,xcappl=70,xcnum=110200401"
"worcester,0,m2-1-7-1-1,g-2-4-1-1,1WAY,VT1,TYPE3:circuitid=
\"worcester Chicopee #1\"loca=salem,vtloca=chicopee,xcappl=70,
xcnum=110200401"
"salem,5,m2-1-7-1-1,m1-1-7-1-1,1WAY,VT1,TYPE3:loca=chicopee,
locz=worcester"
"salem,5,m1-1-7-1-1,m2-1-7-1-1,1WAY,VT1,TYPE3:loca=worcester,
locz=chicopee"
"concord,3,g2-1-7,g1-1-7,1WAY,STS1,TYPE2:loca=chicopee,
locz=salem,vtacc=YES"
"concord,3,g1-1-7,g2-1-7,1WAY,STS1,TYPE2:loca=worcester,
locz=chicopee,vtacc=YES"
"chicopee,2,REMAID,m1-1-7-1-1,1WAY,VT1,TYPE3:locz=salem"
"chicopee,2,m1-1-7-1-1,REMAID,1WAY,VT1,TYPE3:loca=salem,
vtloca=worcester"
;
```



The following example, which is based on the ring illustrated above containing VT1 cross-connections, shows the output for a **RTRV-TMSLT** command that

requests cross-connect information for all timeslots on BLSR protection group main-1-1 in the worcester node. All nodes in the ring are DMX nodes.

```
RTRV-TMSLT:worcester:main-1-1:123456::ALL;
worcester 03-01-01 08:00:00
M 123456 COMPLD
"ring23"
"worcester,0,-,m2-1-7,-,VT1,TYPE3:locz=salem"
"worcester,0,m2-1-7,-,VT1,TYPE3:loca=salem"
"worcester,0,c1-3-1,m2-1-17,1WAYPR,STS1,TYPE3,c2-1-3:circuitid=
\"Worcester to Holyoke\",locz=holyoke,xcappl=70,xcnum=070300100"
"worcester,0,m1-1-17,b1-1-5,1WAY,STS1,TYPE3:circuitid=
\"Quabbin to Worcester\",loca=quabbin,xcappl=70,xcnum=050100500"
"worcester,0,m2-1-17,g1-1-1,1WAY,STS1,TYPE3:circuitid=
\"Salem to Worcester\",loca=salem,xcappl=70,xcnum=110100100"
"salem,5,-,m1-1-7,-,VT1,TYPE3:locz=worcester"
"salem,5,-,m2-1-7,-,VT1,TYPE3:loca=chicopee"
"salem,5,REMAID,m1-1-17,1WAY,STS1,TYPE3:locz=worcester"
"salem,5,m1-1-17,m2-1-17,1WAY,STS1,TYPE3:loca=worcester,
locz=holyoke"
"concord,3,g2-1-2,g1-1-7,1WAY,STS1,TYPE2:loca=chicopee,
locz=salem,vtacc=YES"
"concord,3,g1-1-2,g2-1-7,1WAY,STS1,TYPE2:loca=salem,
locz=chicopee,vtacc=YES"
"concord,3,g2-1-17,g2-1-17,1WAY,STS1,TYPE2:loca=worcester,
locz=holyoke"
"chicopee,2,-,m1-1-7,-,VT1,TYPE3:locz=salem"
"chicopee,2,m1-1-17,m2-1-17,1WAY,STS1,TYPE3:loca=worcester,
locz=holyoke"
"holyoke,4,m1-1-17,REMAID,1WAY,STS1,TYPE1:loca=worcester"
"quabbin,1,REMAID,m2-1-17,1WAY,STS1,TYPE1:locz=worcester"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may apply to this command.

If the system receives an **RTRV-TMSLT** command in which a required parameter is not specified, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, one or more of the required
parameters is missing */
;
```

If the NE receives an **RTRV-TMSLT** command in which one or more of the input parameter values does not belong to the set of allowable parameter values for that specific parameter, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid value of one or more
of the input parameters */
;
```

If the NE receives a **RTRV-TMSLT** command with an **aid** that is incorrect or not supported by the system, the command is denied and the following error response is returned.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access Identifier, AID is wrong or missing */
;
```

If the NE receives a **RTRV-TMSLT** command in which both the **aid** and **rid** are specified, the command is denied and, then the following error response is returned.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, both aid and rid are specified */
;
```

If the system receives a **RTRV-TMSLT** command in which the specified **rid** is not enclosed in quotes, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, rid is not quoted */
;
```

If the NE receives a **RTRV-TMSLT** command in which the specified **aid** or **rid** does not exist, the command is denied and the following error response is retrieved.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not Valid State, Not a 2F protection group */
;
```

If the NE receives a valid **RTRV-TMSLT** command but the command cannot be processed because the ring topology is incomplete for one of the following reasons,

- Ring topology incomplete due to ring communications failure
- Ring topology incomplete due to nodes with duplicate TIDs or NSAPs
- Ring topology incomplete due to more than 16 nodes in the ring
- Ring circuit map incomplete due to ring communications failure
- Automatic Ring Discovery is disabled

The command is denied and the following error response is returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, ring circuit topology
incomplete */
;
```

RELATED TL1 MESSAGES

RTRV - CKT

NAME

RTRV - TRAILTRC: Retrieve Trail Trace for ODU2 Ports.

The **RTRV - TRAILTRC** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 99

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance, and Reports Only access.

INPUT FORMAT

RTRV - TRAILTRC: *tid:aid:ctag;*

DESCRIPTION

This command retrieves the incoming accepted and the trace status of a specified ODU2 Tributary of an OTU2 port.

The ODU2 accepted TTI is supported on any port with a signal type of OTU2.

Execution of this command is not recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-518. RTRV - TRAILTRC Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

Table 2-518. RTRV-TRAILTRC Input Parameters (cont 2 of 2)

Parameter Name	Description
aid	Access Identifier. The aid determines the interface for which the retrieve is being requested. The aid is a required parameter. See Appendix A - AID Table for valid AIDs. Valid AIDs include: OTU2 Port AID. ALL
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The requirements listed there also apply to the **RTRV-TRAILTRC** command. If the requested entity does not exist, the NE will respond with a COMPLD message and an empty report.

```
sid date time
M ctag COMPLD
  "aid::trcstatus=xx,inc_sapi=\"x\"
  . . . . .
  "aid::trcstatus=xx,inc_sapi=\"x\"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there may apply to this command as well.

Table 2-519. RTRV - TRAILTRC Output Parameters

Parameter Name	Description								
<i>aid</i>	Access Identifier. The <i>aid</i> determines the interface for which the provisioning is being reported. See Appendix A - AID Table for valid AIDs. Valid AIDs include: OTU2 Port AID.								
<i>trcstatus</i>	Trace Status. This parameter specifies the incoming Optical Channel TTI status. Values are: <table> <tr> <td>UNAVAILABLE</td><td>Indicates that no value could be obtained by the system, because there has been either a control system failure, signal/transmission failure (such as OTU2: LOS, LOF, LOM) or the reception of maintenance signal which overrides the TTI field (such as ODU: AIS, OCI, LCK). In this case, <i>inc_sapi</i> is not displayed.</td></tr> <tr> <td>NORMAL</td><td>Indicates that the incoming and the expected TTI contain a valid match. In this case, <i>inc_sapi</i> is displayed.</td></tr> <tr> <td>MISMATCH</td><td>Indicates that the accepted TTI does not match the expected TTI. In this case, <i>inc_sapi</i> is displayed.</td></tr> <tr> <td>UNSPECIFIED</td><td>Indicates that the comparison parameter, <i>trccmp</i>, is set to DISABLE. In this case, <i>inc_sapi</i> is not displayed.</td></tr> </table>	UNAVAILABLE	Indicates that no value could be obtained by the system, because there has been either a control system failure, signal/transmission failure (such as OTU2: LOS, LOF, LOM) or the reception of maintenance signal which overrides the TTI field (such as ODU: AIS, OCI, LCK). In this case, <i>inc_sapi</i> is not displayed.	NORMAL	Indicates that the incoming and the expected TTI contain a valid match. In this case, <i>inc_sapi</i> is displayed.	MISMATCH	Indicates that the accepted TTI does not match the expected TTI. In this case, <i>inc_sapi</i> is displayed.	UNSPECIFIED	Indicates that the comparison parameter, <i>trccmp</i> , is set to DISABLE. In this case, <i>inc_sapi</i> is not displayed.
UNAVAILABLE	Indicates that no value could be obtained by the system, because there has been either a control system failure, signal/transmission failure (such as OTU2: LOS, LOF, LOM) or the reception of maintenance signal which overrides the TTI field (such as ODU: AIS, OCI, LCK). In this case, <i>inc_sapi</i> is not displayed.								
NORMAL	Indicates that the incoming and the expected TTI contain a valid match. In this case, <i>inc_sapi</i> is displayed.								
MISMATCH	Indicates that the accepted TTI does not match the expected TTI. In this case, <i>inc_sapi</i> is displayed.								
UNSPECIFIED	Indicates that the comparison parameter, <i>trccmp</i> , is set to DISABLE. In this case, <i>inc_sapi</i> is not displayed.								
<i>inc_sapi</i>	Optical Channel incoming TTI. Incoming TTI message Source Access Point Identifier. If <i>trccmp</i> is DISABLE, the received TTI is not retrieved. If <i>trcstatus</i> is NORMAL, the value is a quoted ASCII text string. If any non-printable or non-displayable character is contained in the string (including carriage return, line feed, semicolon (;), double quote (") and backslash (\)) it is replaced with a period (.). Also, trailing ASCII NUL characters (00) are not displayed. If <i>trcstatus</i> is not UNAVAILABLE or UNSPECIFIED, then this parameter is not displayed.								

EXAMPLE INPUT/OUTPUT

The following example retrieves the Trail Trace information associated with an OTU2 Port.

```
RTRV - TRAILTRC:LT-TID123:d1-8:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 93-10-26 16:42:11
```

```
M 123456 COMPLD
```

```
"d1-8::TRCSTATUS=UNSPECIFIED"
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives an **RTRV-TRAILTRC** command with an *aid* that is not valid, the following error response is returned:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier, AID is missing, wrong or  
inconsistent with modifier */  
;
```

RELATED TL1 MESSAGES

ENT-ODU2

RTRV-ODU2

NAME

RTRV-TRIBMNTC: Retrieve Tributary Maintenance Control Status

The **RTRV-TRIBMNTC** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 7.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-TRIBMNTC-modifier:tid:aid:ctag[:::[spec_block]];

DESCRIPTION

The **RTRV-TRIBMNTC** command is used to retrieve the tributary maintenance control status.

This command is not service-affecting.

Execution of this command is not recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-520. RTRV-TRIBMNTC Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>modifier</i>	This is the message modifier for the RTRV-TRIBMNTC command. The modifier is a required field, and must only have one of the following values: ■ VT1 ■ STS1 ■ STS3C
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description for this parameter.

Table 2-520. RTRV - TRIBMNTC Input Parameters (cont 2 of 2)

Parameter Name	Description
aid	Specifies the Tributary Maintenance Control Tributary Identifier AID for which the tributary maintenance control status is to be retrieved. ALL is a valid value. When ALL is specified, the tributary maintenance control status on all tributaries which match the modifier are retrieved. Only Ring Channel AIDs are valid. aid can be an individual tributary AID or it can be a range of tributary AIDs. See Appendix A - AID Table for valid AIDs. In a multi-shelf DCS system, ALL applies to entities on the main shelf only. To retrieve tributary maintenance on all entities in a subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number.
spec_block	The following are the spec_block parameters.

Table 31. RTRV - TRIBMNTC **spec_block** Input Parameters

Parameter Name	Description of spec_block Parameters						
type	Tributary maintenance control type. This parameter is used to limit the output of the RTRV - TRIBMNTC command. The values are <table> <tr> <td>ALL</td><td>Return the tributary maintenance control status of all specified tributaries. This is the default value.</td></tr> <tr> <td>INHIBITED</td><td>Return the tributary maintenance control status of the specified tributaries with a control status of INHIBITED.</td></tr> <tr> <td>ALLOWED</td><td>Return the tributary maintenance control status of the specified tributaries with a control status of ALLOWED.</td></tr> </table>	ALL	Return the tributary maintenance control status of all specified tributaries. This is the default value.	INHIBITED	Return the tributary maintenance control status of the specified tributaries with a control status of INHIBITED.	ALLOWED	Return the tributary maintenance control status of the specified tributaries with a control status of ALLOWED.
ALL	Return the tributary maintenance control status of all specified tributaries. This is the default value.						
INHIBITED	Return the tributary maintenance control status of the specified tributaries with a control status of INHIBITED.						
ALLOWED	Return the tributary maintenance control status of the specified tributaries with a control status of ALLOWED.						

OUTPUT FORMAT

The network element returns the following normal response for a successful **RTRV-TRIBMNTC** command:

```

sid date time
M  ctag COMPLD
   "aid:rate:spec_block"
   .
   .
   "aid:rate:spec_block"
;

```

When **modifier** and **aid** specify an uncross-connected tributary, the command returns the normal COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also.

Table 2-521. RTRV-TRIBMNTC Output Parameters

Parameter Name	Description
<i>rate</i>	Specifies the rate of the tributary. The value is either STS1, STS3C or VT1.
<i>aid</i>	This is the Tributary AID. The value is a specific Ring Channel AID.
<i>spec_block</i>	The following table contains the <i>spec_block</i> parameters and values.

Table 2-522. RTRV-TRIBMNTC Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>tribmntc</i>	Tributary maintenance control status. The values are: INHIBITED This tributary is inhibited from use as the etrib or ftrib in a test access session.

Table 2-522. RTRV-TRIBMNTC Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
	ALLOWED This tributary may be used as the <i>etrib</i> or <i>ftrib</i> in a test access session.

EXAMPLE INPUT/OUTPUT

The following example retrieves the tributary maintenance control status on a VT1 tributary:

```
RTRV-TRIBMNTC-VT1:LT-TID123:a1-1-2-4:123456;  
LT-TID 07-01-01 08:00:00  
M 123456 COMPLD  
"a1-1-2-4:VT1:TRIBMNTC=INHIBITED"  
;
```


The following example retrieves the tributary maintenance control status of all STS-1 tributaries for an NE equipped with OC-12 CPs in the MAIN slots and LNW8 56DS1E1 CPs in DS1 mode in the FN-D slots:

```
RTRV-TRIBMNTC-STS1:LT-TID:all:123456;  
LT-TID 07-01-01 08:00:00  
M 123456 COMPLD  
"m1-1-1:STS1:TRIBMNTC=INHIBITED"  
"m1-1-2:STS1:TRIBMNTC=INHIBITED"  
"m1-1-3:STS1:TRIBMNTC=ALLOWED"  
"m1-1-4:STS1:TRIBMNTC=ALLOWED"  
"m1-1-5:STS1:TRIBMNTC=ALLOWED"  
"m1-1-6:STS1:TRIBMNTC=INHIBITED"  
"m1-1-7:STS1:TRIBMNTC=INHIBITED"  
"m1-1-8:STS1:TRIBMNTC=INHIBITED"  
"m1-1-9:STS1:TRIBMNTC=INHIBITED"  
"m1-1-10:STS1:TRIBMNTC=ALLOWED"  
"m1-1-11:STS1:TRIBMNTC=ALLOWED"  
"m1-1-12:STS1:TRIBMNTC=ALLOWED"  
"m2-1-1:STS1:TRIBMNTC=INHIBITED"  
"m2-1-2:STS1:TRIBMNTC=ALLOWED"  
"m2-1-3:STS1:TRIBMNTC=ALLOWED"  
"m2-1-4:STS1:TRIBMNTC=ALLOWED"  
"m2-1-5:STS1:TRIBMNTC=ALLOWED"  
"m2-1-6:STS1:TRIBMNTC=INHIBITED"  
"m2-1-7:STS1:TRIBMNTC=INHIBITED"  
"m2-1-8:STS1:TRIBMNTC=INHIBITED"  
"m2-1-9:STS1:TRIBMNTC=ALLOWED"  
"m2-1-10:STS1:TRIBMNTC=ALLOWED"  
"m2-1-11:STS1:TRIBMNTC=ALLOWED"  
"m2-1-12:STS1:TRIBMNTC=ALLOWED"  
"d1-1-1:STS1:TRIBMNTC=INHIBITED"  
"d1-1-2:STS1:TRIBMNTC=INHIBITED"  
;
```

The following example retrieves the tributary maintenance control status of all STS-1 tributaries with a tributary maintenance control state of ALLOWED:

```
RTRV-TRIBMNTC-STS1:LT-TID:all:123456::type=allowed;  
LT-TID 07-01-01 08:00:00  
M 123456 COMPLD  
"m1-1-3:STS1:TRIBMNTC=ALLOWED"  
"m1-1-4:STS1:TRIBMNTC=ALLOWED"  
"m1-1-5:STS1:TRIBMNTC=ALLOWED"  
"m1-1-10:STS1:TRIBMNTC=ALLOWED"  
"m1-1-11:STS1:TRIBMNTC=ALLOWED"  
"m1-1-12:STS1:TRIBMNTC=ALLOWED"  
"m2-1-1:STS1:TRIBMNTC=ALLOWED"  
"m2-1-2:STS1:TRIBMNTC=ALLOWED"  
"m2-1-3:STS1:TRIBMNTC=ALLOWED"  
"m2-1-4:STS1:TRIBMNTC=ALLOWED"  
"m2-1-5:STS1:TRIBMNTC=ALLOWED"  
"m2-1-9:STS1:TRIBMNTC=ALLOWED"  
"m2-1-10:STS1:TRIBMNTC=ALLOWED"  
"m2-1-11:STS1:TRIBMNTC=ALLOWED"  
"m2-1-12:STS1:TRIBMNTC=ALLOWED"  
"d1-2:STS1:TRIBMNTC=ALLOWED"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the NE receives a **RTRV-TRIBMNTC** command with a *modifier* other than that supported by the NE, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

If the NE receives a **RTRV-TRIBMNTC** command with an *aid* that is not valid or with an *aid* value that is invalid for the modifier provided (for example, the *aid*

referring to a different type of entity than is specified by ***modifier***), the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, AID is missing, wrong or
  inconsistent with modifier */
;
```

If an NE receives a **RTRV-TRIBMNTC** command with an ***type*** value other than **ALL**, **INHIBITED** or **ALLOWED**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid TYPE value */
;
```

RELATED TL1 MESSAGES

CHG-ACCMD

CONN-TACC

DISC-TACC

RTRV-TACC

ENT-SYS

RTRV-SYS

ALW-TRIBMNTC

INH-TRIBMNTC

NAME

RTRV-ULS: Retrieve Upper Layer Stack parameters

The **RTRV-ULS** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-ULS:*tid:[aid]:ctag;*

DESCRIPTION

The **RTRV-ULS** command retrieves TCP/IP-related provisionable parameters. These parameters include TCP/IP enabled/disabled, IP address, subnet mask, and IP default router address for each of the IAO LAN ports.

Starting in Release 2.0, the **RTRV-ULS** command retrieves TCP/IP-related provisionable parameters assigned to each of the IAO LAN ports, or assigned to the DCC-ALL. These parameters include TCP/IP enabled/disabled, IP address, subnet mask and default router address, if applicable.

Starting in Release 4.0, the **RTRV-ULS** command also retrieves Proxy ARP enabled/disabled.

Starting in Release 5.1, the **RTRV-ULS** command retrieves TCP/IP communications enabled/disabled on the Data Communication Channels (IP over DCC) as well.

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-523. RTRV - ULS Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> parameter identifies the IAO LAN port AID. Refer to Appendix A - AID Tables. LAN- Both IAO LAN ports ALL (default) Starting in Release 2.0, the <i>aid</i> parameter identifies the IAO LAN port AID or the DCC AID (DCC-ALL). Refer to Appendix A - AID Tables. Starting in Release 5.1, the <i>aid</i> parameter also identifies the DCC port AID. Refer to Appendix A - AID Tables. ALL Both IAO LAN ports and DCC. (default)
<i>ctag</i>	Correlation Tag. Refer to RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with a request for both IAO LAN ports, the following normal completion response is returned:

```

sid date time
M ctag COMPLD
"lan-1:TCPIP=x"
"lan-1:IPADDR=x"
"lan-1:IPSNMK=x"
"lan-1:IPDRAD=x"
"lan-2:TCPIP=y"
"lan-2:IPADDR=y"
"lan-2:IPSNMK=y"
"lan-2:IPDRAD=y"
;
```

If the NE fully complies with a request for *both* IAO LAN ports *and* the DCC-ALL, the following normal completion response is returned:

```
IP ctag
<

  sid date time
M  ctag COMPLD
  "lan-1:TCPIP=x"
  "lan-1:IPADDR=x"
  "lan-1:IPSNMK=x"
  "lan-1:IPDRAD=x"
  "lan-2:TCPIP=y"
  "lan-2:IPADDR=y"
  "lan-2:IPSNMK=y"
  "lan-2:IPDRAD=y"
  "dcc-all:TCPIP=z"
  "dcc-all:IPADDR=z"
  "dcc-all:IPSNMK=z"
;
```

Starting in Release 4.0, if the NE fully complies with a request for *both* IAO LAN ports *and* the DCC-ALL, the following normal completion response is returned:

```
IP ctag
<

  sid date time
M  ctag COMPLD
  "lan-1:TCPIP=x"
  "lan-1:IPADDR=x"
  "lan-1:IPSNMK=x"
  "lan-1:IPDRAD=x"
  "lan-1:PROXYARP=x"
  "lan-2:TCPIP=y"
  "lan-2:IPADDR=y"
  "lan-2:IPSNMK=y"
  "lan-2:IPDRAD=y"
  "lan-2:PROXYARP=y"
  "dcc-all:TCPIP=z"
  "dcc-all:IPADDR=z"
  "dcc-all:IPSNMK=z"
;
```

Starting in Release 5.1, if the NE fully complies with a request for *both* IAO LAN ports *and* the DCC, the following normal completion response is returned:

```

IP ctag
<

    sid date time
M  ctag COMPLD
    "lan-1:TCPIP=x"
    "lan-1:IPADDR=x"
    "lan-1:IPSNMK=x"
    "lan-1:IPDRAD=x"
    "lan-1:PROXYARP=x"
    "lan-2:TCPIP=y"
    "lan-2:IPADDR=y"
    "lan-2:IPSNMK=y"
    "lan-2:IPDRAD=y"
    "lan-2:PROXYARP=y"
    "dcc-all:TCPIP=z"
    "dcc-all:IPADDR=z"
    "dcc-all:IPSNMK=z"
    "dcc-address:TCPIP=v"
    "dcc-address:TCPIP=v"
    . . .
    "dcc-address:TCPIP=v"
;

```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The parameters listed there also apply to this command. The following output parameters also apply:

Table 2-524. RTRV-ULS Output Parameters

Parameter Name	Description
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-525. RTRV-ULS Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters								
<i>aid</i>	Access identifier (ID). The parameter is the IAO LAN or DCC AID. It identifies: <table> <tr> <td>LAN-1</td><td>Front IAO LAN port</td></tr> <tr> <td>LAN-2</td><td>Rear IAO LAN port</td></tr> <tr> <td>DCC-ALL</td><td>DCC for IP tunneling</td></tr> <tr> <td>dcc-address</td><td>DCC port AID for IP over DCC. Refer to Appendix A - AID Tables.</td></tr> </table>	LAN-1	Front IAO LAN port	LAN-2	Rear IAO LAN port	DCC-ALL	DCC for IP tunneling	dcc-address	DCC port AID for IP over DCC. Refer to Appendix A - AID Tables.
LAN-1	Front IAO LAN port								
LAN-2	Rear IAO LAN port								
DCC-ALL	DCC for IP tunneling								
dcc-address	DCC port AID for IP over DCC. Refer to Appendix A - AID Tables.								
<i>tcpip</i>	TCP/IP communications. This parameter indicates whether TCP/IP communication over the specified IAO LAN port is enabled or disabled. The values are ENABLED or DISABLED. Starting in Release 2.0, this parameter indicates whether TCP/IP communication on the specified IAO LAN port, or on the DCC-ALL, is ENABLED or DISABLED. Starting in Release 5.1, this parameter also indicates whether TCP/IP communication on the specified DCC port is ENABLED or DISABLED.								
<i>ipaddr</i>	IP address. This is the 32-bit IP address for the IAO LAN port. It is made up of four dot-separated decimal numbers ranging from 0 to 255. Starting in Release 2.0, this is the 32-bit IP address for the IAO LAN port, or for the DCC-ALL. It is made up of four dot-separated decimal numbers ranging from 0 to 255.								
<i>ipsnmk</i>	IP subnet mask. This is the 32-bit IP subnet mask for the IAO LAN port. It is made up of four dot-separated decimal numbers ranging from 0 to 255. Starting in Release 2.0, this is the 32-bit IP subnet mask for the IAO LAN port, or for the DCC-ALL. It is made up of four dot-separated decimal numbers ranging from 0 to 255.								

Table 2-525. RTRV-ULS Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>ipdrad</i>	IP default router address. This is the 32-bit IP default router address for the IAO LAN port. It is made up of four dot-separated decimal numbers ranging from 0 to 255. If a default router address is assigned, and TCP/IP is enabled on the rear IAO LAN port, this is the default router address for the rear IAO LAN port, that is, the NE routes TCP/IP messages to the default router through the rear IAO LAN port. If a default router address is assigned, and TCP/IP is disabled on both IAO LAN ports, the default router address is shown as if it is for the rear IAO LAN port. Only if TCP/IP is enabled on the front IAO LAN port and disabled on the rear IAO LAN port does this parameter apply to the front IAO LAN port, in which case, the NE routes TCP/IP messages to the default router through the front IAO LAN port. (TCP/IP access to the front IAO LAN port is typically expected to be from a local PC-CIT in the same IP subnet without a default router.)
<i>proxyarp</i>	This parameter indicates whether Proxy ARP is ENABLED or DISABLED on the specified IAO LAN port. The default value is DISABLED.

EXAMPLE INPUT/OUTPUT

The following example shows TCP/IP enabled on the rear IAO LAN port, but not the front IAO LAN port, with TCP/IP parameters provisioned for both ports:

```
RTRV-ULS:LT-TID123:lan-all:123456;
```

```
IP 123456
<

LT-TID123 00-10-22 16:12:12
M 123456 COMPLD
"lan-1:TCPIP=disabled"
"lan-1:IPADDR=198.78.46.8"
"lan-1:IPSNMK=255.255.255.128"
"lan-1:IPDRAD="
"lan-2:TCPIP=enabled"
"lan-2:IPADDR=198.79.50.50"
"lan-2:IPSNMK=255.255.0.0"
"lan-2:IPDRAD=198.79.85.40"
;
```

The following example shows TCP/IP disabled on both IAO LAN ports with only some of the TCP/IP parameters provisioned:

```
RTRV-ULS:LT-TID123:lan-all:123456;
```

```
IP 123456
<

LT-TID123 00-10-22 16:12:12
M 123456 COMPLD
"lan-1:TCPIP=disabled"
"lan-1:IPADDR="
"lan-1:IPSNMK="
"lan-1:IPDRAD="
"lan-2:TCPIP=disabled"
"lan-2:IPADDR=198.79.50.50"
"lan-2:IPSNMK="
"lan-2:IPDRAD=198.79.85.40"
;
```

The following example shows Proxy ARP enabled on the rear IAO LAN port, but not the front IAO LAN port, with TCP/IP parameters provisioned for both ports:

```
RTRV-ULS:LT-TID123:lan-all:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-22 16:12:12
```

```
M 123456 COMPLD
```

```
"lan-1:TCPIP=disabled"
```

```
"lan-1:IPADDR=198.78.46.8"
```

```
"lan-1:IPSNMK=255.255.255.128"
```

```
"lan-1:IPDRAD="
```

```
"lan-1:PROXYARP=disabled"
```

```
"lan-2:TCPIP=enabled"
```

```
"lan-2:IPADDR=198.79.50.50"
```

```
"lan-2:IPSNMK=255.255.0.0"
```

```
"lan-2:IPDRAD=198.79.85.40"
```

```
"lan-2:PROXYARP=enabled"
```

```
;
```

The following example shows TCP/IP enabled on the rear IAO LAN port:

```
RTRV-ULS:LT-TID123:all:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-22 16:12:12
```

```
M 123456 COMPLD
```

```
"lan-1:TCPIP=disabled"
```

```
"lan-1:IPADDR="
```

```
"lan-1:IPSNMK="
```

```
"lan-1:IPDRAD="
```

```
"lan-2:TCPIP=enabled"
```

```
"lan-2:IPADDR=198.79.50.50"
```

```
"lan-2:IPSNMK=255.255.0.0"
```

```
"lan-2:IPDRAD=198.79.85.40"
```

```
"dcc-all:TCPIP=disabled"
```

```
"dcc-all:IPADDR="
```

```
"dcc-all:IPSNMK="
```

```
;
```

The following example shows TCP/IP enabled on both front and rear IAO LAN ports:

```
RTRV-ULS:LT-TID123:all:123456;  
  
IP 123456  
<  
  
    LT-TID123 00-10-22 16:12:12  
M 123456 COMPLD  
    "lan-1:TCPIP=enabled"  
    "lan-1:IPADDR=198.78.46.8"  
    "lan-1:IPSNMK=255.255.255.128"  
    "lan-1:IPDRAD="  
    "lan-2:TCPIP=enabled"  
    "lan-2:IPADDR=198.79.50.50"  
    "lan-2:IPSNMK=255.255.0.0"  
    "lan-2:IPDRAD=198.79.85.40"  
    "dcc-all:TCPIP=disabled"  
    "dcc-all:IPADDR="  
    "dcc-all:IPSNMK="  
    ;
```

The following example shows TCP/IP enabled on the DCC-ALL, but not on either of the IAO LAN port:

```
RTRV-ULS:LT-TID123:all:123456;  
  
IP 123456  
<  
  
    LT-TID123 00-10-22 16:12:12  
M 123456 COMPLD  
    "lan-1:TCPIP=disabled"  
    "lan-1:IPADDR="  
    "lan-1:IPSNMK="  
    "lan-1:IPDRAD="  
    "lan-2:TCPIP=disabled"  
    "lan-2:IPADDR="  
    "lan-2:IPSNMK="  
    "lan-2:IPDRAD="  
    "dcc-all:TCPIP=enabled"  
    "dcc-all:IPADDR=198.78.56.9"  
    "dcc-all:IPSNMK=255.255.255.255"  
    ;
```

The following example shows TCP/IP enabled on the rear IAO LAN port (without an IP default router):

```
RTRV-ULS:LT-TID123:all:123456;

IP 123456
<

LT-TID123 00-10-22 16:12:12
M 123456 COMPLD
"lan-1:TCPIP=disabled"
"lan-1:IPADDR="
"lan-1:IPSNMK="
"lan-1:IPDRAD="
"lan-2:TCPIP=enabled"
"lan-2:IPADDR=198.78.56.241"
"lan-2:IPSNMK=255.255.255.240"
"lan-2:IPDRAD="
"dcc-all:TCPIP=disabled"
"dcc-all:IPADDR="
"dcc-all:IPSNMK="
;
```

The following example shows an output of the front LAN, the rear LAN, DCC-ALL and DCC ports for ***aid ALL***:

```
RTRV-ULS:LT-TID123:all:123456;

IP 123456
<

LT-TID123 00-10-22 16:12:12
M 123456 COMPLD
"lan-1:TCPIP=disabled"
"lan-1:IPADDR=198.78.46.8"
"lan-1:IPSNMK=255.255.255.128"
"lan-1:IPDRAD="
"lan-1:PROXYARP=disabled"
"lan-2:TCPIP=enabled"
"lan-2:IPADDR=198.79.50.50"
"lan-2:IPSNMK=255.255.0.0"
"lan-2:IPDRAD=198.79.85.40"
"lan-2:PROXYARP=enabled"
"dcc-all:TCPIP=disabled"
"dcc-all:IPADDR="
"dcc-all:IPSNMK="
"dcc-m1-1:TCPIP=enabled"
"dcc-m2-1:TCPIP=disabled"
;
```

The following example shows an output of 1+1 protection group for DCC port *aid* **dcc-m-1** where TCP/IP is enabled:

```
RTRV-ULS:LT-TID123:dcc-m-1:123456;  
  
IP 123456  
<  
  
    LT-TID123 00-10-22 16:12:12  
M 123456 COMPLD  
  "dcc-m-1:TCPIP=enabled"  
;
```

The following example shows an output for DCC port *aid* **dcc-d1-1** where TCP/IP is disabled:

```
RTRV-ULS:LT-TID123:dcc-d1-1:123456;  
  
IP 123456  
<  
  
    LT-TID123 00-10-22 16:12:12  
M 123456 COMPLD  
  "dcc-d1-1:TCPIP=disabled"  
;
```

The following example shows an output for DCC port *aid* **dcc-m-all** where TCP/IP is enabled for **dcc-m1-1** and disabled for **dcc-m2-1**:

```
RTRV-ULS:LT-TID123:dcc-m-all:123456;
```

```
IP 123456
```

```
<
```

```
LT-TID123 00-10-22 16:12:12
```

```
M 123456 COMPLD
```

```
"dcc-m1-1:TCPIP=enabled"
```

```
"dcc-m2-1:TCPIP=disabled"
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

RELATED TL1 MESSAGES

ENT-IP-ROUTE

ENT-IP-TUNNEL

ENT-IPMAP

ENT-SYS

ENT-ULS

RTRV-IPMAP

RTRV-SYS

NAME

RTRV-ULSDCC-L3: Retrieve Upper Layer Section DCC Layer 3

The **RTRV-ULSDCC-L3** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-ULSDCC-L3:*tid:[aid]:ctag*;

DESCRIPTION

RTRV-ULSDCC commands retrieve provisionable parameters of Layers 3 through 7 of the Open Systems Interconnection (OSI) 7-layer protocol stack. This stack refers to the OSI Reference Model, which is a logical structure for network operations. This model defines a standard communication protocol between network elements (NEs) as specified by the International Standards Organization (ISO).

RTRV-ULSDCC-L3 is used to retrieve the parameters in Layer 3 of the OSI stack, many of which are provisioned by the **ENT-ULSDCC-L3** command. Layer 3 parameters include the fields of the Network Services Access Point (NSAP) address and the enable/disable Level-2 Intermediate System (IS) capability.

The NSAP is a 20-byte address that provides unique identification for each network element (NE) in a SONET subnetwork.

Starting in release 4.0, **RTRV-ULSDCC-L3** can also be used to retrieve the NSAP count threshold level and number of NSAPs (synonymous to number of OSI nodes) in the NE's level 1 area. For the NE's level 1 routing area, when the NSAP count equals or exceeds the threshold, a minor alarm "NSAP count in L1 threshold crossed" is issued.

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-526. RTRV-ULSDCC - L3 Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The <i>aid</i> value may be ALL or null. Specifying the <i>aid</i> is optional.
<i>ctag</i>	Correlation Tag. Refer to RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the system fully complies with the request, the following normal completion response is returned:

```
tid date time
M ctag COMPLD
":L3IDP=x"
":L3DFI=x"
":L3ORG=x"
":L3RES=x"
":L3RD=x"
":L3AREA=x"
":L3SYS=x"
":L3SEL=x"
":L3LV2IS=x"
;
```

Starting in release 4.0, if the system fully complies with the request, the following normal completion response is returned:

```

tid date time
M ctag COMPLD
":L3IDP=x"
":L3DFI=x"
":L3ORG=x"
":L3RES=x"
":L3RD=x"
":L3AREA=x"
":L3SYS=x"
":L3SEL=x"
":L3LV2IS=x"
":NSAPTHLEV=x"
":NSAPCOUNT=x"
;

```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response apply to this command. Additional parameters also apply.

The following eight parameters, ***l3idp***, ***l3dfi***, ***l3org***, ***l3res***, ***l3rd***, ***l3area***, ***l3sys***, and ***l3sel***, identify specific fields of the NSAP address for the target NE specified by the ***tid*** parameter.

The NSAP address is a 20-byte address required by OSI to provide unique identification within the OSI network, and consists of a number of fields, some of which are pre-defined and some of which are user-settable. The structure of the NSAP is shown in the display in the **ENT - ULSDCC - L3** command description.

Additional parameters that specifically apply to this command response are defined in the following table:

Table 2-527. RTRV - ULSDCC - L3 Output Parameters

Parameter Name	Description
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-528. RTRV - ULSDCC - L3 Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>/3idp</i>	The "Initial Domain Part" (IDP) of the NSAP address consists of the first 3 bytes (6-digit hexadecimal) of the address. The three subfields of the IDP are allocated and assigned according to ISO 8348, Addendum 2. For SONET systems, the value of the AFI/IDI/IDI PAD subfields are set to 39/840/F (hexadecimal) respectively, to indicate that U.S. ANSI is the registration authority responsible for the allocation and assignment of NSAP addresses. Data in this field is encoded as a binary coded decimal (BCD), and displayed in hexadecimal.
<i>/3dfi</i>	The "DSP (Domain Specific Part) Format Identifier" (DFI) consists of the next byte (2-digit hexadecimal) of the NSAP address. The purpose of this byte is to specify the format for the rest of the address. For SONET systems, the value of DFI is set to "80 hex" to specify that a format in alignment with GOSIP Version 2 is to be used.
<i>/3org</i>	The "Organization ID" consists of the next three bytes (6-digit hex) of the NSAP address. This field is user settable, as each Network Service Provider may provision this field according to the Company Code assigned to them by the ANSI-administered USA Registration Authority for OSI Organization Names.
<i>/3res</i>	The next two bytes (4-digit hex) of the NSAP address are currently "reserved", and have a default value of "0000" hex. In the future, since a use for these bytes may be defined by ANSI, they are user settable.
<i>/3rd</i>	The "Routing Domain" parameter consists of the next two bytes (4-digit hex) of the NSAP address. This field is user settable. However, until the standard use of this field has been defined, this parameter should not be provisioned to a value other than its default value.
<i>/3area</i>	The "Area" parameter consists of next two bytes (4-digit hex) of the NSAP address, and is used to identify the area to which the NSAP address belongs. This field is user settable.
<i>/3sys</i>	The "System Identifier" consists of the next six bytes (12-digit hex) of the NSAP address. The purpose of this field is to guarantee that the NSAP address is globally unique. In order to insure this for U.S. manufactured systems (non-U.S. manufactured systems would have a different IDP value), IEEE administers the allocation of addresses within this field to equipment providers.

Table 2-528. RTRV - ULSDCC - L3 Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>/3sel</i>	The "NSAP Selector" consists of the last byte (2-digit hex) of the NSAP address. Its purpose is to differentiate multiple NSAP addresses associated with the same End System. Its value is not fixed, but it is set in a PDU according to its usage. It is set to "AF" hex when TARP is run over the Connectionless Network Protocol (CLNP). It has a value of "1D" hex when TP4 is run over CLNP. It may be set to "00 hex" for other uses. When retrieved and displayed, it is always shown as "00 hex".
<i>/3lv2is</i>	This parameter indicates if the target NE is enabled as a Level 2 IS. <i>/3lv2is</i> has the value ENABLE or DISABLE.
<i>nsapthlev</i>	This parameter indicates the NSAP count threshold level for monitoring number of NSAPs (synonymous to number of OSI nodes) for the level 1 area in which the network element specified by the <i>tid</i> parameter is located. A threshold value of zero (0) indicates that NSAP threshold alarming is disabled.
<i>nsapcount</i>	This parameter indicates the number of NSAPs (synonymous to number of OSI nodes) for the level 1 area in which the network element specified by the <i>tid</i> parameter is located. When the number of OSI nodes in the NE's level 1 area is more than the maximum supported number (50), the value of this parameter is shown as "50+", which indicates a state of NSAP count overflowed. Starting in Release 6.0, the maximum number of OSI nodes allowed in the level 1 area is 250. The value of this parameter is shown as "250+" when the number of OSI nodes in the NE's level 1 area is more than the maximum supported number.

EXAMPLE INPUT/OUTPUT

The following example shows the **RTRV - ULSDCC - L3** results:

RTRV-ULSDCC-L3:LT-TID123::123456;

IP 123456
<

LT-TID123 00-03-22 16:12:12
M 123456 COMPLD
":L3IDP=39840F"
":L3DFI=80"
":L3ORG=000000"
":L3RES=0000"
":L3RD=0000"
":L3AREA=0000"
":L3SYS=08006A112345"
":L3SEL=00"
":L3LV2IS=enable"

Starting in release 4.0, the following example shows the **RTRV-ULSDCC-L3** results:

RTRV-ULSDCC-L3:LT-TID123::123456;

IP 123456
<

LT-TID123 00-03-22 16:12:12
M 123456 COMPLD
":L3IDP=39840F"
":L3DFI=80"
":L3ORG=000000"
":L3RES=0000"
":L3RD=0000"
":L3AREA=0000"
":L3SYS=08006A112345"
":L3SEL=00"
":L3LV2IS=enable"
":NSAPTHLEV=0"
":NSAPCOUNT=40"
;

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the ***aid*** value is invalid:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier */
;
```

RELATED TL1 MESSAGES

ENT-ULSDCC-L3

NAME

RTRV-ULSDCC-L4: Retrieve Upper Layer Section DCC Layer 4

The **RTRV-ULSDCC-L4** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-ULSDCC-L4:*tid*[:*aid*]:*ctag*[::tdc];

DESCRIPTION

RTRV-ULSDCC-L4 is used to retrieve the parameters in Layer 4 of the OSI stack, many of which are provisioned by the **ENT-ULSDCC-L4** command. Layer 4 parameters include the TARP PDU lifetime parameter, TARP timers, TARP Loop Detection Buffer and TARP Data Cache provisioned parameters. The TARP Manual Adjacencies and TARP Data Cache entries may be retrieved also.

Execution of this command will not be recorded in the Security log.

This command does not generate a **REPT-DBCHG** message.

INPUT PARAMETERS

Table 2-529. RTRV-ULSDCC-L4 Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This identifies the associated facility. The <i>aid</i> value may be ALL or null. Specifying the <i>aid</i> is optional.
<i>ctag</i>	Correlation Tag. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-529. RTRV - ULSDCC - L4 Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>tdc</i>	TARP Data Cache. Specifying this optional parameter retrieves the TID (<i>l4tdctid</i>), NSAP address (<i>l4tdcnsap</i>), and protocol address type (<i>l4tdcpro</i>) for every entry in the TARP Data Cache for the target NE (specified by the <i>tid</i> parameter). <i>tdc</i> can only have the value TDC . If <i>tdc</i> is not specified, the TARP Data Cache entries are not retrieved.

OUTPUT FORMAT

If the NE fully complies with the request, and if the retrieval of the TARP Data Cache is not enabled, the following normal completion response is returned:

```

sid date time
M ctag COMPLD
":L4TLIF=x"
":L4T1TM=x"
":L4T2TM=x"
":L4T3TM=x"
":L4T4TM=x"
":L4LFTM=x"
":L4LETM=x"
":L4ETDC=x"
":L4AJNSAP=y1"
":L4AJNSAP=y2"
;
```

If the NE fully complies with the request, and if the TARP Data Cache entries are requested and if there are *n* entries in the TARP Data Cache and the TARP Data

Cache is enabled on the target NE (specified by the *tid* parameter), the following normal completion response is returned:

```
sid date time
M ctag COMPLD
":L4TLIF=x"
":L4T1TM=x"
":L4T2TM=x"
":L4T3TM=x"
":L4T4TM=x"
":L4LFTM=x"
":L4LETM=x"
":L4ETDC=x"
":L4AJNSAP=y1"
":L4AJNSAP=y2"
":L4TDCTID=x1, L4TDCNSAP=y1, L4TDCPR0=z1"
":L4TDCTID=x2, L4TDCNSAP=y2, L4TDCPR0=z2"
":L4TDCTID=x3, L4TDCNSAP=y3, L4TDCPR0=z3"
.
.
.
":L4TDCTID=xn, L4TDCNSAP=yn, L4TDCPR0=zn"
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command also. Additional parameters that specifically apply to this command response are defined below.

Enabling the retrieval of the TARP Manual Adjacency list and/or the TARP Data Cache will display the NSAP address of other NEs that are contained in these data arrays on the target NE. Because these data arrays may have many entries, each entry, including all of the fields of the NSAP address are displayed on a single line.

Table 2-530. RTRV-ULSDCC - L4 Output Parameters

Parameter Name	Description
<i>spec_block</i>	Specific Parameter Block. The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-531. RTRV-ULSDCC-L4 Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>l4tlif</i>	TARP Lifetime. This parameter indicates the TARP lifetime parameter that is set in TARP PDUs originated by the target NE (that is, the NE identified by the <i>tid</i> parameter). The TARP lifetime specifies the maximum number of hops allowed for a TARP PDU. When this value is exceeded, the TARP PDU will not be forwarded. <i>l4tlif</i> may have a value in the range from 1 to 65535. <i>l4tlif</i> has an original value of 100.
<i>l4t1tm</i>	TARP Timer T1. T1 is the maximum time waiting for a response to a TARP Type 1 request PDU (search within area). <i>l4t1tm</i> may have a value in the range from 1 to 3600 seconds. <i>l4t1tm</i> has an original value of 15 seconds.
<i>l4t2tm</i>	TARP Timer T2. T2 is the maximum time waiting for a response to a TARP Type 2 request PDU (search outside of the area). <i>l4t2tm</i> may have a value in the range from 1 to 3600 seconds. <i>l4t2tm</i> has an original value of 25 seconds.
<i>l4t3tm</i>	TARP Timer T3. T3 is the maximum time waiting for a response to an Address Resolution request (Type 5, that is, requesting the TID when the NSAP address is known). <i>l4t3tm</i> may have a value in the range from 1 to 3600 seconds. <i>l4t3tm</i> has an original value of 40 seconds.
<i>l4t4tm</i>	TARP Timer T4. Timer T4 starts when T2 expires. It is used for error recovery. <i>l4t4tm</i> may have a value in the range from 1 to 3600 seconds. <i>l4t4tm</i> has an original value of 20 seconds.
<i>l4lftm</i>	TARP Loop Detection Buffer — Flush Timer. This parameter sets the time period for flushing the TARP Loop Detection Buffer. <i>l4lftm</i> may have a value in the range from 1 to 1440 minutes. <i>l4lftm</i> has an original value of 5 minutes.
<i>l4letm</i>	TARP Loop Detection Buffer — LDB Entry Timer. This is the LDB time period for discarding TARP PDUs with a sequence number equal to zero.
<i>l4etdc</i>	This parameter specifies if the TARP Data Cache is enabled or disabled. <i>l4etdc</i> may take the value ENABLE or DISABLE. <i>l4etdc</i> has a default value of ENABLE.

Table 2-531. RTRV - ULSDCC - L4 Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>l4ajnsap</i>	This parameter specifies the NSAP address of a TARP Manual Adjacency. The NSAP address is a 20-byte (40 hex characters) address required by OSI to provide unique identification within the OSI network and consists of a number of fields, some of which are pre-defined and some of which are user-settable. The structure of the NSAP is shown in Display 1 in the ENT - ULSDCC - L3 command description. The display format for <i>l4ajnsap</i> is: <i>iiiiii ff oooooo rrrr dddd aaaa ssssssssssss ll</i> where <i>iiiiii</i> is the 6-digit hexadecimal IDP field, where <i>ff</i> is the 2-digit hexadecimal DFI field, where <i>oooooo</i> is the 6-digit hexadecimal <i>l4ajorg</i> field, where <i>rrrr</i> is the 4-digit hexadecimal <i>l4ajbres</i> field, where <i>dddd</i> is the 4-digit hexadecimal <i>l4ajrd</i> field, where <i>aaaa</i> is the 4-digit hexadecimal <i>l4ajarea</i> field, where <i>ssssss</i> is the 12-digit hexadecimal <i>l4ajsys</i> field, where <i>ll</i> is the 2-digit hexadecimal SEL field.
This following three parameters, <i>l4tdctid</i>, <i>l4tdcnsap</i> and <i>l4tdcpro</i>, comprise a complete single entry in the TARP Data Cache. These three parameters are output as a set for each entry in the TARP Data Cache if the retrieval of these entries is requested with the <i>tdc</i> parameter.	
<i>l4tdctid</i>	This parameter specifies the Target Identifier (TID) portion of an entry in the TARP Data Cache.
<i>l4tdcnsap</i>	This parameter specifies the NSAP address portion of an entry in the TARP Data Cache. The display format for <i>l4tdcnsap</i> is: <i>iiiiii ff oooooo rrrr dddd aaaa ssssssssssss ll</i> where <i>iiiiii</i> is the 6-digit hexadecimal IDP field, where <i>ff</i> is the 2-digit hexadecimal DFI field, where <i>oooooo</i> is the 6-digit hexadecimal <i>l4tdcorg</i> field, where <i>rrrr</i> is the 4-digit hexadecimal <i>l4tdcres</i> field, where <i>dddd</i> is the 4-digit hexadecimal <i>l4tdcrd</i> field, where <i>aaaa</i> is the 4-digit hexadecimal <i>l4tdcarea</i> field, where <i>ssssss</i> is the 12-digit hexadecimal <i>l4tdcsys</i> field, where <i>ll</i> is the 2-digit hexadecimal SEL field.
<i>l4tdcpro</i>	This parameter specifies the protocol address type portion of an entry in the TARP Data Cache.

EXAMPLE INPUT/OUTPUT

This example shows the **RTRV-ULSDCC-L4** results with no optional retrieval

```
RTRV-ULSDCC-L4:LT-TID123::123456;  
  
IP 123456  
<  
  LT-TID123 00-03-22 16:12:12  
M 123456 COMPLD  
  ":L4TLIF=100"  
  ":L4T1TM=15"  
  ":L4T2TM=25"  
  ":L4T3TM=40"  
  ":L4T4TM=20"  
  ":L4LFTM=5"  
  ":L4LETM=5"  
  ":L4ETDC=enable"  
  ":L4AJNSAP=39840F 80 000000 0000 0000 0000 08006A112123 00"  
  ":L4AJNSAP=39840F 80 000000 0000 0000 0000 08006A 112739 00"  
;
```

parameters specified:

This example shows the **RTRV-ULSDCC-L4** with the retrieval of the TARP Data Cache entries specified:

```
RTRV-ULSDCC-L4:LT-TID123::123456::tdc;  
  
IP 123456  
<  
  LT-TID123 00-03-22 16:12:12  
M 123456 COMPLD  
  ":L4TLIF=100"  
  ":L4T1TM=15"  
  ":L4T2TM=25"  
  ":L4T3TM=40"  
  ":L4T4TM=20"  
  ":L4LFTM=5"  
  ":L4LETM=5"  
  ":L4ETDC=enable"  
  ":L4AJNSAP=39840F 80 000000 0000 0000 0000 08006A112123 00"  
  ":L4AJNSAP=39840F 80 000000 0000 0000 0000 08006A112739 00"  
  ":L4TDCTID=LT-PF2001,L4TDCNSAP=39840F 80 000000 0000 0000 0000  
    08006A112123 00,L4TDCPRO=FE"  
  ":L4TDCTID=LT-PF2003,L4TDCNSAP=39840F 80 000000 0000 0000 0000  
    08006A112739 00,L4TDCPRO=FE"  
  ":L4TDCTID=LT-PF2002,L4TDCNSAP=39840F 80 000000 0000 0000 0000  
    08006A117453 00,L4TDCPRO=FE"  
  ":L4TDCTID=LT-PF2007,L4TDCNSAP=39840F 80 000000 0000 0000 0000  
    08006A112398 00,L4TDCPRO=FE"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

The NE returns the following error response if the ***aid*** value is invalid:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access Identifier */
;
```

The NE returns the following error response if the ***tdc*** value is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TDC */
;
```

RELATED TL1 MESSAGES

DLT-ULSDCC-L4

ENT-ULSDCC-L4

NAME

RTRV-USER-SECU: Retrieve User Security

The **RTRV-USER-SECU** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

Starting in Release 4.0, this command is available to users with Privileged and Administration access.

INPUT FORMAT

RTRV-USER-SECU:*tid*:*[uid]*:*ctag*;

DESCRIPTION

RTRV-USER-SECU command is used by an appropriate administrator to retrieve the security parameters associated with a user, except for the user's password, which cannot be retrieved.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **RTRV-USER-SECU** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-532. RTRV-USER-SECU Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-532. RTRV-USER-SECU Input Parameters (cont 2 of 2)

Parameter Name	Description
uid	This is the User Identifier of a user. Its valid values are a case-sensitive alphanumeric string of 5 to 10 characters. Only a single uid , NULL , or ALL value is supported in the command.
ctag	Correlation Tag. Refer to RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE has logins to report, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
  "uid:,uap:spec_block"
;
```

If the NE receives an **RTRV-USER-SECU** with a **NULL** value for **uid**, it returns all the user accounts with privileged users first, followed by general users, followed by maintenance, then reports-only users.

Starting in Release 4.0, if the NE receives an **RTRV-USER-SECU** with a **NULL** value for **uid**, it returns all the user accounts with privileged users first, followed by administration users, general users, maintenance users and reports-only users, in that order.

If the NE receives a **RTRV-USER-SECU** command with a value of **ALL** or **NULL** for **uid**, the first three user accounts that are returned are the accounts for the three default login IDs.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Additional parameters that specifically apply to this command response are defined below:

Table 2-533. RTRV-USER-SECU Output Parameters

Parameter Name	Description
<i>uap</i>	User Access Privilege. It takes one of the following values: PRIVILEGED, GENERAL, MAINTENANCE, or REPORTS-ONLY. See the ENT-USER-SECU command for more information regarding the <i>uap</i> values. Starting in Release 4.0, <i>uap</i> may also have the value ADMINISTRATION.
<i>spec_block</i>	The <i>spec_block</i> parameters are listed and described in the following table.

Table 2-534. RTRV-USER-SECU Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>page</i>	Password Aging Interval. This parameter specifies the period in days after which the user has to change the password of his or her account. Password Aging applies to all user IDs (<i>uid</i>), including the three default user IDs. It can have a value between 7 and 999 or a 0. A value of 0 disables the password aging. The default value is 60 days. Starting in release 3.1, the default value is 60 days for all users except for the three default users. The default value is 0 days for the three default users.
<i>tmout</i>	Inactivity Time-out Period. This parameter is available starting in Release 3.1. If there are no messages between the user and the NE over the Time-out Period, the session is logged off. A value of 0 disables the time-out function. The initial value is 30 minutes. Values: 0-999 minutes. The serial port time-out (ENT-CID-SECU:tmout) and the fixed 60 minute TCP/IP LAN port time-out are obsolete.
<i>alw_login</i>	Allow Login. This parameter is available starting in Release 4.0. This parameter allows an administrator to enable or disable a User ID. When a User ID is manually disabled, any active sessions for that login will be terminated. Values: ENABLED User ID is enabled DISABLED User ID is disabled

Table 2-534. RTRV-USER-SECU Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>lockout_status</i>	Lockout Status. This parameter, which is available starting in Release 4.0, has a single value of LOCKEDOUT. This value is returned during the interval when a user ID is temporarily locked out as a result of too many failed login attempts. After the lockout interval expires and the User ID is no longer locked out, this parameter is not reported. The failed login attempts lockout threshold and the lockout interval are provisioned by ED-NE-SECU:thrshld and ED-NE-SECU:intrvl respectively. A locked out User ID is blocked from establishing any new login sessions during the lockout interval. Previously existing login sessions are not affected. The <i>lockout_status</i> of a User ID is changed by the expiration of the lockout interval or by a Systems Administrator executing ED-USER-SECU:lockout_status=ENABLE_LOGIN for the <i>uid</i>.

EXAMPLE INPUT/OUTPUT

RTRV-USER-SECU:LT-TID123:kjlee:123456;

```
IP 123456
<
  LT-TID123 00-10-26 16:42:11
  M 123456 COMPLD
  "kjlee;,general:PAGE=30"
;
```

Starting in Release 3.1, the following is an example of the input and output:

RTRV-USER-SECU:LT-TID123:kjlee:123456;

```
IP 123456
<
  LT-TID123 00-10-26 16:42:11
  M 123456 COMPLD
  "kjlee;,general:PAGE=30,TMOU=30"
;
```

Starting in Release 4.0, the following is an example of the input and output:

```
RTRV-USER-SECU:LT-TID123:kjlee:123456;  
  
IP 123456  
<  
  LT-TID123 00-10-26 16:42:11  
  M 123456 COMPLD  
  "kjlee:,general:PAGE=30,TMOUT=30,ALW_LOGIN=ENABLED"  
;
```

Starting in Release 4.0, the following is an example of the input and output for a User Id that is temporarily locked out as a result of too many failed login attempts:

```
RTRV-USER-SECU:LT-TID123:kjlee:123456;  
  
IP 123456  
<  
  LT-TID123 00-10-26 16:42:11  
  M 123456 COMPLD  
  "kjlee:,general:PAGE=30,TMOUT=30,ALW_LOGIN=ENABLED,LOCKOUT_STATUS=LOCKEDOUT"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may apply to this command also.

If the NE receives a **RTRV-USER-SECU** command with an invalid **uid**, the following error response is returned:

```
sid date time  
M ctag DENY  
PIUI  
/* Privilege, Illegal User Identity, invalid UID */  
;
```

If the NE receives a **RTRV-USER-SECU** command with a nonexistent but valid **uid**, the following error response is returned:

```
sid date time  
M ctag DENY  
PIUI  
/* Privilege, Illegal User Identity, invalid UID */  
;
```

RELATED TL1 MESSAGES

ACT-USER

DLT-USER-SECU

ED-USER-SECU

ENT-USER-SECU

ED-NE-SECU

RTRV-NE-SECU

NAME

RTRV-VCG: Retrieve Virtual Concatenation Group (VCG)

The **RTRV-VCG** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-VCG:*tid:[aid]:ctag*;

DESCRIPTION

The **RTRV-VCG** command retrieves the attributes of a virtual concatenation group (VCG).

Execution of this command will not be recorded in the Security log.

This command is not supported on the LNW73 circuit pack; please use **RTRV-VCG-DATA**.

This command is not supported on the LNW73C circuit pack; please use **ED-VCG-DATA**.

This command only applies to ports with *signaltype* of 1GE for the LNW705 circuit pack. For attributes related to data VCGs associated with the signaltypes of FC100, FC200, FC400, FICON, FICON_EXP; please use **RTRV-VCG-DATA**.

This command is not supported for RPR VCGs on the LNW78 circuit pack; please use **RTRV-VCG-RPR**.

Starting in Release 7.0, this command is supported for EoS VCGs on the LNW78 circuit pack.

INPUT PARAMETERS

Table 2-535. RTRV-VCG Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of a VCG (VCG AID). Refer to the AID Table in Appendix A for valid AIDs. This parameter is optional. Default value is "ALL" For an RPR pack the only valid specific AIDs are EoS VCGs. (For RPR VCGs see RTRV-VCG-RPR .)
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the Network Element (NE) fully complies with the **RTRV-VCG** request, the following normal completion responses are returned.

The response for the 802.1TAG Mode Output format is:

```
sid date time
M ctag COMPLD
"aid::spec_block"
<1 or more of the line above>
"aid:cvlan,VLAN"
<1 or more of the line above, for another cvlan>
<1 or more of this entire block for another aid>
;
```

Beginning with Release 3.1 and the introduction of the LNW71, the previous example Output Formats are not valid for the LNW71, Fast Ethernet (FE) circuit pack because 802.1TAG Mode does not pertain to the LNW71.

Beginning with Release 5.0 and the introduction of the LNW74, the previous example Output Formats are not valid for the LNW74, Fast Ethernet (FE) circuit pack because 802.1TAG Mode does not pertain to the LNW74.

The normal completion response for the Transparency/Port Tag Mode Output format is:

```
sid date time
M ctag COMPLD
  "aid::spec_block"
  <1 or more of the line above>
  "aid:cporttag,Port Tag"
  <1 or more of the line above, for another cporttag>
  <1 or more of this entire block for another aid>
;
```

Beginning in Release 3.1 with the introduction of the LNW71, the previous output formats are not valid for the LNW71, Fast Ethernet (FE) circuit pack because Transparency/Port Tag mode does not pertain to the LNW71.

Beginning in Release 5.0 with the introduction of the LNW74, the previous output formats are not valid for the LNW74, Fast Ethernet (FE) circuit pack because Transparency/Port Tag mode does not pertain to the LNW74.

The output format for the NOTAG mode (**RTRV-EQPT:vlantagmd** =NOTAG) is:

```
sid date time
M ctag COMPLD
  "aid::spec_block"
  <1 or more of the line above>
  <1 or more of this entire block for another aid>
;
```

Beginning in Release 2.1, output format for the NOTAG mode (**RTRV-EQPT:vlantagmd** =NOTAG) is:

```
sid date time
M ctag COMPLD
  "aid::spec_block"
  <1 or more of the line above>
  "aid:,NOTAG"
  <1 or more of this entire block for another aid>
;
```

Beginning in Release 3.1 with the introduction of the LNW71 the previous output format is the **only** valid format for the LNW71, Fast Ethernet circuit pack.

Beginning in Release 5.0 with the introduction of the LNW74 the previous output format is the **only** valid format for the LNW74, Fast Ethernet circuit pack.

Beginning in Release 6.0 with the introduction of the LNW63 the previous output format is the **only** valid format for the LNW63.

Beginning in Release 7.0 with the introduction of the LNW64 the previous output format is the **only** valid format for the LNW64.

Beginning in Release 9.0 with the introduction of the LNW87 the previous output format is the **only** valid format for the LNW87.

Beginning in Release 7.1 with the introduction of the LNW705, the previous output format is the **only** valid format for the LNW705.

Starting in Release 5.1, if the NE fully complies with the **RTRV - VCG** request and if the **aid** points to one of the following circuit packs:

- LNW70

and if *vlangmd* is set to the SWITCHED mode, then the following normal completion response is returned:

```
sid date time
M ctag COMPLD
"aid::spec_block"
<one or more of the line above>
### if the port is part of a virtual switch with tagmd TRANS
"aid:cporttag,Port Tag"
<one or more of the line above, for another cporttag>
### if the port is part of a virtual switch with tagmd 802.1Q
"aid:vvlan,VLAN"
<one or more of the line above, for another vvlan>
<one or more of this entire block, for another aid>
;
```

Starting in Release 7.0, the previous output format also applies to the LNW78, for EoS VCGs only.

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-536. RTRV-VCG Output Parameters

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of a VCG (VCG AID). Refer to the AID Table in Appendix A for valid AIDs. For an RPR pack the only valid AIDs are EoS VCGs. For RPR VCGs see RTRV-VCG-RPR .
<i>cvlan</i>	Composite VLAN value list. VLAN identifiers are displayed, one per line. Note: This parameter is valid only when the board is in 802.1 VLAN tag mode. This parameter is also valid when <i>vlangmd</i> is set to SWITCHED (see RTRV-VCG) and the port belongs to a virtual switch with <i>tagmd</i> set to 802.1TAG (see RTRV-VRTSW). Value: An integer in the range 1 to 511. Beginning with Release 2.0, this parameter value is an integer in the range 1 to 4093.
<i>cporttag</i>	Composite Port Tag value list. Value: An integer in the range 1 to 4093. Port tag identifiers are displayed, one per line. Note: This parameter is valid only when the board is in Port Tag (i.e., transparent) mode. This parameter is also valid when <i>vlangmd</i> is set to SWITCHED (see RTRV-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to TRANS (see RTRV-VRTSW). Note: <i>cporttag</i> does not pertain to private line packs
<i>spec_block</i>	Specific parameter Block: The <i>spec_block</i> parameters are defined in the following table.

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 1 of 17)

Parameter Name	Description
<i>vcgrate</i>	Rate used on the addressed VCG.

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 2 of 17)

Parameter Name	Description
	Values: STS1 Beginning in Release 3.1, the VCG rate for the LNW71 (FE-PL). Values: STS1 and STS3C Beginning in Release 5.0, the VCG rate for the LNW74 (FE-PL). Values: VT1.5, STS1, and STS3C Beginning in Release 5.1, the VCG Rate for the following packs: ■ LNW70 ■ LNW78 ■ LNW63 ■ LNW87 (Release 9.0) Values: STS1, STS3c, and STS12c ■ LNW705: Values STS1 Beginning in Release 7.0, the VCG rate for the LNW64: Values: STS1, STS3C and STS12C
<i>vrtswid</i>	Virtual switch ID. Values: an integer in the range 1 to 4095 For the LNW70 the virtual switch ID is an integer in the range 0 to 16. For the LNW78 the virtual switch ID is an integer in the range 0 to 8. 0 means that the port could be part of a virtual switch but is not. The <i>vrtswid</i> parameter is not shown if the port cannot be part of a virtual switch (for instance when in private line mode). Note: Parameter <i>vrtswid</i> does not pertain to LNW71. Note: Parameter <i>vrtswid</i> does not pertain to LNW74. Note: Parameter <i>vrtswid</i> does not pertain to LNW63. Note: Parameter <i>vrtswid</i> does not pertain to LNW64. Note: Parameter <i>vrtswid</i> does not pertain to LNW87. Note: Parameter <i>vrtswid</i> does not pertain to LNW705.

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 3 of 17)

Parameter Name	Description
<i>porttype</i>	Port Type indicates whether the port is at the boundary of the DiffServ domain or is a port interior to the DiffServ domain. It has the following values: ■ BOUNDARY ■ INTERIOR This parameter applies only if the port is part of a virtual switch when <i>vlangmd</i> is SWITCHED (see ED-EQPT). This parameter applies to the following packs: ■ LNW70 ■ LNW78, starting in Release 7.0. The only valid value is BOUNDARY.
<i>portrole</i>	Port Role controls how tags are add/removed/processed. In typical applications, “boundary” ports are “customer” ports and “interior” ports are “network” ports. Portrole has the following values: ■ CUSTOMER ■ NETWORK This parameter applies only if the port is part of a virtual switch when <i>vlangmd</i> is SWITCHED (see ED-EQPT). This parameter applies to the following packs: ■ LNW70 ■ LNW78 (the only value is CUSTOMER)
<i>stgrpid</i>	Spanning Tree Group ID. Values: An integer in the range 1 to 4095. This parameter is not valid if the Board Tag Mode (i.e., <i>vlangmd</i> in RTRV-EQPT) is set to "NOTAG". Note: Parameter <i>stgrpid</i> does not pertain to LNW71. Note: Parameter <i>stgrpid</i> does not pertain to LNW74. Note: Parameter <i>stgrpid</i> does not pertain to LNW78. Note: Parameter <i>stgrpid</i> does not pertain to LNW63.

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 4 of 17)

Parameter Name	Description
	Note: Parameter <i>stgrpid</i> does not pertain to LNW64. Note: Parameter <i>stgrpid</i> does not pertain to LNW87. Note: Parameter <i>stgrpid</i> does not pertain to LNW705.
<i>stpp</i>	Spanning Tree Port Priority. The port priority is the relative priority for the port on this bridge (lower value means higher priority). Values: 0 to 255. Note: This parameter is not valid if the board tag mode (i.e., <i>vtagmd</i> in RTRV-EQPT) is set to "NOTAG". Note: Parameter <i>stpp</i> does not pertain to LNW71. Note: Parameter <i>stpp</i> does not pertain to LNW74. Note: Parameter <i>stpp</i> does not pertain to LNW78. Note: Parameter <i>stpp</i> does not pertain to LNW63. Note: Parameter <i>stpp</i> does not pertain to LNW64. Note: Parameter <i>stpp</i> does not pertain to LNW87. Note: Parameter <i>stpp</i> does not pertain to LNW705.
<i>stpcost</i>	Spanning Tree Path Cost. The contribution of the path through this port to the total cost of the path to the root for this bridge. Values: An integer in the range 1 to 65,535. Note: This parameter is not valid if the board tag mode (i.e., <i>vtagmd</i> in RTRV-EQPT) is set to "NOTAG". Note: Parameter <i>stpcost</i> does not pertain to LNW71. Note: Parameter <i>stpcost</i> does not pertain to LNW74. Note: Parameter <i>stpcost</i> does not pertain to LNW78. Note: Parameter <i>stpcost</i> does not pertain to LNW63. Note: Parameter <i>stpcost</i> does not pertain to LNW64. Note: Parameter <i>stpcost</i> does not pertain to LNW87. Note: Parameter <i>stpcost</i> does not pertain to LNW705.

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 5 of 17)

Parameter Name	Description
<i>sthellotm</i>	Spanning Tree Hello Timer. The hello timer determines the time interval between the transmission of Configuration BPDUs. Values: 1 to 10 seconds. Note: This parameter is not valid if the board tag mode (i.e., <i>vlantagmd</i> in RTRV-EQPT) is set to "NOTAG". Note: Parameter <i>sthellotm</i> does not pertain to LNW71. Note: Parameter <i>sthellotm</i> does not pertain to LNW74. Note: Parameter <i>sthellotm</i> does not pertain to LNW78 Note: Parameter <i>sthellotm</i> does not pertain to LNW63. Note: Parameter <i>sthellotm</i> does not pertain to LNW64.
	Note: Parameter <i>sthellotm</i> does not pertain to LNW87.
<i>stvid</i>	Spanning Tree VLAN ID. Values: ■ An integer in the range 0 to 4095. The value 0 means no VLAN tag. This parameter applies to the following packs: ■ LNW70
<i>stpmd</i>	Spanning Tree Port Mode. This parameter will always appear on a VCG AID line. Values: 802.1D and 802.1W Note: This parameter is not valid if the board tag mode (i.e., <i>vlantagmd</i> in RTRV-EQPT) is set to "NOTAG". Note: Parameter <i>stpmd</i> does not pertain to LNW71. Note: Parameter <i>stpmd</i> does not pertain to LNW74. Note: Parameter <i>stpmd</i> does not pertain to LNW78 Note: Parameter <i>stpmd</i> does not pertain to LNW63. Note: Parameter <i>stpmd</i> does not pertain to LNW64. Note: Parameter <i>stpmd</i> does not pertain to LNW87. Note: Parameter <i>stpmd</i> does not pertain to LNW705.

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 6 of 17)

Parameter Name	Description
	If the circuit pack is not present, a "?" is reported.
<i>stprole</i>	Spanning Tree Port Role. This parameter will always appear on a VCG AID line. Values: ROOT, DESG and ALT Note: This parameter is not valid if the board tag mode (i.e., <i>viantagmd</i> in RTRV-EQPT) is set to "NOTAG". Note: Parameter <i>stprole</i> does not pertain to LNW71. Note: Parameter <i>stprole</i> does not pertain to LNW74. Note: Parameter <i>stprole</i> does not pertain to LNW78 Note: Parameter <i>stprole</i> does not pertain to LNW63. Note: Parameter <i>stprole</i> does not pertain to LNW64. Note: Parameter <i>stprole</i> does not pertain to LNW87. Note: Parameter <i>stprole</i> does not pertain to LNW705. If the circuit pack is not present, a "?" is reported.
<i>vss</i>	VCG Spanning tree Status. Values are as follows: FWG: Forwarding LLG: Learning/Listening BLK: Blocked - 802.1d mode only DISA: Disabled - Administration DISF: Disabled - Failure DCD: Discarding - 802.1w mode only Note: This parameter is not valid if the board tag mode (i.e., <i>viantagmd</i> in RTRV-EQPT) is set to "NOTAG". Note: Parameter <i>vss</i> does not pertain to LNW71. Note: Parameter <i>vss</i> does not pertain to LNW74. Note: Parameter <i>vss</i> does not pertain to LNW78 Note: Parameter <i>vss</i> does not pertain to LNW63.

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 7 of 17)

Parameter Name	Description
	Note: Parameter <i>vss</i> does not pertain to LNW64. Note: Parameter <i>vss</i> does not pertain to LNW87. Note: Parameter <i>vss</i> does not pertain to LNW705. If the circuit pack is not present, a "?" is reported.
<i>vcgsz</i>	VCG Size. Values: An integer representing the equivalent number of STS1s that make up the bandwidth. Note: Beginning in Release 3.1, <i>vcgsz</i> represents the number of <i>vcgrate</i>-size units provisioned for the VCG. When <i>lcasmd</i> is ENABLE then RTRV-VCGTRIB reports which tributaries are active.
<i>vmode</i>	VCG Monitoring Mode. Values are as follows: AUTO IS NMON
<i>vpm</i>	VCG Performance Monitoring enable. Values are as follows: ENABLE DISABLE
<i>almlvl</i>	Alarm Level. This parameter sets the alarm level for an incoming signal failure, and may have one of the following values: This parameter is removed beginning in Release 6.0. See RTRV-ASAP-ASGNMT. CR (Critical Alarm) MJ (Major Alarm) MN (Minor Alarm) NA (No Alarm)
<i>dftvlan</i>	Default Virtual LAN ID. This parameter is valid only when the board is in 802.1 VLAN Tag Mode.

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 8 of 17)

Parameter Name	Description
	This parameter is also valid when <i>vlantagmd</i> is set to SWITCHED (see ED-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to 802.1TAG (see RTRV-VRTSW). Values: An integer in the range 1 to 511. Beginning with Release 2.0, this parameter value is an integer in the range 1 to 4093. Note: Parameter <i>dftvlan</i> does not pertain to LNW71. Note: Parameter <i>dftvlan</i> does not pertain to LNW74. Note: Parameter <i>dftvlan</i> does not pertain to LNW63. Note: Parameter <i>dftvlan</i> does not pertain to LNW64. Note: Parameter <i>dftvlan</i> does not pertain to LNW87. Note: Parameter <i>dftvlan</i> does not pertain to LNW705.
<i>dftporttag</i>	Default Port Tag ID. Values: An integer in the range 1 to 4093. Note: This parameter is valid only when the board is in Port Tag (transparent) mode. This parameter is also valid when <i>vlantagmd</i> is set to SWITCHED (see ED-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to TRANS (see RTRV-VRTSW). Note: Parameter <i>dftporttag</i> does not pertain to LNW71. Note: Parameter <i>dftporttag</i> does not pertain to LNW74. Note: Parameter <i>dftporttag</i> does not pertain to LNW63. Note: Parameter <i>dftporttag</i> does not pertain to LNW64. Note: Parameter <i>dftporttag</i> does not pertain to LNW87. Note: Parameter <i>dftporttag</i> does not pertain to LNW705.
<i>psctl</i>	Pause Control. Provides flow control on the VCG (WAN). Values: TRANSPARENT Allow Customer Equipment controlled end-to-end flow-control to be transmitted on the WAN (used for SONET full rate private line). Flow control fcmd (ED-EPORT) must also be enabled on LAN port.

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 9 of 17)

Parameter Name	Description
	LOCAL Network-element controlled (local) flow-control, allow a VCG to flow control a LAN port (used for SONET sub-rate private line or any SONET rate switched service). Flow control <i>cmd</i> (ED-EPORT) must also be enabled on LAN port. NONE The <i>psctl</i> parameter applies to the LNW66, LNW67, and LNW68 circuit packs.
<i>tagfilter</i>	Tag Filter. This parameter is used to enable/disable VLAN/Port Tag filtering. Values: ENABLE - Enable Tag Filtering DISABLE - Disable Tag Filtering Note: Parameter <i>tagfilter</i> does not pertain to LNW71. Note: Parameter <i>tagfilter</i> does not pertain to LNW74. Note: Parameter <i>tagfilter</i> does not pertain to LNW63. Note: Parameter <i>tagfilter</i> does not pertain to LNW64. Note: Parameter <i>tagfilter</i> does not pertain to LNW87. Note: Parameter <i>tagfilter</i> does not pertain to LNW705.
<i>gfp_fcs</i>	GFP FCS (Frame Check Sequence). This parameter controls the handling of the GFP FCS field for the specified VCG. Values for <i>gfp_fcs</i> are: ENABLE DISABLE Note: The <i>gfp_fcs</i> parameter applies to the following circuit packs: ■ LNW70 ■ LNW74 ■ LNW78 ■ LNW63 ■ LNW64

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 10 of 17)

Parameter Name	Description
	■ LNW87 ■ LNW705 On the following circuit packs, the <i>gfp_fcs</i> parameter only controls the transmit of the GFP FCS. The GFP FCS on receipt will be handled depending on the presence or not of the GFP FCS field as indicated by the received PFI bit. If GFP FCS is present it will always be checked. ■ LNW74 ■ LNW63 ■ LNW705 On the following circuit packs, the <i>gfp_fcs</i> parameter controls both the transmit and receive of the GFP FCS. On receipt, the GFP FCS field will be checked for (and should be present) when <i>gfp_fcs</i> is ENABLED, and the GFP FCS will NOT be checked for (and should NOT be present) when <i>gfp_fcs</i> is DISABLED. ■ LNW70 ■ LNW78 ■ LNW64 ■ LNW87
<i>lcasmd</i>	LCAS Mode. This parameter controls whether LCAS (Link Capacity Adjustment Scheme) is enabled for the specified VCG. When enabled, the LCAS protocol allows for hitless changes to the provisioned size of the VCG. Values for LCAS Mode are: ENABLE DISABLE Note: The <i>lcasmd</i> parameter applies to the following circuit packs: ■ LNW70 ■ LNW74 ■ LNW78 ■ LNW63 ■ LNW64

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 11 of 17)

Parameter Name	Description
	■ LNW87
<i>htmr</i>	Hold-Off Timer. This parameter, only in effect if <i>lcasmd</i> = ENABLE, specifies the delay between when a tributary is detected faulty and when it is automatically removed from the VCG. It allows underlying protection, if any, to react first. It applies to all tributaries in the specified VCG. Values: 0 to 10,000 ms (10 sec), 100 millisecond steps, and 99,999 ms (representing infinity). Note: The <i>htmr</i> parameter pertains only to the following circuit packs: ■ LNW70 ■ LNW74 ■ LNW78 ■ LNW63 ■ LNW64 ■ LNW87
<i>wtr</i>	Wait-to-Restore. This parameter, only in effect if <i>lcasmd</i> = ENABLE, specifies the delay between when a tributary, previously removed from the VCG because of fault, is detected to be normal and when it is automatically returned to the VCG. It applies to all tributaries in the specified VCG. Values: 0 to 3600 seconds, 1 second steps Note: The <i>wtr</i> parameter pertains only to the following circuit packs: ■ LNW70 ■ LNW74 ■ LNW78 ■ LNW63 ■ LNW64 ■ LNW87

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 12 of 17)

Parameter Name	Description
<i>vcat</i>	Virtual Concatenation Mode. This parameter controls whether H4 is inserted/monitored for the specified VCG. It has effect only when a single trib, not VT, is cross-connected to the VCG, to allow interworking with non-VCAT equipment. Values for Virtual Concatenation Mode are: ENABLE DISABLE Note: The <i>vcat</i> parameter applies only to the following circuit packs: ■ LNW70 ■ LNW74 ■ LNW78 ■ LNW63 ■ LNW64 ■ LNW87
<i>tcamd</i>	TCA Monitoring Mode. This parameter specifies whether performance monitoring Threshold Crossing Alert reporting is enabled or disabled for the port, addressed by the <i>aid</i>. ENABLE - TCA reporting is enabled. DISABLE - TCA reporting is disabled <i>tcamd</i> does not apply to the following packs: ■ LNW78
<i>ethertype</i>	Ethernet Type field (TPID). Used to interwork with other vendors' equipment using stacked VLAN. This parameter is valid only when <i>vlanlagmd</i> is set to TRANS transparent mode (see ED-EQPT). Value: A string in the range "0601" to "FFFF". This parameter is also valid when <i>vlanlagmd</i> is set to SWITCHED mode (see ED-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to TRANS (see RTRV-VRTSW).
<i>mtu_size</i>	MTU size (in bytes). This parameter specifies the MTU (Maximum Transmission Unit) size supported on the port, addressed by the <i>aid</i>. This is the size of the payload in the Ethernet frame, excluding Source and Destination Address, Type and CRC field, and standard VLAN tag, but including any nested VLAN tags.

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 13 of 17)

Parameter Name	Description
	Starting in Release 6.0, this is the size of the payload in the Ethernet frame, excluding Source and Destination Address, Type and CRC field, but including all VLAN tags. Note: When upgrading from a previous release, the value is incremented by 4 to preserve the effect. No DBCHG message is generated. The <i>mtu_size</i> parameter only pertains to the following circuit packs. ■ LNW70 ■ LNW78 Value: An integer in the range 42 to 10218. Starting in Release 6.0: Value: An integer in the range 46 to 10222. The <i>mtu_size</i> cannot be retrieved for a Private Line VCG (i.e. RTRV-EQPT:vlantagmd=NOTAG). For Private Line, the <i>mtu_size</i> is set on the Ethernet port (see ED-EPORT).
<i>emsdt</i>	Exceeded MTU size drop threshold. This parameter specifies the point at which an alarm is generate when the ratio (Exceeded MTU size drop count / Total frame received count) surpasses the set threshold. Value: an integer in the range 0 (feature disabled) to 1000 (100%), in steps of 1 (0.1%). The initial value is 0 (feature is disabled). Note: "feature disabled" indicates that the "exceeded MTU size drop" (emsdt) alarm is NOT generated when the threshold is surpassed. Starting in Release 9.0, the parameter applies to the LNW70/170
<i>dftpri</i>	Default Priority. Is the (default) provisioned CoS. A value in the range 0-3 or NA. This parameter applies only to BOUNDARY ports (see <i>porttype</i>) and only on the following circuit packs: ■ LNW70 ■ LNW78
<i>qwt_ntwkAF</i>	This parameter is used to specify the weighting factor used by the queue service algorithm for the AF queue for packets coming from network ports. A port is a "network" port if it is a VCG port without a Default VLAN/Tag.

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 14 of 17)

Parameter Name	Description
	<i>qwt_ntwkAF</i> must be an integer in the range of 1 to 100 with a value of 100 being the highest weight. This parameter applies only if the port is part of a virtual switch when <i>vlangmd</i> is SWITCHED (see ED - EQPT). This parameter does not apply to the LNW78 circuit pack.
<i>qwt_custAF</i>	This parameter is used to specify the weighting factor used by the queue service algorithm for the AF queue for packets coming from customer ports. A port is a "customer" port if it is an Ethernet port, or if it is a VCG port with a Default VLAN/Tag. <i>qwt_custAF</i> must be an integer in the range of 1 to 100 with a value of 100 being the highest weight. This parameter applies only if the port is part of a virtual switch when <i>vlangmd</i> is SWITCHED (see ED - EQPT). This parameter does not apply to the LNW78 circuit pack.
<i>qsz</i>	For the LNW70 this parameter is used to specify the total queue size for the port. This includes the EF and AF queues as well as the management queues. For the LNW78 this parameter is used to specify the queue sizes for the port. This applies to the A, B, and C queues (same size for each). <i>qsz</i> must be in the range 0 to 256. It represents the queue size in Kbytes. This parameter applies only if the port is part of a virtual switch when <i>vlangmd</i> is SWITCHED (see ED - EQPT).
<i>qminthdy</i>	This parameter is used to specify the minimum dropping threshold for yellow packets used by the drop algorithm. It is expressed as a percentage of the queue size <i>qsz</i>. It is an integer in the range 0 to 100. Starting in Release 7.0, <i>qminthdy</i> is an integer value in the range 0 to 99. This parameter applies only if the port is part of a virtual switch when <i>vlangmd</i> is SWITCHED (see ED - EQPT).
<i>qmaxthdy</i>	This parameter is used to specify the maximum dropping threshold for yellow packets used by the drop algorithm. It is expressed as a percentage of the queue size <i>qsz</i>. It is an integer in the range 0 to 100.

Table 2-537. RTRV-VCG Output *spec_block* Parameters (cont 15 of 17)

Parameter Name	Description
	This parameter applies only if the port is part of a virtual switch when <i>vlangmd</i> is SWITCHED (see ED-EQPT).
<i>qminthldg</i>	This parameter is used to specify the minimum dropping threshold for green packets used by the drop algorithm. It is expressed as a percentage of the queue size <i>qsz</i>. It is an integer in the range 0 to 100. This parameter applies only if the port is part of a virtual switch when <i>vlangmd</i> is SWITCHED (see ED-EQPT).
<i>qdropwt0</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 0 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). This parameter applies only if the port is part of a virtual switch when <i>vlangmd</i> is SWITCHED (see ED-EQPT). This parameter does not apply to the LNW78 circuit pack.
<i>qdropwt1</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 1 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). This parameter applies only if the port is part of a virtual switch when <i>vlangmd</i> is SWITCHED (see ED-EQPT).
<i>qdropwt2</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 2 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). This parameter applies only if the port is part of a virtual switch when <i>vlangmd</i> is SWITCHED (see ED-EQPT).
<i>qdropwt3</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 3 packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100). This parameter applies only if the port is part of a virtual switch when <i>vlangmd</i> is SWITCHED (see ED-EQPT).
<i>trafmgmtmd</i>	Traffic Management Mode. This specifies how the traffic will be divided into flows and the services that can be provided at the port. The values are the following text strings. ■ NOTC No traffic conditioning at port. ■ PORT One traffic conditioner for all traffic at port. ■ TAGPORT One traffic conditioner for traffic on each VLANid at the port.

Table 2-537. RTRV-VCB Output *spec_block* Parameters (cont 16 of 17)

Parameter Name	Description
	■ COSPORT One traffic conditioner for each CoS at the port. ■ COSTAGPORT One traffic conditioner for each CoS on each VLAN at the port. This parameter applies only to the following circuit packs: ■ LNW70, starting in Release 5.1. the only valid value is NOTC. ■ LNW70, starting in Release 7.0, PORT, TAGPORT, COSPORT, COSTAGPORT are also valid. ■ LNW78, starting in Release 7.0, the only valid values are PORT and COSPORT.
<i>hlayercos</i>	Higher layer Class of Service (CoS) This determines whether the packets will be classified by a higher layer protocol such as DiffServ Code Point (<i>DSCP</i>) in the IP header. Higher layer classification is only supported when <i>trafmgmtmd</i> in set to PORT. <i>hlayerqos</i> is ignored in other <i>trafmgmtmd</i> modes. Value: ■ NONE Higher layer not used for classification. (initial value) ■ DSCP Use the <i>DSCP</i> bits in the IP header for classification. Starting in Release 7.0 this parameter applies to only the LNW70 circuit pack.
<i>bcratelimit</i>	Broadcast and Multicast rate limit. This is the data rate limit for incoming packets whose destination address is the broadcast address (FF-FF-FF-FF-FF-FF). It also includes all multicast addresses (XO-XX-XX-XX-XX-XX where "O" is an odd hexadecimal digit) including Bridge Filtered MAC group addresses used by PAUSE frames, BPDUs, Link Aggregation, etc. It also includes incoming packets whose destination address has not been learned (and therefore are broadcasted). This limit applies to the aggregate of all traffic at a port. Value: an integer between 0 and 1000 and represents Mbps. A value of 0 filters all broadcast/multicast packets. Starting in Release 6.0 the previous paragraph is replaced by: Value: an integer between 0 and 1000000, representing Kbps. A value of 0 disables broadcast rate limiting. This parameter applies to the following packs:

Table 2-537. RTRV-VCg Output *spec_block* Parameters (cont 17 of 17)

Parameter Name	Description
	■ LNW70 only if the port is part of a virtual switch (when <i>vlantagmd</i> is SWITCHED [see ED-EQPT]). ■ LNW78
<i>ethfcs</i>	Ethernet FCS mode. Controls whether to drop errored frames due to FCS or let them pass. Regardless of this setting, errored FCS frames are always counted in the EFCRC counter. Values: ■ ENABLE: Drop errored frames ■ DISABLE: Pass errored frames This parameter applies to the following packs: ■ LNW63 ■ LNW705
<i>locked_sa</i>	Locked Source Address. This parameter controls whether the virtual switch restricts admission of packets, with source addresses matching ENT-MAC entries with type=PERSISTENT, to this port, and only this port; and discards all others on this port. This parameter applies only if the port is part of a virtual switch when <i>vlantagmd</i> is SWITCHED [see ED-EQPT]. It can be enabled only if there are no ENT-MAC entries with type=FILTERED. Values: ■ ENABLE (source addresses locked) ■ DISABLE This parameter applies to the following packs: ■ LNW70
<i>macaddr</i>	MAC Address. Value: 6 octets expressed as 12 hexadecimal characters. Starting in Release 7.0, this parameter applies to the following packs: ■ LNW70 ■ LNW78

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number is included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

The following is an example output when *vlangmd*=802.1TAG:

```
RTRV-VCg:LT-PF-3000:d-v1:123456;  
  
IP 123456  
<  
  
LT-PF-3000 98-01-01 08:00:00  
M 123456 COMPLD  
"d-v1::vcgrate=STS1,almlvl=NA,vpm=ENABLE,vcgsz=1,vmode=NMON"  
"d-v1::stgrpid=111,vss=FWG,stpp=122,stpcost=10,stpmd=802.1d"  
"d-v1::sthellotm=2,stprole=alternate,vrtswid=1,psctl=NONE"  
"d-v1::dftvlan=128"  
"d-v1:128,VLAN"  
"d-v1:129,VLAN"  
;
```

Beginning in Release 3.1, the following is an example output when *vlangmd*=802.1TAG:

```
RTRV-VCg:LT-PF-3000:d-v1:123456;  
  
IP 123456  
<  
  
LT-PF-3000 98-01-01 08:00:00  
M 123456 COMPLD  
"d-v1::vcgrate=STS1,almlvl=NA,vpm=ENABLE,vcgsz=1,vmode=NMON"  
"d-v1::stgrpid=111,vss=FWG,stpp=122,stpcost=10,stpmd=802.1d"  
"d-v1::sthellotm=2,stprole=alternate,vrtswid=1,psctl=NONE"  
"d-v1::dftvlan=128,tagfilter=enable"  
"d-v1:128,VLAN"  
"d-v1:129,VLAN"  
;
```

The following is a Transparency/Port Tag Mode example:

RTRV-VCG:LT-PF-3000:a-v1:123456;

IP 123456

<

LT-PF-3000 98-01-01 08:00:00

M 123456 COMPLD

"a-v1::vcgrate=STS1,almlvl=NA,vpm=ENABLE,vcgsz=1,vmode=NMON"

"a-v1::stgrpId=111,vss=FWG,stpp=122,stpcost=10,stpmd=802.1d"

"a-v1::sthellotm=2,stprole=alternate,vrtswid=1,dftporttag=128"

"a-v1:128,Port Tag"

"a-v1:129,Port Tag"

"a-v1:psctl=LOCAL"

;

Beginning in Release 2.1, the following is a Transparency/Port Tag Mode example:

RTRV-VCG:LT-PF-3000:a-v1:123456;

IP 123456

<

LT-PF-3000 98-01-01 08:00:00

M 123456 COMPLD

"a-v1::vcgrate=STS1,almlvl=NA,vpm=ENABLE,vcgsz=1,vmode=NMON"

"a-v1::stgrpId=111,vss=FWG,stpp=122,stpcost=10,stpmd=802.1d"

"a-v1::sthellotm=2,stprole=alternate,vrtswid=1,psctl=LOCAL"

"a-v1::dftporttag=128"

"a-v1:128,Port Tag"

"a-v1:129,Port Tag"

;

Beginning in 3.0, the following is a Transparency/Port Tag Mode example:

RTRV-VCB:LT-PF-3000:d-v1:123456;

```
IP 123456
<

LT-PF-3000 98-01-01 08:00:00
M 123456 COMPLD
"d-v1::vcgrate=STS1,almlvl=NA,vpm=ENABLE,vcgsz=1,vmode=NMON"
"d-v1::stgrpId=111,vss=FWG,stpp=122,stpcost=10,stpmd=802.1d"
"d-v1::sthellotm=2,stprole=alternate,vrtswid=1,psctl=LOCAL"
"d-v1::dftporttag=128,tagfilter=enable"
"d-v1:128,Port Tag"
"d-v1:129,Port Tag"
;
```

Beginning in 4.0, the following is a Transparency/Port Tag Mode example with *tcamd* and *ethertype*:

RTRV-VCB:LT-PF-3000:d-v1:123456;

```
IP 123456
<

LT-PF-3000 98-01-01 08:00:00
M 123456 COMPLD
"d-v1::vcgrate=STS1,almlvl=NA,vpm=ENABLE,vcgsz=1,vmode=NMON"
"d-v1::stgrpId=111,vss=FWG,stpp=122,stpcost=10,stpmd=802.1d"
"d-v1::sthellotm=2,stprole=alternate,vrtswid=1,psctl=LOCAL"
"d-v1::dftporttag=128,tagfilter=enable,tcamd=disable",ethertype=FFFF"
"d-v1:128,Port Tag"
"d-v1:129,Port Tag"
;
```

The following is a NOTAG Mode example:

```
RTRV-VCG:LT-PF-3000:a-v1:123456;  
  
IP 123456  
<  
  
LT-PF-3000 98-01-01 08:00:00  
M 123456 COMPLD  
"a-v1::vcgrate=STS1,almlvl=NA,vpm=ENABLE,vcgsz=1,vmode=NMON"  
"a-v1::psctl=NONE"  
;
```

Beginning in Release 2.1, the following is a NOTAG Mode example:

```
RTRV-VCG:LT-PF-3000:d-v1:123456;  
  
IP 123456  
<  
  
LT-PF-3000 98-01-01 08:00:00  
M 123456 COMPLD  
"d-v1::vcgrate=STS1,almlvl=NA,vpm=ENABLE,vcgsz=1,vmode=NMON"  
"d-v1::psctl=NONE"  
"d-v1:,NOTAG"  
;
```

Beginning with Release 3.1 the previous output format is the **only** valid format for the LNW71, Fast Ethernet circuit pack.

Beginning in Release 5.0, the following is an example for LNW74:

```
RTRV-VCG:LT-PF-3000:d-v1:123456;  
  
IP 123456  
<  
  
LT-PF-3000 98-01-01 08:00:00  
M 123456 COMPLD  
"d-v1::vcgrate=VT1.5,almlvl=NA,vpm=ENABLE,vcgsz=2,vmode=NMON"  
"d-v1::lcasmd=ENABLE,htmr=100,wtr=5,vcat=ENABLE"  
"d-v1:,NOTAG"  
;
```

Starting in Release 5.1, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to a VCG port that is part of a virtual switch with *tagmd*=TRANS (**RTRV-VRTSW**) on any of the following circuit packs:

■ LNW70

```
RTRV-VCG:LT-PF-3000:d-v1:123456;  
  
IP 123456  
<  
  
    LT-PF-3000 98-01-01 08:00:00  
M 123456 COMPLD  
  "d-v1::vcgrate=STS1,almlvl=NA,vpm=ENABLE,vcgsz=1,vmode=NM0N"  
  "d-v1::stgrpid=111,vss=FWG,stpp=122,stpcost=10,stpmd=802.1d"  
  "d-v1::sthellotm=2,stprole=alternate,vrtswid=1"  
  "d-v1::dftporttag=128,dftpri=0,tagfilter=ENABLE"  
  "d-v1::lcamd=ENABLE,htmr=0,wtr=5,vcat=ENABLE"  
  "d-v1::mtu_size=10218,gfp_fcs=DISABLE,ethertype=8100"  
  "d-v1::tcamd=ENABLE,bcratelimit=10"  
  "d-v1::qwt_ntwkAF=80,qwt_custAF=20,qs=256"  
  "d-v1::qmaxthldy=60,qminthldy=40,qminthldg=90"  
  "d-v1::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"  
  "d-v1::porttype=BOUNDARY,trafmgmtmd=NOTC"  
  "d-v1:123,Port Tag"  
  "d-v1:128,Port Tag"  
;
```

Starting in Release 7.0, the following example applies when *vlntagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to a VCG port that is part of a virtual switch with *tagmd*=TRANS (**RTRV-VRTSW**) on the LNW78.

RTRV-VCG:LT-PF-3000:d1-v17:123456;

IP 123456

<

LT-PF-3000 98-01-01 08:00:00

M 123456 COMPLD

"d1-v17::vcgrate=STS12c,vpm=ENABLE,vcgsz=1,vmode=NMON"

"d1-v17::dftporttag=128,dftpri=1,tagfilter=ENABLE"

"d1-v17::lcamd=ENABLE,htmr=100,wtr=5,vcat=DISABLE"

"d1-v17::mtu_size=10218,gfp_fcs=DISABLE,ethertype=8100"

"d1-v17::bcratelimit=10,qs=256"

"d1-v17::qmaxthldy=60,qminthldy=40,qminthldg=90"

"d1-v17::qdropwt1=100,qdropwt2=100,qdropwt3=50"

"d1-v17::porttype=BOUNDARY,portrole=CUSTOMER,trafmgmtmd=PORT"

"d1-v17::macaddr=001A2B3C4D5E"

"d1-v17:123,Port Tag"

Starting in Release 6.0, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to a VCG port that is part of a virtual switch with *tagmd*=TRANS (**RTRV-VRTSW**) on any of the following circuit packs:

- LNW70

```
RTRV-VCG:LT-PF-3000:d1-v1:123456;

IP 123456
<

LT-PF-3000 98-01-01 08:00:00
M 123456 COMPLD
"d1-v1::vcgrate=STS1,vpm=ENABLE,vcgsz=1,vmode=NMON"
"d1-v1::stgrpid=111,vss=FWG,stpp=122,stpcost=10,stpmd=802.1d"
"d1-v1::sthellotm=2,stvid=0,stprole=alternate,vrtswid=1"
"d1-v1::dftporttag=128,dftpri=0,tagfilter=ENABLE"
"d1-v1::lcamd=ENABLE,htmr=0,wtr=5,vcat=ENABLE"
"d1-v1::mtu_size=10218,gfp_fcs=DISABLE,ethertype=8100"
"d1-v1::tcamd=ENABLE,bcratelimit=10"
"d1-v1::qwt_ntwkAF=80,qwt_custAF=20,qs=256"
"d1-v1::qmaxthldy=60,qminthldy=40,qminthldg=90"
"d1-v1::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d1-v1::porttype=BOUNDARY,trafmgmtmd=NOTC"
"d1-v1:123,Port Tag"
"d1-v1:128,Port Tag"
;
```

Starting in Release 5.1, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to a VCG port that is part of a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**) on any of the following circuit packs:

- LNW70

RTRV-VCG:LT-PF-3000:d-v1:123456;

IP 123456

<

LT-PF-3000 98-01-01 08:00:00

M 123456 COMPLD

"d-v1::vcgrate=STS1,almlvl=NA,vpm=ENABLE,vcgsz=1,vmode=NMON"

"d-v1::stgrpid=111,vss=FWG,stpp=122,stpcost=10,stpmd=802.1d"

"d-v1::sthellotm=2,stprole=alternate,vrtswid=1"

"d-v1::dftvlan=128,dftpri=0,tagfilter=enable"

"d-v1::lcamd=ENABLE,htmr=0,wtr=5,vcat=ENABLE"

"d-v1::mtu_size=10218,gfp_fcs=DISABLE"

"d-v1::tcamd=ENABLE,bcratelimit=10"

"d-v1::qwt_ntwkAF=80,qwt_custAF=20,qs=256"

"d-v1::qmaxthldy=60,qminthldy=40,qminthldg=90"

"d-v1::qdropwt1=100,qdropwt2=100,qdropwt3=50"

"d-v1::porttype=BOUNDARY,trafmgmtmd=NOTC"

"d-v1:128,VLAN"

"d-v1:129,VLAN"

Starting in Release 7.0, the following example applies when *vltagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to a VCG port that is part of a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**) on the LNW78.

RTRV-VCG:LT-PF-3000:d1-v17:123456;

IP 123456

<

LT-PF-3000 98-01-01 08:00:00

M 123456 COMPLD

"d1-v17::vcgrate=STS1,vpm=ENABLE,vcgsz=1,vmode=NMON"

"d1-v17::vrtswid=1,dftvlan=128,dftpri=1,tagfilter=enable"

"d1-v17::lcamd=ENABLE,htmr=100,wtr=5,vcat=DISABLE"

"d1-v17::mtu_size=10218,gfp_fcs=DISABLE"

"d1-v17::bcratelimit=10,qs=256"

"d1-v17::qmaxthldy=60,qminthldy=40,qminthldg=90"

"d1-v17::qdropwt1=100,qdropwt2=100,qdropwt3=50"

"d1-v17::porttype=BOUNDARY,portrole=CUSTOMER,trafmgmtmd=PORT"

"d1-v17::macaddr=001A2B3C4D5E"

"d1-v17:128,VLAN"

"d1-v17:129,VLAN"

;

Starting in Release 6.0, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to a VCG port that is part of a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**) on any of the following circuit packs:

- LNW70

```
RTRV-VCG:LT-PF-3000:d1-v1:123456;
```

```
IP 123456
```

```
<
```

```
LT-PF-3000 98-01-01 08:00:00
```

```
M 123456 COMPLD
```

```
"d1-v1::vcgrate=STS1,vpm=ENABLE,vcgsz=1,vmode=NMON"
```

```
"d1-v1::stgrpId=111,vss=FWG,stpp=122,stpcost=10,stpmd=802.1d"
```

```
"d1-v1::sthellotm=2,stvid=0,stprole=alternate,vrtswid=1"
```

```
"d1-v1::dftvlan=128,dftpri=0,tagfilter=enable"
```

```
"d1-v1::lcamd=ENABLE,htmr=0,wtr=5,vcat=ENABLE"
```

```
"d1-v1::mtu_size=10218,gfp_fcs=DISABLE"
```

```
"d1-v1::tcamd=ENABLE,bcratelimit=10"
```

```
"d1-v1::qwt_ntwkAF=80,qwt_custAF=20,qsZ=256"
```

```
"d1-v1::qmaxthldy=60,qminthldy=40,qminthldg=90"
```

```
"d1-v1::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
```

```
"d1-v1::porttype=BOUNDARY,trafmgmtmd=NOTC"
```

```
"d1-v1:128,VLAN"
```

```
"d1-v1:129,VLAN"
```

Starting in Release 7.0, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to a VCG port that is part of a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**) on any of the following circuit packs:

- LNW70

```
RTRV-VCG:LT-PF-3000:d1-v1:123456;

IP 123456
<

LT-PF-3000 98-01-01 08:00:00
M 123456 COMPLD
"d1-v1::vcgrate=STS1,vpm=ENABLE,vcgsz=1,vmode=NMON"
"d1-v1::stgrpId=111,vss=FWG,stpp=122,stpcost=10,stpmd=802.1d"
"d1-v1::sthellotm=2,stvid=0,stprole=alternate,vrtswid=1"
"d1-v1::dftvlan=128,dftpri=0,tagfilter=enable"
"d1-v1::lcamd=ENABLE,htmr=0,wtr=5,vcat=ENABLE"
"d1-v1::mtu_size=10218,gfp_fcs=DISABLE"
"d1-v1::tcamd=ENABLE,bcratelimit=10"
"d1-v1::qwt_ntwkAF=80,qwt_custAF=20,qsZ=256"
"d1-v1::qmaxthldy=60,qminthldy=40,qminthldg=90"
"d1-v1::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d1-v1::porttype=BOUNDARY,trafmgmtmd=PORT"
"d1-v1::portrole=CUSTOMER,hlayercos=NONE,locked_sa=DISABLE"
"d1-v1::macaddr=001A2B3C4D5E"
"d1-v1:128,VLAN"
"d1-v1:129,VLAN"
;
```

Starting in Release 9.0, the following example shows the addition of **emsdt** parameter in the case when **vlantagmd=SWITCHED (RTRV-EQPT)** and when the **aid** points to a VCG port that is part of a virtual switch with **tagmd=802.1TAG (RTRV-VRTSW)** on any of the following circuit packs:

- LNW70

```
RTRV-VCG:LT-PF-3000:d1-v1:123456;

IP 123456
<

LT-PF-3000 98-01-01 08:00:00
M 123456 COMPLD
"d1-v1::vcgrate=STS1,vpm=ENABLE,vcgsz=1,vmode=NMON"
"d1-v1::stgrpid=111,vss=FWG,stpp=122,stpcost=10,stpmc=802.1d"
"d1-v1::sthellotm=2,stvid=0,stprole=alternate,vrtswid=1"
"d1-v1::dftvlan=128,dftpri=0,tagfilter=enable"
"d1-v1::lcamd=ENABLE,htmr=0,wtr=5,vcat=ENABLE"
"d1-v1::mtu_size=10218,emsdt=0,gfp_fcs=DISABLE"
"d1-v1::tcamd=ENABLE,bcratelimit=10"
"d1-v1::qwt_ntwkAF=80,qwt_custAF=20,qs=256"
"d1-v1::qmaxthldy=60,qminthldy=40,qminthldg=90"
"d1-v1::qdropwt0=100,qdropwt1=100,qdropwt2=100,qdropwt3=50"
"d1-v1::porttype=BOUNDARY,trafmgmtmd=PORT"
"d1-v1::portrole=CUSTOMER,hlayercos=NONE,locked_sa=DISABLE"
"d1-v1::macaddr=001A2B3C4D5E"
"d1-v1:128,VLAN"
"d1-v1:129,VLAN"
;
```

Starting in Release 5.1, the following example applies when *vlantagmd*=NOTAG on any of the following circuit packs:

- LNW70

```
RTRV-VCG:LT-PF-3000:d-v1:123456;

IP 123456
<

LT-PF-3000 98-01-01 08:00:00
M 123456 COMPLD
"d-v1::vcgrate=STS1,almlvl=NA,vpm=ENABLE,vcgsz=1,vmode=NMON"
"d-v1::lcamd=ENABLE,htmr=0,wtr=5,vcat=ENABLE"
"d-v1::gfp_fcs=DISABLE"
"d-v1::tcamd=ENABLE,trafmgmtmd=NOTC"
;
```

Beginning in Release 6.0, the following is an example for LNW63:

```
RTRV-VCG:LT-PF-3000:d1-v1:123456;
```

```
IP 123456
```

```
<
```

```
LT-PF-3000 98-01-01 08:00:00
```

```
M 123456 COMPLD
```

```
"d1-v1::vcgrate=STS1,vpm=ENABLE,vcgsz=2,vmode=NMON"
```

```
"d1-v1::lcamd=ENABLE,htmr=100,wtr=5,vcat=ENABLE,ethfcs=ENABLE"
```

```
"d1-v1::tcamd=ENABLE,gfp_fcs=DISABLE"
```

```
;
```

Beginning in Release 7.1, the following is an example for LNW705:

```
RTRV-VCG:LT-PF-3000:d1-v1:123456;
```

```
IP 123456
```

```
<
```

```
LT-PF-3000 98-01-01 08:00:00
```

```
M 123456 COMPLD
```

```
"d1-v1::vcgrate=STS1,vpm=ENABLE,vcgsz=21,vmode=NMON"
```

```
"d1-v1::ethfcs=ENABLE"
```

```
"d1-v1::tcamd=ENABLE,gfp_fcs=DISABLE"
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

Starting in Release 3.1, if **ED-EQPT** was used to set *eccmode* to STS3c, ports 17-24 are not valid for the LNW71 circuit pack. If the user enters a LAN port number between 17 and 24, the following error response is returned.

```
sid date time
```

```
M ctag DENY
```

```
IENE
```

```
/* Input, Entity Not Exists, aid not valid for STS3c ECCMODE mode */
```

```
;
```

If the user enters an AID that is not valid for the circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is missing, wrong, or
   inconsistent with the circuit pack type or mode */
;
```

RELATED TL1 MESSAGES

ED - VCG

NAME

RTRV-VCG-DATA: Retrieve Virtual Concatenation Group Data

The **RTRV-VCG-DATA** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 5.1

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-VCG-DATA:*tid:[aid]:ctag;*

DESCRIPTION

The **RTRV-VCG-DATA** command retrieves the properties of a virtual concatenation group (VCG) associated with a data ports (e.g. ESCON, FC, FICON type client services).

For the LNW73 and LNW73C, data VCGs are associated with all port types.

For the LNW705, data VCGs are associated with client interfaces with *signaltypes* set to FC100, FC200, FC400, FICON, or FICON_EXP (see RTRV-OPTE).

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of a LNW73 VCG AID. Refer to the AID Table in Appendix A for valid AIDs. This parameter is optional. Default value is "ALL"
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-538. RTRV - VCG - DATA Input Parameters

OUTPUT FORMAT

If the Network Element (NE) fully complies with the **RTRV - VCG - DATA** request, the following normal completion responses are returned.

If the NE fully complies with the **RTRV - VCG - DATA** request, the following normal completion response is returned :

```
sid date time
M ctag COMPLD
"aid::spec_block"
<1 or more of the line above>
<1 or more of this entire block for another aid>
;
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-539. RTRV - VCG - DATA Output Parameters

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of a VCG (VCG AID). Refer to the AID Table in Appendix A for valid AIDs.
<i>spec_block</i>	Specific parameter Block: The <i>spec_block</i> parameters are defined in the following table.

Table 2-540. RTRV - VCG - DATA Output *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description
<i>vcgrate</i>	Rate used on the addressed VCG. Values: STS1, STS3c, and STS12c
<i>vcgsz</i>	VCG Size. Values: represents the number of STSn's (STS1's, STS3c's, or STS12c) provisioned for the VCG, depending on <i>vcgrate</i> .
<i>vmode</i>	VCG Monitoring Mode. Values are as follows: AUTO IS NMON
<i>vpm</i>	VCG Performance Monitoring enable. Values are as follows: ENABLE DISABLE
<i>almvl</i>	This parameter is removed beginning in Release 6.0. See ED-ASAP - PROF . Alarm Level. This parameter sets the alarm level for an incoming signal failure, and may have one of the following values: CR (Critical Alarm) MJ (Major Alarm) MN (Minor Alarm) NA (No Alarm)

Table 2-540. RTRV-VCG-DATA Output *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description
<i>lcasmd</i>	LCAS Mode. This parameter controls whether LCAS (Link Capacity Adjustment Scheme) is enabled for the specified VCG. When enabled, the LCAS protocol allows for hitless changes to the provisioned size of the VCG. Values for LCAS Mode include: ENABLE DISABLE This parameter does not apply to the LNW705 circuit pack.
<i>htmr</i>	Hold-Off Timer. This parameter, only in effect if <i>lcasmd</i> = ENABLE, specifies the delay between when a tributary is detected faulty and when it is automatically removed from the VCG. It allows underlying protection, if any, to react first. It applies to all tributaries in the specified VCG. Values: 0 to 10,000 ms (10 sec), 100 millisecond steps, and 99,999 ms (representing infinity). This parameter does not apply to the LNW705 circuit pack.
<i>wtr</i>	Wait-to-Restore. This parameter, only in effect if <i>lcasmd</i> = ENABLE, specifies the delay between when a tributary, previously removed from the VCG because of fault, is detected to be normal and when it is automatically returned to the VCG. It applies to all tributaries in the specified VCG. Values: 0 to 3600 seconds, 1 second steps This parameter does not apply to the LNW705 circuit pack.
<i>vcat</i>	Virtual Concatenation Mode. This parameter controls whether H4 is inserted/monitored for the specified VCG. It has effect only when a single trib, not VT, is cross-connected to the VCG, to allow interworking with non-VCAT equipment. Values for Virtual Concatenation Mode include: ENABLE DISABLE

EXAMPLE INPUT/OUTPUT

The following is a **RTRV-VCG-DATA** example:

```
RTRV-VCG-DATA:LT-PF-3000:d-v1:123456;  
  
IP 123456  
<  
  
LT-PF-3000 98-01-01 08:00:00  
M 123456 COMPLD  
"d-v1::vcgrate=STS1,almlvl=NA,vpm=ENABLE,vcgsz=2,vmode=NMON"  
"d-v1::lcasmd=DISABLE,htmr=0,wtr=5,vcat=ENABLE"  
;
```

Starting in Release 6.0, the following is a **RTRV-VCG-DATA** example:

```
RTRV-VCG-DATA:LT-PF-3000:d-v1:123456;  
  
IP 123456  
<  
  
LT-PF-3000 98-01-01 08:00:00  
M 123456 COMPLD  
"d1-v1::vcgrate=STS1,vpm=ENABLE,vcgsz=2,vmode=NMON"  
"d1-v1::lcasmd=DISABLE,htmr=0,wtr=5,vcat=ENABLE"  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If the user enters an AID that is not valid for the circuit pack, the following error response is returned:

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid Access identifier, AID is missing, wrong, or  
inconsistent with the circuit pack type or mode */  
;
```

RTRV-VCG-DATA
TL1 Message Details

RTRV-VCG-DATA
Alcatel-Lucent 1665 DMX, R9.0

RELATED TL1 MESSAGES

ED-VCG-DATA

NAME

RTRV-VCG-RPR: Retrieve Virtual Concatenation Group (VCG) - Resilient Packet Ring (RPR)

The **RTRV-VCG-RPR** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-VCG-RPR:*tid*:*[aid]*:*ctag*;

DESCRIPTION

The **RTRV-VCG-RPR** command retrieves the properties of an RPR-capable virtual concatenation group (VCG).

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-541. RTRV-VCG-RPR Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of an RPR-capable Span VCG. When this is also an RPR IF, both Span and IF parameters are retrieved. Refer to the AID Table in Appendix A for valid AIDs. This parameter is optional. Default value is "ALL"
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the Network Element (NE) fully complies with the **RTRV-VCg-RPR** request, the following normal completion responses are returned.

If the NE fully complies with the **RTRV-VCg-RPR** request, then the following normal completion response is returned:

```

sid date time
M ctag COMPLD
"aid::spec_block"
<one or more of the line above>
### if the port is an IF and part of a virtual switch with tagmd TRANS
"aid:cporttag,Port Tag"
<one or more of the line above, for another cporttag>
### if the port is an IF and part of a virtual switch with tagmd 802.1Q
"aid:cvlan,VLAN"
<one or more of the line above, for another cvlan>
<one or more of this entire block, for another aid>
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-542. RTRV-VCg-RPR Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of an RPR-capable Span VCG. When this is also an RPR IF, both Span and IF parameters are retrieved. Refer to the AID Table in Appendix A for valid AIDs.
<i>cvlan</i>	Composite VLAN value list. VLAN identifiers are displayed, one per line. This parameter is only valid when <i>vlantagmd</i> is set to SWITCHED (see RTRV-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to 802.1TAG (see RTRV-VRTSW).

Table 2-542. RTRV-VCG-RPR Output Parameters (cont 2 of 2)

Parameter Name	Description
	Value: An integer in the range 1-4093.
<i>cporttag</i>	Composite Port Tag value list. Value: An integer in the range 1 to 4093. Port tag identifiers are displayed, one per line. This parameter is only valid when <i>vlantagmd</i> is set to SWITCHED (see RTRV-EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to TRANS (see RTRV-VRTSW).
<i>spec_block</i>	Specific parameter Block: The <i>spec_block</i> parameters are defined in the following table. All parameters are RPR IF unless indicated as RPR Span.

Table 2-543. RTRV-VCG-RPR Output *spec_block* Parameters (cont 1 of 4)

Parameter Name	Description
<i>vcgrate</i>	Rate of tributaries used on the addressed VCG. This is a Span parameter. Values: ■ STS1 ■ STS3c ■ STS12c
<i>vrtswid</i>	Virtual switch ID. Value : an integer in the range 0 to 8 on the LNW78: 1 to 8 identifies a virtual switch (see RTRV-VRTSW). 0 means that the port is not part of a virtual switch.
<i>vcgsz</i>	VCG Size. For LNW78 <i>vcgsz</i> represents the number of STS1's, STS3c's or STS12c's provisioned for the VCG, depending on <i>vcgrate</i> . This is a Span parameter.

Table 2-543. RTRV - VCG - RPR Output *spec_block* Parameters (cont 2 of 4)

Parameter Name	Description
<i>vmode</i>	VCG Monitoring Mode. This is a Span parameter. Values are as follows: AUTO IS NMON
<i>ifmode</i>	RPR IF Monitoring Mode. When an RPR IF is provisioned in the AUTO state, it will automatically transition to the in-service (IS) state upon detection of a valid input (GFP frame) on at least one associated span. Values are as follows: AUTO IS NMON
<i>vpm</i>	VCG Performance Monitoring enable. Values are as follows: ENABLE DISABLE
<i>tagfilter</i>	Tag Filter. This parameter is used to enable/disable VLAN/Port Tag filtering. Values: ENABLE - Enable Tag Filtering DISABLE - Disable Tag Filtering For the LNW78 the only value is ENABLE. Starting in Release 7.0, DISABLE is also valid.
<i>lcasmd</i>	LCAS Mode. This parameter controls whether LCAS (Link Capacity Adjustment Scheme) is enabled for the specified VCG. When enabled, the LCAS protocol allows for hitless changes to the provisioned size of the VCG. This is a Span parameter. Values for LCAS Mode include: ENABLE

Table 2-543. RTRV - VCG - RPR Output *spec_block* Parameters (cont 3 of 4)

Parameter Name	Description
	DISABLE
<i>htmr</i>	Hold-Off Timer. This parameter, only in effect if <i>lcasmd</i> = ENABLE, specifies the delay between when a tributary is detected faulty and when it is automatically removed from the VCG. It allows underlying protection, if any, to react first. It applies to all tributaries in the specified VCG. This is a Span parameter. Values: 0 to 10,000 ms (10 sec) in 100 millisecond steps, and 99,999 ms (representing infinity). For the LNW78, the only valid value is 99,999.
<i>vcat</i>	Virtual Concatenation Mode. This parameter controls whether H4 is inserted/monitored for the specified VCG. It has effect only when a single trib, not VT, is cross-connected to the VCG, to allow interworking with non-VCAT equipment. This is a Span parameter. Values for Virtual Concatenation Mode include: ENABLE DISABLE
<i>ethertype</i>	Ethernet Type field (TPID). Used to interwork with other vendors' equipment using stacked VLAN. This parameter is only retrieved when <i>vlangmd</i> is set to SWITCHED mode (see ED - EQPT) and the port belongs to a virtual switch with <i>tagmd</i> set to TRANS (see RTRV - VRTSW). Value: A hexadecimal string in the range 0601 to FFFF.
<i>mtu_size</i>	MTU size (in bytes). This parameter specifies the MTU (Maximum Transmission Unit) size supported on the port, addressed by the <i>aid</i>. This is the size of the payload in the Ethernet frame, excluding Source and Destination Address, Type and CRC field, but including all VLAN tags. Value: An integer in the range 46 to 10222.
<i>qsz</i>	This parameter is used to specify the queue size for the port. This applies the A, B, and C add queues. <i>qsz</i> must be in the range 0 to 256. It represents the queue size in Kbytes.

Table 2-543. RTRV - VCG - RPR Output *spec_block* Parameters (cont 4 of 4)

Parameter Name	Description
<i>qminthldy</i>	This parameter is used to specify the minimum dropping threshold for yellow packets used by the drop algorithm. It is expressed as a percentage of the queue size <i>qsz</i> . It is an integer in the range 0 to 100. Starting in release 7.0, <i>qminthldy</i> is an integer value in the range 0 to 99.
<i>qmaxthldy</i>	This parameter is used to specify the maximum dropping threshold for yellow packets used by the drop algorithm. It is expressed as a percentage of the queue size <i>qsz</i> . It is an integer in the range 0 to 100.
<i>qminthldg</i>	This parameter is used to specify the minimum dropping threshold for green packets used by the drop algorithm. It is expressed as a percentage of the queue size <i>qsz</i> . It is an integer in the range 0 to 100.
<i>qdropwt1</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 1 (Class C) packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100).
<i>qdropwt2</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 2 (Class B) packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100).
<i>qdropwt3</i>	This parameter is used to specify the (maximum) drop probability mark for CoS 3 (Class A) packets used by the drop algorithm. It is expressed as a percentage (integer between 0 and 100).

EXAMPLE INPUT/OUTPUT

The following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an IF VCG port that is part of a virtual switch with *tagmd*=TRANS (**RTRV-VRTSW**):

```
RTRV-VCG-RPR:LT-PF-3000:d1-v1:123456;  
  
IP 123456  
<  
  
    LT-PF-3000 98-01-01 08:00:00  
M 123456 COMPLD  
  "d1-v1::vcgrate=STS1,vpm=ENABLE,vcgsz=1,vmode=NMON"  
  "d1-v1::ifmode=NMON,vrtswid=1,tagfilter=ENABLE,vcat=ENABLE"  
  "d1-v1::mtu_size=10218,ethertype=8100"  
  "d1-v1::qsz=256,qmaxthldy=60,qminthldy=40,qminthldg=90"  
  "d1-v1::qdropwt1=100,qdropwt2=100,qdropwt3=50"  
  "d1-v1:123,Port Tag"  
  "d1-v1:128,Port Tag"  
;
```

The following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to an IF VCG port that is part of a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**):

```
RTRV-VCG-RPR:LT-PF-3000:d1-v1:123456;  
  
IP 123456  
<  
  
    LT-PF-3000 98-01-01 08:00:00  
M 123456 COMPLD  
  "d1-v1::vcgrate=STS1,vpm=ENABLE,vcgsz=1,vmode=NMON"  
  "d1-v1::ifmode=NMON,vrtswid=1,tagfilter=ENABLE,vcat=ENABLE"  
  "d1-v1::mtu_size=10218"  
  "d1-v1::qsz=256,qmaxthldy=60,qminthldy=40,qminthldg=90"  
  "d1-v1::qdropwt1=100,qdropwt2=100,qdropwt3=50"  
  "d1-v1:128,VLAN"  
  "d1-v1:129,VLAN"  
;
```

The following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to a Span VCG port that is part of a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**):

```
RTRV-VCg-RPR:LT-PF-3000:d1-v2:123456;
```

```
IP 123456
```

```
<
```

```
LT-PF-3000 98-01-01 08:00:00
```

```
M 123456 COMPLD
```

```
"d1-v1::vcgrate=STS1,vcgsz=1,vmode=NMON,vcat=ENABLE"
```

```
;
```

Starting in Release 7.0, the following example applies when *vlantagmd*=SWITCHED (**RTRV-EQPT**) and when the *aid* points to a Span VCG port that is part of a virtual switch with *tagmd*=802.1TAG (**RTRV-VRTSW**):

```
RTRV-VCg-RPR:LT-PF-3000:d1-v2:123456;
```

```
IP 123456
```

```
<
```

```
LT-PF-3000 98-01-01 08:00:00
```

```
M 123456 COMPLD
```

```
"d1-v1::vcgrate=STS1,vcgsz=1,vmode=NMON,vcat=ENABLE"
```

```
"d1-v1::lcasmd=ENABLE,htmr=99999"
```

```
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

RELATED TL1 MESSAGES

ED-VCg-RPR

NAME

RTRV-VCGTRIB: Retrieve VCG Tributary

The **RTRV-VCGTRIB** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 5.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-VCGTRIB: *tid:aid:ctag;*

DESCRIPTION

The **RTRV-VCGTRIB** command retrieves the attributes of one or more virtual concatenation groups.

The **RTRV-VCGTRIB** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-544. RTRV-VCGTRIB Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access identifier. This is the SONET tributary within the Ethernet or Data pack. Refer to the AID Table (Appendix A) for valid AIDs. An "ALL" <i>aid</i> range is supported at the pack or VCG level. A specific tributary <i>aid</i> is not accepted unless a cross-connection is present on the tributary. This parameter applies to the following packs: ■ LNW74 ■ LNW70 ■ LNW73

Table 2-544. RTRV-VCGTRIB Input Parameters (cont 2 of 2)

Parameter Name	Description
	■ LNW78 ■ LNW63 ■ LNW64 ■ LNW87
ctag	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

The following are normal responses to a valid **RTRV-VCGTRIB** command.

```
sid date time
M ctag COMPLD
  "aid::specblock"
;
```

When there is no cross-connection to a tributary, or the tributary **aid** (which is otherwise valid for this pack) does not match the rate of the cross-connection, no data is returned. The following shows the output in such a case.

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there may also apply to this command.

Table 2-545. RTRV-VCGTRIB Output Parameters

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the SONET Channel within the Ethernet or Data pack. Refer to the AID Table for valid AIDs.
<i>spec_block</i>	The <i>spec_block</i> parameters are shown in the following table.

Table 2-546. RTRV-VCGTRIB Output *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description
<i>aseqno</i>	Accepted Sequence Number. This is the number received at the sink. Value: ● 0 to 255, ?, NA "?" is returned under defect condition. "NA" is returned if the tributary is not a member of the VCG.
<i>tseqno</i>	Transmitted Sequence Number. Value: ■ 0 to 62, NA "NA" is returned if the tributary source is not in the ACTIVE or DNU state (<i>inmbst</i>).
<i>inmbs</i>	Input membership (source). Value: ■ DISABLE ■ ENABLE When enabled the tributary is a member of the VCG in the source direction but when LCAS is enabled (see RTRV-VCG <i>lcsmd</i>) it may not be active (LCAS automatically removes failed members).

Table 2-546. RTRV-VCGTRIB Output *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description
<i>outmbs</i>	Output membership (sink). Value: ■ DISABLE ■ ENABLE When enabled the tributary is a member of the VCG in the sink direction but when LCAS is enabled (see RTRV-VCG lcasmd) it may not be active (LCAS automatically removes failed members).
<i>inmbst</i>	Input Member Status (source) This parameter reports the status of the tributary related to its VCG membership in the input direction. Value: ■ NA Not Applicable, i.e. the tributary is provisioned to not be a member of the VCG ■ ADD the tributary is in the LCAS ADD state, provisioned to be a member but is not yet sending payload, waiting for the far end ■ ACTIVE the tributary is sending payload ■ DNU the tributary is in the LCAS DNU state, a member of the VCG but taken off by LCAS (not sending payload) The states DNU or ADD can only be reported if LCAS is enabled for the VCG owning this tributary. See RTRV-VCG lcasmd.

Table 2-546. RTRV-VCGRIB Output *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description
<i>outmbst</i>	Output Member Status (sink) This parameter reports the status of the tributary related to its VCG membership in the output direction. Value: ■ NA Not Applicable, i.e. the tributary is not a member of the VCG ■ ADD the tributary is provisioned to be a member but is not yet accepting payload, waiting for the far end ■ ACTIVE the tributary is accepting payload ■ FAILED the tributary is provisioned to be a member but is not accepting payload (other than ADD). ■ WTR the failure condition has cleared, the tributary is in wait-to-restore condition, not accepting payload. The states WTR or ADD can only be reported if LCAS is enabled for the VCG owning this tributary. See RTRV-VCGRIB <i>lcsmd</i>.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number is included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

RTRV-VCGRIB:TID123:d-v1-7:123456::1;

```
TID123 98-01-01 08:00:00
M 123456 COMPLD
"d-v1-7::aseqno=6,tseqno=6,inmbs=ENABLE,outmbs=ENABLE"
"d-v1-7::inmbst=ACTIVE,outmbst=ACTIVE"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there may apply to this command.

```

M  sid date time
   ctag DENY
   IIAC
   /* Input, Invalid ACcess identifier */
;

```

**ED-VCG, OPR-VCGTRIB, RTRV-VCG, RTRV-VCGTRIB, RTRV-VCG-DATA,
ED-VCG-DATA**

NAME

RTRV-VLAN: Retrieve Virtual LAN

The **RTRV-VLAN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV-VLAN: *tid:[aid]:ctag::[vlanid];*

Starting in release 2.0, the format is as follows:

RTRV-VLAN: *tid:aid:ctag::[vlanid][, vrtswid];*

Starting in release 2.1, the format is as follows:

RTRV-VLAN: *tid:[aid]:ctag::[vlanid][, vrtswid];*

DESCRIPTION

The **RTRV-VLAN** command retrieves the attributes of one or more VLANs for slot **aid**s which are set to 802.1 tag mode.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-547. RTRV-VLAN Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-547. RTRV-VLAN Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of the slot. Refer to the AID Table in Appendix A for a list of valid AIDs. This parameter is optional. Default value is "ALL." In Release 2.0, the <i>aid</i> is a required input parameter. The value "ALL" is not a valid value. There is no default. Starting in Release 2.1, the <i>aid</i> parameter is optional. Default value is "ALL."
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>vlanid</i>	VLAN Identifier. If this parameter is omitted, information on all the VLANs in the system is returned. Values: An integer in the range of 1 to 4093. This parameter is optional. If not specified, all <i>vlanids</i> will be returned
<i>vrtswid</i>	Virtual Switch ID. Value: An integer in the range 1-4095. This parameter is optional. If not specified, all <i>vrtswids</i> will be returned. Starting in release 5.1, for the LNW70 the virtual switch ID is an integer in the range 1 - 16. For the LNW78 the virtual switch ID is an integer in the range 1 - 8.

OUTPUT FORMAT

If the system fully complies with the request, the following normal completion response is returned:

```

sid date time
M ctag COMPLD
  "vlanid:epaid,EP"
  <1 or more of the line above, for another epaid>
  "vlanid:vcgaid,VCG"
  <1 or more of the line above, for another vcgaid>
  <1 or more of this entire block, for another vlanid>
;
```

```
sid date time
M ctag COMPLD
  "aid:vlanid:epaid=x"
  <1 or more of the line above, for another epaid for the same aid:vlanid>
  "aid:vlanid:vcgaid=x"
  <1 or more of the line above, for another vcgaid for the same aid:vlanid>
  "aid:vlanid:dfepaid=x"
  <1 or more of the line above, for another dfepaid for the same aid:vlanid>
  "aid:vlanid:dfvcgaid=x"
  <1 or more of the line above, for another dfvcgaid for the same aid:vlanid>
  "aid:vlanid:vrtswid=x"
  <1 or more of this entire spec block, for another vlanid for the same aid>
  <1 or more of this entire spec block, for another aid>
;
```

Starting in Release 5.1, the output format is grouped per Virtual Switch :

```
sid date time
M ctag COMPLD
  "aid:vlanid:epaid=x"
  <1 or more of the line above, for another epaid for the same aid:vlanid>
  "aid:vlanid:vcgaid=x"
  <1 or more of the line above, for another vcgaid for the same aid:vlanid>
  "aid:vlanid:dfepaid=x"
  <1 or more of the line above, for another dfepaid for the same aid:vlanid>
  "aid:vlanid:dfvcgaid=x"
  <1 or more of the line above, for another dfvcgaid for the same aid:vlanid>
  "aid:vlanid:vrtswid=x"
  <1 or more of this entire spec block, for another vlanid for the same vrtswid>
  <1 or more of this entire spec block, for another vrtswid for the same aid>
  <1 or more of this entire spec block, for another aid>
```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR OUTPUT PARAMETERS** section. The output parameters listed there apply to this command also. Additional parameters that specifically apply to this command response are defined in the following table.

Table 2-548. RTRV - VLAN Output Parameters

Parameter Name	Description
<i>aid</i>	Access identifier. This is the address of the slot. Refer to the AID Table in Appendix A for a list of valid AIDs.
<i>vlanid</i>	VLAN identifier. Values: An integer in the range of 1-4093.
<i>spec_block</i>	The <i>spec_block</i> parameters are defined in the following table.

Table 2-549. RTRV - VLAN Output *spec_block* Parameters

Parameter Name	Description
<i>epaid</i>	Ethernet port AID. Ethernet/LAN port which includes the specified <i>vlanid</i> on its VLAN membership list. Values: Ethernet port AID. Refer to the AID Table in Appendix A for a list of valid AIDs. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid.
<i>vcgaid</i>	VCG AID. VCG/WAN port which includes the specified <i>vlanid</i> on its VLAN membership list. Values: VCG AID. Refer to the AID Table in Appendix A for a list of valid AIDs. On an RPR pack, the only RPR VCG AIDs that apply are RPR IF. Starting in release 7.0, AIDs of EoS VCGs and RPR IF VCGs on the LNW78 apply.
<i>dfepaid</i>	Ethernet port AID. Ethernet/LAN port for which the specified <i>vlanid</i> is its default VLAN ID. Values: Ethernet port AID. Refer to the AID Table in Appendix A for a list of valid AIDs. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid.
<i>dfvcgaid</i>	VCG AID. VCG/WAN port for which the specified <i>vlanid</i> is its default VLAN Id. Values: VCG AID. Refer to the AID Table in Appendix A for a list of valid AIDs.
<i>vrtswid</i>	Virtual switch ID. Value: An integer in the range: 1 to 4095.

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number may be included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

The following example applies to release 1.1:

```
RTRV-VLAN:LT-TID123:fn-d-1:123456::123;  
  
IP 123456  
<  
  
LT-TID123 00-01-01 08:00:00  
M 123456 COMPLD  
"fn-d-1:123:epaid=d-1"  
"fn-d-1:123:epaid=d-2"  
"fn-d-1:123:vcgaid=d-v1"  
;  
;
```

The following example applies to release 2.0:

```
RTRV-VLAN:LT-TID123:fn-d-1:123456::123;  
  
IP 123456  
<  
  
LT-TID123 00-01-01 08:00:00  
M 123456 COMPLD  
"fn-d-1:123:epaid=d-1"  
"fn-d-1:123:epaid=d-2"  
"fn-d-1:123:vcgaid=d-v1"  
"fn-d-1:123:dfepaid=d-3"  
"fn-d-1:123:dfvcgaid=d-v2"  
"fn-d-1:123:vrtswid=1"  
;  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSE** section. The error responses listed there also apply to this command.

If the specified slot **aid** does not contain an Ethernet board, or if the Ethernet board is not set to 802.1 tag mode, the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists, board type or mode does not support VLANs */  
;  
;
```

If the specified slot **aid** is not specified or "ALL" is used in the **aid** field, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid Access Identifier, AID is missing, wrong or inconsistent
  with modifier */
;
```

Beginning in Release 2.1, the previous error response doesn't apply and is obsolete.

If the named VLAN does not exist, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, vlanid doesn't exist */
;
```

Starting in Release 5.1, if the specified virtual switch id (**vrtswid**) is not within the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, vrtswid out of range */
;
```

If the specified virtual switch doesn't exist, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
  /* Input, Entity Not Exists, vrtswid doesn't exist */
;
```

If the system receives an otherwise valid **RTRV-VLAN** command, but the **aid** addresses a facility that is not equipped; the following ENEQ error response is returned:

```
sid date time
M ctag DENY
ENEQ
/* Equipage, Not Equipped */
;
```

RELATED TL1 MESSAGES

ED-VCG

RTRV-VCG

NAME

RTRV -VRTSW: Retrieve Virtual Switch

The **RTRV -VRTSW** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General, Maintenance and Reports Only access.

INPUT FORMAT

RTRV -VRTSW: *tid:[aid]:ctag::[vrtswid];*

DESCRIPTION

The **RTRV -VRTSW** command retrieves the attributes of one or more virtual switches.

Execution of this command will not be recorded in the Security log.

The **RTRV -VRTSW** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-550. RTRV -VRTSW Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV -HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access identifier. This is the address of the slot. Refer to the AID Table for valid AIDs. Default value is "ALL".
<i>ctag</i>	Correlation tag. Refer to the RTRV -HDR command for the input parameter syntax and description of this parameter.

Table 2-550. RTRV-VRTSW Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>vrtswid</i>	Virtual switch ID. Value: An integer in the range 1-4095. This parameter is optional. If it is not specified, then the virtual switch parameters for all virtual switches defined for the specified AID will be returned. If the AID is specified as "ALL", then the virtual switch parameters for all virtual switches defined for the NE will be returned. For the LNW70 the virtual switch ID is an integer in the range 1 - 16. For the LNW78 the virtual switch ID is an integer in the range 1 - 8.

OUTPUT FORMAT

```

sid date time
M ctag COMPLD
  "aid:vrtswid,EP:epaid=x"
  <1 or more of the line above, for another epaid>
  "aid:vrtswid,VCG:vcgaid=x"
  <1 or more of the line above, for another vcgaid>
  "aid:vrtswid,VCGPL:vcgaid=x,stgrpid=x,vss=x,stpp=x"
  <1 or more of the line above, for another vcgaid>
  "aid:vrtswid,STGPL:stgrpid=x,strp=x,stmaxage=x"
  <1 or more of the line above, for another stgrpid>
  "aid:vrtswid:taglist=x"
  <1 or more of this entire block, for another vrtswid (same aid)>
  <1 or more of this entire block, for another aid>
;

```

The output is in the form of a nested list. The primary list is based on the slot AID, which is sorted in ascending order. For each slot AID, there will be a nested list of virtual switch ids, which is also sorted in ascending order.

For each virtual switch id, if applicable, there will be an *epaid* list (EP) followed by a *vcgaid* list (VCG) followed by a VCG parameter list (VCGPL) followed by a Spanning Tree Group parameter list (STGPL). Each of the *epaid*, *vcgid* and *vcg* and spanning tree group parameter list are also sorted in ascending order by *epaid* or *vcgaid*. Each row of the *vcg* parameter list (VCGPL) is composed of 4 parameters, the *vcgaid*, the spanning tree group id *stgrpid*, the spanning tree status of the *vcg* port, *vss* and the provisioned Spanning Tree Port Priority of the *vcg* port, *stpp*. Each row of the Spanning Tree Group parameter list (STGPL) is composed of 3 parameters, the spanning tree group id *stgrpid*, the spanning tree

root priority *strp* and the maximum age timer *stmaxage*. These 4 lists are then followed by the other spec block parameters.

```
sid date time
M ctag COMPLD
  "aid:vrtswid,EP:epaid=x,tagfilter=x"
  <1 or more of the line above, for another epaid>
  "aid:vrtswid,VCG:vcgaid=x,tagfilter=x"
  <1 or more of the line above for VCGs not in a STGRP, for another
vcgaid>
  "aid:vrtswid,VCG:vcgaid=x,stgrpId=x,tagfilter=x"
  <1 or more of the line above for VCGs in a STGRP, for another vcgaid>
  "aid:vrtswid:taglist=x"
  <1 or more of this entire block, for another vrtswid (same aid)>
  <1 or more of this entire block, for another aid>
;
```

Beginning in release 3.0, the output is as shown above and described in the next paragraph.

The output is in the form of a nested list. The primary list is based on the slot AID, which is sorted in ascending order. For each slot AID, there will be a nested list of virtual switch ids, which is also sorted in ascending order.

For each virtual switch id, if applicable, there will be an *epaid* list (EP) followed by a *vcgaid* list (VCG) followed by a VCG parameter list (VCGPL). Each of the *epaid*, *vcgid* and *vcg* parameter list are also sorted in ascending order by *epaid* or *vcgaid*. Each row of the vcg parameter list (VCGPL) is composed of 4 parameters, the *vcgaid*, the spanning tree group id *stgrpId*. These lists are then followed by the other spec block parameters.

Starting in release 3.1, when the tag mode is in transparent mode, the output will include the ***ethertype*** parameter.

```

sid date time
M ctag COMPLD
  "aid:vrtswid,ethertype=x"
  "aid:vrtswid,EP:epaid=x,tagfilter=x"
  <1 or more of the line above, for another epaid>
  "aid:vrtswid,VCG:vcgaid=x,tagfilter=x"
  <1 or more of the line above for VCGs not in a STGRP, for another vcgaid>
  "aid:vrtswid,VCG:vcgaid=x,stgrp=x,tagfilter=x"
  <1 or more of the line above for VCGs in a STGRP, for another vcgaid>
  "aid:vrtswid:taglist=x"
  <1 or more of this entire block, for another vrtswid (same aid)>
  <1 or more of this entire block, for another aid>
;

```

Starting in release 4.0, the **ethertype** parameter is obsolete.

```

sid date time
M ctag COMPLD
  "aid:vrtswid,EP:epaid=x,tagfilter=x"
  <1 or more of the line above, for another epaid>
  "aid:vrtswid,VCG:vcgaid=x,tagfilter=x"
  <1 or more of the line above for VCGs not in a STGRP, for another vcgaid>
  "aid:vrtswid,VCG:vcgaid=x,stgrp=x,tagfilter=x"
  <1 or more of the line above for VCGs in a STGRP, for another vcgaid>
  "aid:vrtswid:taglist=x"
  <1 or more of this entire block, for another vrtswid (same aid)>
  <1 or more of this entire block, for another aid>
;

```

OUTPUT PARAMETERS

Refer to the **RTRV - HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to this command.

Table 2-551. RTRV - VRTSW Output Parameters (cont 1 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. This is the address of a slot. Refer to the AID Table for valid AIDs.
<i>vrtswid</i>	Virtual Switch ID. Value: An integer in the range 1-4095.

Table 2-551. RTRV-VRTSW Output Parameters (cont 2 of 2)

Parameter Name	Description
	For the LNW70 the virtual switch ID is an integer in the range 1 - 16. For the LNW78 the virtual switch ID is an integer in the range 1 - 8.
<i>spec_block</i>	The <i>spec_block</i> parameters are shown in the following table.

Table 2-552. RTRV-VRTSW Output *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description
<i>epaid</i>	Ethernet Port AID list. This parameter only appears in the Ethernet/LAN port (EP) list. Values: Ethernet port AID. Starting in Release 7.0, a Link Aggregation Group (LAG) AID is valid. The AID of a port that is a member of a LAG is not valid. References to an Ethernet port also apply to a LAG.
<i>vcgaid</i>	VCG AID. This parameter appears in both the VCG list (VCG) and in the VCG parameter list (VCGPL). Values: VCG AID.
<i>stgrpid</i>	Spanning Tree Group Id. This parameter appears both in the VCG parameter list (VCGPL) and the Spanning Tree Group parameter list (STGPL). Value: An integer in the range 1-4095.
<i>vss</i>	VCG Spanning Tree Status. This parameter only appears in the VCG parameter list (VCGPL). Values are as follows: ■ FWG: Forwarding ■ LLG: Learning/Listening ■ BLK: Blocked- 802.1d mode only ■ DISA: Disabled - Administration ■ DISF: Disabled - Failure ■ DCD: Discarding - 802.1w mode only ■ This parameter is not valid if the board tag mode (i.e., <i>vlantagmd</i> in ED-EQPT) is set to "NOTAG" Beginning in release 3.0, <i>vss</i> is not an output parameter of this command.

Table 2-552. RTRV-VRTSW Output *spec_block* Parameters (cont 2 of 3)

Parameter Name	Description
<i>stpp</i>	Spanning Tree Port Priority. This parameter only appears in the VCG parameter list (VCGPL). Values: 0 to 255. Beginning in release 3.0, stpp is not an output parameter of this command.
<i>strp</i>	Spanning Tree Root Priority. This parameter only appears in the Spanning Tree Group parameter list (STGPL). Values: 0 to 65535. Beginning in release 3.0, strp is not an output parameter of this command.
<i>stmaxage</i>	Spanning Tree Maximum Age Timer. This parameter only appears in the Spanning Tree Group parameter list (STGPL). Value 6 to 255 seconds. Beginning in release 3.0, stmaxage is not an output parameter of this command.
<i>taglist</i>	Virtual Switch VLAN/port tag list. An ampersand (&) separated list of VLAN identifiers if in 802.1TAG mode or an ampersand (&) separated list of port tags if in PORTTAG mode. Value: Both VLAN identifiers and port tags are integers with value 1-4093.
<i>tagfilter</i>	Tag Filter. This parameter is used to enable/disable VLAN/port tag filtering ■ enable - Tag filtering enabled ■ disable - Tag filtering disabled
<i>ethertype</i>	Ethernet Type field (TPID). Used to interwork with other vendors' equipment using stacked VLAN. This parameter is only valid in Port Tag mode (i.e., TRANSPARENT mode). Value: An string in the range "0601" to "FFFF" except "8100". This parameter is applicable starting in release 3.1. Starting in release 4.0 ethertype is not supported in virtual switch commands, it is supported in (ED-EPORT , RTRV-EPORT , ED-VCG , RTRV-VCG). On upgrade to release 4.0, any ethertype value previously provisioned by the virtual switch command will be moved for all ports that belong to that virtual switch.
<i>tagmd</i>	Virtual LAN Tagging Mode. Values are as follows:

Table 2-552. RTRV-VRTSW Output *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description
	■ 802.1TAG ■ TRANS This parameter applies to the following packs: the VLAN tag mode is no longer a circuit pack parameter (see <i>vlantagmd</i> in ED-EQPT, RTRV-EQPT), rather it is a virtual switch parameter. ■ LNW70 ■ LNW78

EXAMPLE INPUT/OUTPUT

Beginning in Release 6.0, the slot number may be included in the Access Identifier. Refer to the AID Table in Appendix A for a list of valid AIDs.

```
RTRV-VRTSW:TID123:fn-d-1:123456::111;
```

```
TID123 98-01-01 08:00:00
M 123456 COMPLD
  "fn-d-1:111,EP:epaid=a-1"
  "fn-d-1:111,EP:epaid=a-3"
  "fn-d-1:111,VCG:vcgaid=a-v1"
  "fn-d-1:111,VCG:vcgaid=a-v2"
  "fn-d-1:111,VCGPL:vcgaid=a-v1,stgrpid=1,vss=FWG,stpp=122"
  "fn-d-1:111,VCGPL:vcgaid=a-v2,stgrpid=1,vss=BLK,stpp=100"
  "fn-d-1:111,STGPL:stgrpid=1,stp=32782,stmaxage=20"
  "fn-d-1:111:taglist=1&3&4&5&7"
;
```

Beginning in release 3.0, the following example is valid.

RTRV-VRTSW:TID123:fn-d-1:123456::111;

```
TID123 98-01-01 08:00:00
M 123456 COMPLD
  "fn-d-1:111,EP:epaid=d-1,tagfilter=enable"
  "fn-d-1:111,EP:epaid=d-3,tagfilter=enable"
  "fn-d-1:111,VCG:vcgaid=d-v1,tagfilter=enable"
  "fn-d-1:111,VCG:vcgaid=d-v2,stgrpid=1,tagfilter=enable"
  "fn-d-1:111:taglist=1&3&4&5&7"
;
```

RTRV-VRTSW:TID123:all:123456::111;

```
TID123 98-01-01 08:00:00
M 123456 COMPLD
  "fn-a-1:111,EP:epaid=a-1"
  "fn-a-1:111,EP:epaid=a-3"
  "fn-a-1:111,VCG:vcgaid=a-v1"
  "fn-a-1:111,VCG:vcgaid=a-v2"
  "fn-a-1:111,VCGPL:vcgaid=a-v1,stgrpid=1,vss=FWG,stpp=122"
  "fn-a-1:111,VCGPL:vcgaid=a-v2,stgrpid=1,vss=BLK,stpp=100"
  "fn-a-1:111,STGPL:stgrpid=1,strp=32782,stmaxage=20"
  "fn-a-1:111:taglist=1&3&4&5&7"
  "growth-1:111,EP:epaid=g-2"
  "growth-1:111,VCG:vcgaid=g-v1"
  "growth-1:111,VCG:vcgaid=g-v2"
  "growth-1:111,VCGPL:vcgaid=g-v1,stgrpid=1,vss=FWG,stpp=20"
  "growth-1:111,VCGPL:vcgaid=g-v2,stgrpid=1,vss=BLK,stpp=140"
  "growth-1:111,STGPL:stgrpid=1,strp=40,stmaxage=20"
  "growth-1:111:taglist=1&7"
;
```

Beginning in release 3.0, the following example is valid.

```
RTRV-VRTSW:TID123:all:123456::111;

TID123 98-01-01 08:00:00
M 123456 COMPLD
  "fn-a-1:111,EP:epaid=a-1,tagfilter=enable"
  "fn-a-1:111,EP:epaid=a-3,tagfilter=enable"
  "fn-a-1:111,VCG:vcgaid=a-v1,tagfilter=enable"
  "fn-a-1:111,VCG:vcgaid=a-v2,stgrpid=1,tagfilter=enable"
  "fn-a-1:111:taglist=1&3&4&5&7"
  "growth-1:111,EP:epaid=g-2,tagfilter=enable"
  "growth-1:111,VCG:vcgaid=g-v1,tagfilter=enable"
  "growth-1:111,VCG:vcgaid=g-v2,stgrpid=1,tagfilter=enable"
  "growth-1:111:taglist=1&7"
;
```

Starting in release 3.1, while in transparent tag mode, the **ethertype** is listed in the output.

```
RTRV-VRTSW:TID123:all:123456::111;

TID123 98-01-01 08:00:00
M 123456 COMPLD
  "fn-a-1:111,ethertype=FFFF"
  "fn-a-1:111,EP:epaid=a-1,tagfilter=enable"
  "fn-a-1:111,EP:epaid=a-3,tagfilter=enable"
  "fn-a-1:111,VCG:vcgaid=a-v1,tagfilter=enable"
  "fn-a-1:111,VCG:vcgaid=a-v2,stgrpid=1,tagfilter=enable"
  "fn-a-1:111:taglist=1&3&4&5&7"
  "growth-1:111,EP:epaid=g-2,tagfilter=enable"
  "growth-1:111,VCG:vcgaid=g-v1,tagfilter=enable"
  "growth-1:111,VCG:vcgaid=g-v2,stgrpid=1,tagfilter=enable"
  "growth-1:111:taglist=1&7"
;
```

Starting in release 4.0, the **ethertype** parameter is obsolete.

```
RTRV-VRTSW:TID123:all:123456::111;

TID123 98-01-01 08:00:00
M 123456 COMPLD
"fn-d-1:111,EP:epaid=d-1,tagfilter=enable"
"fn-d-1:111,EP:epaid=d-3,tagfilter=enable"
"fn-d-1:111,VCG:vcgaid=d-v1,tagfilter=enable"
"fn-d-1:111,VCG:vcgaid=d-v2,stgrpid=1,tagfilter=enable"
"fn-d-1:111:taglist=1&3&4&5&7"
;
```

Starting in release 5.1, for the LN70 circuit pack, the **tagmd** parameter is shown in the spec_block.

```
RTRV-VRTSW:TID123:all:123456::11;

TID123 98-01-01 08:00:00
M 123456 COMPLD
"fn-d-1:11,EP:epaid=d-1,tagfilter=enable"
"fn-d-1:11,EP:epaid=d-3,tagfilter=enable"
"fn-d-1:11,VCG:vcgaid=d-v1,tagfilter=enable"
"fn-d-1:11,VCG:vcgaid=d-v2,stgrpid=1,tagfilter=enable"
"fn-d-1:11:taglist=1&3&4&5&7,tagmd=TRANS"
;
```

For the LN78 circuit pack, the **tagmd** parameter is shown in the spec_block.

```
RTRV-VRTSW:TID123:all:123456::11;

TID123 98-01-01 08:00:00
M 123456 COMPLD
"fn-d1-1:11,EP:epaid=d1-1,tagfilter=enable"
"fn-d1-1:11,EP:epaid=d1-5,tagfilter=enable"
"fn-d1-1:11,VCG:vcgaid=d1-v1,tagfilter=enable"
"fn-d1-1:11:taglist=1&3&4&5&7,tagmd=TRANS"
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** command **ERROR RESPONSES** section. The error responses listed there apply to this command.

If the specified slot AID does not contain an Ethernet board, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, board type does not support virtual switches
*/
;
```

Beginning in release 3.0 with the introduction of the LNW71 (FE-PL) circuit pack, the above error response is valid when the AID does not contain an Ethernet board that supports virtual switches. Note that the LNW71 is an Ethernet circuit pack but does not support virtual switches.

Starting in Release 5.1, if the specified virtual switch id (**vrtswid**) is not within the allowed range, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, vrtswid out of range */
;
```

If the specified virtual switch doesn't exist, the following error response is returned:

```
sid date time
M ctag DENY
  IENE
/* Input, Entity Not Exists, vrtswid doesn't exist */
;
```

RELATED TL1 MESSAGES

DLT-VRTSW

ED-VRTSW

RTRV-VRTSW
TL1 Message Details

RTRV-VRTSW
Alcatel-Lucent 1665 DMX, R9.0

ENT - VRTSW

NAME

SCHED - BACKUP : Schedule Backup

The **SCHED - BACKUP** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

Input format of **SCHED - BACKUP** is as shown below.

SCHED - BACKUP : *tid* : : *ctag* : : [*dst*] [: *spec_block*] ;

Beginning with Release 3.0, the input format of **SCHED - BACKUP** is as follows:

SCHED - BACKUP : *tid* : : *ctag* : : [*to*] , [*dst*] [: *spec_block*] ;

DESCRIPTION

This command can be used to schedule automatic backup of an NE's provisionable database. Only a single backup schedule may be established per NE. This command can also be used to change or delete the automatic backup schedule.

The related **RTRV - BACKUP SCHED** command can be used to retrieve the backup schedule. By default, no backup is scheduled.

The automatic backup schedule is maintained even after system controller resets. If a scheduled backup happens to coincide with a system controller reset, the backup is done 5 minutes after the system controller reset completes (without affecting the schedule for the *next* backup after that). (The 5-minute delay allows for the possibility that other NEs may also be resetting, e.g., as part of a software upgrade of the whole network.)

The same process applies any time the combination of the date and time for the *next* scheduled backup is in the past, e.g., if an NE's own date and time are set ahead or an NE's provisionable database is restored from a backup file that includes an old backup schedule, the backup is done 5 minutes later. Note, in some cases, multiple "forced" backups may be repeated to "catch up" to the current date and time.

Starting in Release 3.1, when **CPY - MEM** is used for restoring the NE's provisionable database and the date and time for the next scheduled backup is

restored to a date and time that is earlier than the current date and time, the backup interval, *invl*, will be iteratively added to the restored backup date and time until a date and time in the future is reached. If a future date and time cannot be reached within 50 iterations of the backup interval, the backup is not scheduled. In the worst case, if the value of the backup interval, *invl*, is provisioned to its minimum value of 1 day, then not achieving a future date and time for the next scheduled backup after iterating 50 times on the backup interval would occur only if the database restore used a file that was created more than 50 days in the past. For other values of the backup interval, the age of the restore file would have to be proportionately greater for a future next scheduled backup date and time not to be achieved. For example, if the value of *invl* is 7 days, a future next schedule backup date and time will be always achieved as long as the restore file had been created less than 350 days in the past.

A scheduled backup is cancelled by specifying *invl=0*. Starting in Release 5.2, when *invl=0* is specified, all of the other *spec_block* parameters and the *to* and *dest* parameters are not used, and if any unneeded parameters are specified, they will not be checked for the correct syntax or value range and will be ignored.

The related **CPY-MEM** command can be used for one-time requests to backup an NE's provisionable database.

All file transfers initiated as a result of this command are accomplished using FTP file transfers, either directly to/from an FTP-GNE or through an FTP-GNE to/from an FTP-RNE using IP tunneling. If the FTP-GNE, FTP-RNEs and IP tunneling are set up correctly, this command is the same for both the FTP-GNE and FTP-RNEs, i.e., it's as if each FTP-RNE has a direct TCP/IP interface.

The related TL1 commands **ENT-SYS**, **ENT-ULS**, **ENT-IP-ROUTE** and **ED-IP-TUNNEL** support FTP file transfer and IP tunneling provisioning. Refer to the User Operations Guide for more information.

Starting Release 3.0 the file transfers initiated by this command can be accomplished using the FTAM-FTP Gateway. Under this, file transfers from/to the FTP server to the remote NE is achieved using FTAM protocol from the RNE to the FTAM-FTP Gateway NE, and FTP protocol from the Gateway NE to the FTP server. This enables file transfer over OSI-based DCC using IP Access DCN.

The remote NE relying on FTAM protocol for file transfer would require FTAM to make use of the FTAM Initiator function.

The FTAM-FTP GNE performs translation between an FTP Connection and an FTAM Association and requires the FTP Client to be enabled and providing FTAM Responder functions.

The TL1 command **ENT-SYS** supports required provisioning for these functions.

NOTE: It is recommended that users coordinate and administer NE backup schedules, especially among NEs with the same FTP-GNE and/or the same FTP server.

Ideally, only one NE should be scheduled to backup its provisionable database at a time. Under normal operating conditions, each NE's backup file transfer should complete in less than a minute.

NOTE: If OMS is used for provisionable database backups, it is recommended that OMS's own scheduler be used to facilitate coordination and administration of the backups among many NEs, instead of using **SCHED - BACKUP** to independently schedule each NE's backup.

Prior to Release 5.0, when the database was backed up, an uncompressed backup file was created. Starting in Release 5.0, the backup file is a compressed file.

The **SCHED - BACKUP** command generates a **REPT DBCHG** message.

In the **REPT DBCHG** notification, when the value of the **dst** parameter is returned, the **password** field within the **dst** text string shall be replaced with a fixed string of six asterisks, that is "*****", regardless of the number of characters in the password.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

INPUT PARAMETERS

Table 2-553. SCHED - BACKUP Input Parameters (cont 1 of 4)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
ctag	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
to	This field requires start and end double-quotes. Starting in Release 3.0, there are two file transfer mechanisms available for file transfer. ■ "FTP" End-to-end file transfer from/to an FTP Server. The FTP server can be a PC-CIT, OMS or a generic FTP server. This is the default.

Table 2-553. SCHED-BACKUP Input Parameters (cont 2 of 4)

Parameter Name	Description
	■ "FTTD,<i>psel</i>, <i>sse</i>,<i>tse</i>, <i>nsap</i>" File transfer from an FTP server is through a File Transfer Translation Device acting as an FTAM-FTP Gateway. FTTD implies that part of the path uses OSI and part uses FTP (TCP/IP); i.e. the connection of the FTP server to the NE is through a TCP/IP Gateway translating the FTP Connection to an FTAM Association. The "<i>psel</i>,<i>sse</i>,<i>tse</i>,<i>nsap</i>" parameters identify the FTAM-FTP Gateway's OSI network address. The FTP server can be a PC-CIT, OMS or a generic FTP server. <i>psel</i> Presentation Selector. 0-4 bytes (0-8 hex characters) Beginning in Release 3.1, the default <i>psel</i> value is 02. <i>sse</i> Session Selector. 0-4 bytes (0-8 hex characters) Beginning in Release 3.1, the default <i>sse</i> value is 5353. <i>tse</i> Transport Selector. 0-16 bytes (0-32 hex characters) Beginning in Release 3.1, the default <i>tse</i> value is 5454. <i>nsap</i> Network Service Access Point. 20 bytes (40 hex characters). The last 2 characters of <i>nsap</i> must be "1D" or "1d". There is no default value. ■ "SFTP" Starting in Release 9.0, SFTP file transfer to an SFTP Server is supported. ■ NULL NULL defaults to "FTP"
<i>dst</i>	Destination. All scheduled backups are to an FTP server. The FTP server can be a PC-CIT, OMS or a generic FTP server. Because there is no default value for this field, this field is required when the backup schedule is first established. The input format for this field is: "ftp://[<i>login</i>[:<i>passwd</i>]@][<i>srvIPAddr</i>[:<i>port</i>]/][<i>directory</i>]<i>filename</i>"

Table 2-553. SCHED - BACKUP Input Parameters (cont 3 of 4)

Parameter Name	Description
	Start and end double-quotes are required, and unlike most TL1 parameter values, this parameter value is case-sensitive for alphabetic characters. The maximum length for the entire dst string is 128 characters. Starting in Release 5.0, the maximum length for the entire dst string is 110 characters. The mandatory fields are "ftp://", srvIPAddr and "/" (after the optional port field above). Starting in Release 9.0, if to = "SFTP" , the input format for the dst field is: "sftp://login:passwd@dstIPAddr[/][directory/]filename"
login	User ID on the FTP server. This optional field may be up to 26 characters long. Starting in Release 9.0, if to = "SFTP" , this is the User ID on the SFTP server
passwd	User password on the FTP server. This optional field may be up to 72 characters long. If the FTP server is secure, an authorized login and passwd for the FTP server must be specified; otherwise, the FTP server is assumed to support anonymous access (i.e., login=anonymous and no passwd). If passwd includes a colon (:) or an at sign (@), it must be enclosed within a pair of backslash-double quotes (e.g. \"@"). The Alcatel-Lucent CIT requires a CIT login and passwd that has permission for FTP file transfers. OMS always sends a login:passwd pair, even for anonymous FTP. Starting in Release 9.0, if to = "SFTP" , this is the User Password on the SFTP server
srvIPAddr	The FTP server destination IP address must be specified as a 32-bit IP address consisting of four dot-separated decimal numbers ranging from 0 to 255. Starting in Release 9.0, if to = "SFTP" , this is the IP address of the SFTP server

Table 2-553. SCHED - BACKUP Input Parameters (cont 4 of 4)

Parameter Name	Description
port	port can be used to specify the FTP server's port number if it is other than the standard port number 21 (default). The Alcatel-Lucent CIT and OMS use standard port number 21.
[/]directory	The directory and filename are sent to the FTP server exactly as input; however, the following guidelines are generally applicable to an FTP server's interpretation of the [/]directorypath entry. For UNIX FTP servers (e.g. OMS): If the optional forward slash [/] is omitted, the directory path starts from the FTP server's UNIX home directory for the login (user ID). If the optional forward slash is specified and an anonymous login is entered, the directory path starts from the UNIX FTP server's FTP directory. If the optional forward slash is specified and an authorized login is entered, the directory path is a fully-qualified path starting from the FTP server's UNIX root. For PC FTP servers (e.g. the Alcatel-Lucent CIT): The optional forward slash [/] is omitted but a backslash (\) is required instead, to provide a field delimiter between the specified PC disk drive, if any, and the rest of the fully-qualified directory path. Because backslash is the TL1 escape character, to include a backslash in a TL1 message requires <i>two</i> backslashes, e.g., \\c:\\directorypath. Alcatel-Lucent CIT GUI users do not need to enter the second backslash; the Alcatel-Lucent CIT automatically generates the second backslash. Although directory is optional, it is recommended that the user specify a directory path or filename that is unique to the NE, e.g., a directory path that includes the NE's TID.
filename	The scheduled backup is sent to filename as specified or to filename with a number automatically appended to the name, depending on the filenum parameter.
spec_block	Specific parameter block. The following are the spec_block parameters.

Table 2-554. SCHED - BACKUP Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>time</i>	Time of day. This parameter specifies the time of day to schedule the backup. The default is the current time of day. The input format for this field is: HHMM[SS]. ■ HH HH is the hour on a 24-hour clock and can have a value between 00 and 23 inclusive with leading zeros required for single-digit numbers. ■ MM MM is the minutes and can have a value between 00 and 59 inclusive with leading zeros required for single-digit numbers. ■ SS SS is the seconds and can have a value between 00 (default) and 59 inclusive with leading zeros required for single-digit numbers.
<i>date</i>	Date. This parameter specifies the date to schedule the first backup. The default is the current day, or if <i>time</i> is specified, that time within the next 24 hours (which may be the next day). The input format for this field is: YYMMDD. ■ YY YY is the last two digits of the year and can have a value between 00 and 99 with leading zeros required for single-digit numbers. ■ MM MM is the month of the year and can have a value between 01 and 12 inclusive with leading zeros required for single-digit numbers. ■ DD DD is the day of the month and can have a value between 00 and 31 inclusive with leading zeros required for single-digit numbers. If neither <i>time</i> nor <i>date</i> are specified, the first backup is scheduled immediately.
<i>invl</i>	Interval. This parameter specifies the frequency of the scheduled backups in days and can have a value between 0 and 99 inclusive. The default is 30 days. For example, if <i>date</i>=011201 and <i>invl</i>=30, the first backup is scheduled on December 1, 2001, the second backup is scheduled on December 31, 2001, the third backup is scheduled on January 30, 2002, etc. The special value <i>invl</i>=0 is used to cancel the backup schedule. Starting in Release 5.2, when <i>invl</i>=0 is specified, all of the other <i>spec_block</i> parameters and the <i>to</i> and <i>dest</i> parameters, if specified, will be ignored.

Table 2-554. SCHED - BACKUP Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
type	Backup type. ■ FORCE D The NE always transfers a new backup file per the backup schedule. (default)
filenum	File Number. This parameter specifies the number of different backup file names to be used for successive scheduled backups. This parameter allows users to save one or more scheduled backup files for the same NE, but the NE eventually overwrites the oldest scheduled backup files to minimize the need for file storage administration on the FTP server. The allowed values for this parameter are 1 - 9. If filenum=1 , the same filename specified in the dst parameter is reused for each scheduled backup. If filenum=2 (default), the file name specified in the dst parameter is appended with the number 1 for the first backup, 2 for the second backup, 1 again for the third backup, 2 again for the fourth backup, etc. The file number appended to the file name in the dst parameter is incremented for the <i>next</i> scheduled backup whenever the NE transfers a scheduled backup file, e.g., including when an FTP server reply indicates a file transfer failure.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
IP ctag
<
    sid date time
M ctag COMPLD
;
```

Because a scheduled backup automatically initiates a **CPY-MEM** command, refer to **CPY-MEM** for descriptions of the TL1 autonomous messages that report the status of a scheduled backup file transfer.

The NE sends the following TL1 autonomous message if a scheduled backup file transfer is not initiated because the NE is currently processing another file

transfer, e.g., a **CPY-MEM** command. In this case, the NE skips this backup and uses the schedule interval (*invl*) parameter to schedule the next backup.

```
sid date time
A atag REPT EVT COM
":EOC,TC,date,time,,,:"Scheduled backup deferred\''
;
```

The *date* and *time* in the header of all the TL1 autonomous messages above indicates the date and time the message is actually output and may be different than the backup schedule *date* and *time* in the body of the same TL1 autonomous messages.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there apply to this command also.

EXAMPLE INPUT/OUTPUT

The following example schedules a **FORCED** backup for the first time at 6 P.M. tomorrow, and every 60 days thereafter at 6 P.M., to files tid_backup1 and tid_backup2, respectively, on a secure FTP server:

```
SCHED-BACKUP:LT-TID::123456::"ftp://user1:password1@199.88.77.6/backups/lt-
tid/tid_backup":TIME=1800,DATE=011115,INVL=60,TYPE=forced,FILENUM=2;

IP 123456
<

LT-TID 01-11-14 12:25:30
M 123456 COMPLD
;
```

The above example applies to releases prior to Release 3.0.

In Release 3.0 and later, the following example schedules a **FORCED** backup for the first time at 6 P.M. tomorrow, and every 60 days thereafter at 6 P.M., to files tid_backup1 and tid_backup2, respectively, on a secure FTP server via using direct FTP

The following example schedules a **FORCED** backup for the first time at 6 P.M. tomorrow, and every 60 days thereafter at 6 P.M., to files tid_backup1 and tid_backup2, respectively, on a secure FTP server via using FTTD as the FTAM-FTP Gateway:

```
SCHED-BACKUP:LT-
TID::123456::"fttd,02,5353,5454,39840F80000000000000000000008006A1121231D","ftp
://user1:password1@199.88.77.6/backups/lt-tid/
tid_backup":TIME=1800,DATE=011115,INVL=60,TYPE=forced,FILENUM=2;

IP 123456
<

    LT-TID 01-11-14 12:25:30
M 123456 COMPLD
;
```

The following example, beginning in Release 3.1, schedules a **FORCED** backup for the first time at 6 P.M. tomorrow, and every 60 days thereafter at 6 P.M., to files tid_backup1 and tid_backup2, respectively, on a secure FTP server via using FTTD as the FTAM-FTP Gateway, using default *psel*, *ssel*, and *tse* values:

```
SCHED-BACKUP:LT-
TID::123456::"fttd,, ,39840F80000000000000000000008006A1121231D","ftp://
user1:password1@199.88.77.6/backups/lt-tid/
tid_backup":TIME=1800,DATE=011115,INVL=60,TYPE=forced,FILENUM=2;

IP 123456
<

    LT-TID 01-11-14 12:25:30
M 123456 COMPLD
;
```

The following example schedules a **FORCED** backup for the first time at 6 P.M. tomorrow, and every 60 days thereafter at 6 P.M., to files tid_backup1 and tid_backup2, respectively, to an SFTP server:

```
SCHED-BACKUP:TID123::123456::  
"sftp,"sftp://user1:password1@199.88.77.6/backups/lt-tid/tid_backup":  
TIME=1800,DATE=101115,INVL=60,TYPE=forced,FILENUM=2;  
  
IP 123456  
<  
  
TID123 10-11-14 12:25:30  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

Because a scheduled backup automatically initiates a **CPY-MEM** command, refer to the **CPY-MEM ERROR RESPONSES** section for errors from immediate backups (neither the *time* nor *date* parameters is specified).

The NE returns the following error response if the *dst* value is invalid or too long or if one of the subfields within the *dst* value is too long:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid DESTINATION value */  
;
```

Starting in Release 5.0, the NE returns the following error response if the total length of the **dst** value is too long:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, DESTINATION too long */
;
```

The NE returns the following error response if the **time** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid TIME value */
;
```

The NE returns the following error response if the **date** value in the **spec_block** is invalid, including combinations of provisioned **date** and **time** that are in the past relative to the NE's current date and time:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid DATE value */
;
```

The NE returns the following error response if the **invl** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid INVL value */
;
```

The NE returns the following error response if the **type** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid TYPE value */
;
```

The NE returns the following error response if the **filenum** value in the **spec_block** is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid FILENUM value */
;
```

The NE returns the following error response if the **to** value is invalid:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid TO value */
;
```

RELATED TL1 MESSAGES

APPLY

CPY-MEM

CPY-PRGM

ED-IP-TUNNEL

ENT-IP-ROUTE

ENT-SYS

ENT-ULS

INS-PRGM

SCHED-BACKUP
TL1 Message Details

SCHED-BACKUP
Alcatel-Lucent 1665 DMX, R9.0

REPT EVT

RTRV - BACKUPSCHED

RTRV - SYS

NAME

SCHED-PMREPT: Schedule Performance Monitoring Report

The **SCHED-PMREPT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General and Maintenance access.

INPUT FORMAT

Input format of **SCHED-PMREPT** is as shown below.

SCHED-PMREPT -

modifier:tid:aid:ctag:[reptinvl],[reptstatm],[numrept],[montype],[monlev],[locn],[dirn],[tmper],[tmofst];

Beginning in release 3.0, the input format of **SCHED-PMREPT** is as shown below.

SCHED-PMREPT -

modifier:tid:aid:ctag:[reptinvl],[reptstatm],[numrept],[montype],[monlev],[locn],[dirn],[tmper],[tmofst];

DESCRIPTION

SCHED-PMREPT commands can be initiated to request the network element (NE) to schedule or delete the schedule for autonomous performance-monitoring (PM) reports.

Based on the scheduled PM reports, the NE outputs autonomous **REPT PM** messages.

Note: Users should **avoid** scheduling daily reports to start just before or at midnight. The time a **SCHED-PMREPT** command is sent may vary slightly from the time the command is received, processed and output by the NE, and the NE stores only the current and previous day's *daily* PM data.

The NE supports up to a maximum of 100 active different scheduled PM reports. A scheduled report is a unique combination of the **aid** for an individual line, port or tributary and values of the other **SCHED-PMREPT** parameters. If the **aid** specifies a single line, port or tributary, it is counted as a single scheduled report toward the maximum of 100 active reports. If the **aid** includes "ALL" as part of the aid specification, then the number of active reports counted toward the maximum is

the number of individual lines, ports or tributaries that are included in the **aid** specification.

The NE accepts each **SCHED-PMREPT** as a request for a different scheduled PM report unless two requests are *exact* duplicates.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **SCHED-PMREPT** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-555. SCHED-PMREPT Input Parameters (cont 1 of 6)

Parameter Name	Description																		
modifier	This is the command code modifier; it must have one of the following values: <table> <tr> <td>E1</td><td>This is for the E1 level external interfaces.</td></tr> <tr> <td>EC1</td><td>This is for the electrical STS1 level external interfaces.</td></tr> <tr> <td>OC3</td><td>This is for OC-3 level external interfaces.</td></tr> <tr> <td>OC12</td><td>This is for OC-12 level external interfaces.</td></tr> <tr> <td>OC48</td><td>This is for optical OC-48 level external interfaces.</td></tr> <tr> <td>OC192</td><td>This is for optical OC-192 level external interfaces.</td></tr> </table> Beginning in Release 5.0, if the aid addresses a specific STSn cross-connect, a RTRV-PM report is generated for each constituent of that cross-connect at the time the report is generated. If the aid includes ALL, a report is generated for each constituent of any cross-connected signal where the constituent rate matches the modifier (e.g. if modifier = STS3c, a report is generated for each constituent which has an accepted rate of STS3c at the time the report is generated, regardless of the cross-connected rate). See <i>crstat</i> in RTRV-rr. <table> <tr> <td>STS1</td><td>This is for STS-1 channels.</td></tr> <tr> <td>STS3c</td><td>This is for STS-3c channels.</td></tr> <tr> <td>STS12c</td><td>This is for STS-12c channels.</td></tr> </table>	E1	This is for the E1 level external interfaces.	EC1	This is for the electrical STS1 level external interfaces.	OC3	This is for OC-3 level external interfaces.	OC12	This is for OC-12 level external interfaces.	OC48	This is for optical OC-48 level external interfaces.	OC192	This is for optical OC-192 level external interfaces.	STS1	This is for STS-1 channels.	STS3c	This is for STS-3c channels.	STS12c	This is for STS-12c channels.
E1	This is for the E1 level external interfaces.																		
EC1	This is for the electrical STS1 level external interfaces.																		
OC3	This is for OC-3 level external interfaces.																		
OC12	This is for OC-12 level external interfaces.																		
OC48	This is for optical OC-48 level external interfaces.																		
OC192	This is for optical OC-192 level external interfaces.																		
STS1	This is for STS-1 channels.																		
STS3c	This is for STS-3c channels.																		
STS12c	This is for STS-12c channels.																		

Table 2-555. SCHED-PMREPT Input Parameters (cont 2 of 6)

Parameter Name	Description
	STS48c This is for STS-48c channels. T1 This is for the DS1 level external interfaces. T3 This is for the DS3 level external interfaces. VT1 This is for dropped VT1.5 channels. VC12 This is for dropped VC12 channels. The following modifier values apply only to the LNW785 DWDM circuit pack: OCH This is for optical channels. OTS This is for the optical transmission section. The following modifier values apply only to the LNW705 DWDM circuit pack: ODU2 This is for optical channel data unit 2. OTU2 This is for optical channel transport unit 2.
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
aid	Access Identifier. This is the address of the line, channel, or port for which a scheduled PM report is requested. See Appendix A for the aid formats/rules. The value of aid can be any access identifier for which PM data is collected. The NE confirms the validity of the input aid value, but the NE allows PM reports to be scheduled independent of the system equipment or provisioning.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
The next three input parameters (reptinvl , reptstatm and numrept) primarily affect the scheduling of PM reports. However, the supported scheduling-related input parameter values are based on the PM data stored, and thus are available to be reported by the NE.	
reptinvl	Report Interval. This specifies how often the scheduled PM report is to be generated and returned to the requesting OS. It may have one of the following values: 15-MIN This schedules the PM report to be generated every 15 minutes (for tmper = 15-MIN only).

Table 2-555. SCHED-PMREPT Input Parameters (cont 3 of 6)

Parameter Name	Description
	{1 - 24}-HR This schedules the PM report to be generated every 1 to 24 hours. 1-DAY This schedules the PM report to be generated every 1 day (for <i>tmper</i> = 1-DAY only). The default is 15-MIN if <i>tmper</i> = 15-MIN and 1-DAY if <i>tmper</i> = 1-DAY.
reptstatm	Report Start Time. This specifies the time of the first autonomous PM report (REPT PM). This has the format HH-MM (hours-minutes), where HH ranges from 0 to 23 and MM ranges from 0 to 59. If the reptstatm value is already past for the current day, the NE interprets the reptstatm value to be for the next day. The default is the current time of day, in which case, the NE immediately outputs the first autonomous PM report (REPT PM).
numrept	Number of reports. This specifies the number of autonomous instances of a PM report (REPT PM) to be generated. The value may be NULL or have a numeric value ranging from 0 to 96. For example, if numrept=10 and reptinvl=15-MIN, the report specified by the aid and the unique values of the other SCHED-PMREPT parameters is autonomously issued every 15 minutes until 10 reports have been issued. If numrept is NULL (default), the NE activates the PM report schedule indefinitely, that is, until the schedules deleted by a subsequent SCHED-PMREPT, or a processor reset results in the deletion of all PM report schedules. For example, if numrept=NULL and reptinvl=15-MIN, the report specified by the aid and the unique values of the other SCHED-PMREPT parameters is autonomously issued every 15 minutes until terminated by another SCHED-PMREPT command with the same parameter values and with numrept=0, or until the NE resets. If numrept is 0, the NE deletes any previous PM report schedule(s) that match based on all other input parameter values (except ctag). If SCHED-PMREPT command is issued with numrept set to 0, reptstatm set to NULL, and all other input parameters (except ctag) are the same, the NE deletes all previous PM report schedule(s) that match the input parameters in the new command.

Table 2-555. SCHED-PMREPT Input Parameters (cont 4 of 6)

Parameter Name	Description
	If a SCHED-PMREPT command is issued with <i>numrept</i> set to 0, and <i>reptstatm</i> set to a time at which a report has already been scheduled to be sent and all the other input parameters, except <i>ctag</i>, match a previously issued SCHED-PMREPT command, the NE will delete all the other scheduled PM reports that are elements of the set of reports, pertaining to the matching previous command referred to above. (It should be noted that per this new rule, the value for <i>reptstatm</i> does not have to match the value set up in the preceding SCHED-PMREPT command.) The above description is further explained with an example: A SCHED-PMREPT command with <i>reptstatm</i> = 00-00, <i>numrept</i> = 10, and <i>reptinvl</i> = 15-MIN, has already been issued. PM reports have been sent by the NE at 00-00 and 00-15. The user now sends, before 00-30 of the same day, a SCHED-PMREPT command with <i>reptstatm</i> = 00-30, <i>numrept</i> = 0, and all other parameters the same (except for the <i>ctag</i>). The NE will now delete the report scheduled for 00-30 along with all the other seven reports that are a part of the set of 10 reports, scheduled to be sent every 15 minutes starting at 00-00. Any other pre-scheduled PM report that does not have matching input parameter values to the newly issued SCHED-PMREPT command, will not be affected by this newly issued SCHED-PMREPT command. <i>numrept</i> specifies the number of instances to be issued of the report specified by the <i>aid</i> and the other SCHED-PMREPT parameters. It is not related the maximum number of 100 different active scheduled PM reports.
<i>montype</i>	Monitored parameter Type. This is the PM parameter type for which reporting is being scheduled. The default is for all applicable (based on the <i>modifier</i>) <i>montype</i> values to be reported. Refer to Appendix B for a list of valid values. Monitor types for DS3 egress PM reporting, i.e., those with the "-EGR" suffix, are reported for DS3 port AIDs when <i>modifier</i> = T3 or ALL and a value for <i>montype</i> is not specified. When <i>modifier</i> = T1 or ALL and a value for <i>montype</i> is not specified, monitor types for DS1 egress PM reporting, i.e., those with the "-EGR" suffix, are reported for DS1 signals within a terminated channelized DS3 on an LN20 circuit pack operating in portless mode (ENT-T3:eif=T3,pmd=PORTLESS). The AID that is reported is the same DS1 AID used for ported, channelized DS1 signals on the LN20 (ENT-T3:eif=T3,pmd=PORTED,tribmd=CHAN).

Table 2-555. SCHED-PMREPT Input Parameters (cont 5 of 6)

Parameter Name	Description
	The "-EGR" parameters are also reported when montype specifies the equivalent non "EGR" parameter. However, "-EGR" cannot be specified as an input value for montype , and doing so will result in SCHED-PMREPT being denied.
monlev	Monitored Level. This has the format LEV-DIRN. The LEV value may be a decimal numeral. DIRN may have one of the following values: DN This requests PM data be reported for monval values equal to or less than the value of LEV. UP This requests PM data be reported for monval values equal to or greater than the value of LEV. The default for monlev is 1-UP. monlev does not apply to the analog optical power measurements montypes TOPRSH, TOPRL, TOPRH, OPR, OPRL, OPRH, OPT, OPTL and OPTH.
locn	Location. This requests PM data be reported for a specified location and may have one of the following values: FEND This requests far-end PM data. NEND This requests near-end PM data. When locn is NULL, the default for location (locn) is NEND.
dirn	Direction. This requests PM data be reported for a specified direction. The value of direction must be NULL or NA (not applicable). If NULL, the default value is NA.
tmper	Time Period. This requests PM data for a specified time interval. This parameter must have one of the following values: 15-MIN This requests PM data in 15-minute intervals. 1-DAY This requests daily PM data. If tmper is NULL, the default value is 15-MIN.
tmofst	Time Offset. This parameter specifies the start time of the time period (tmper) for which PM data is to be reported, by subtracting the tmofst from the time of the most recently completed time period (tmper). This has the format DD-HH-MM (day-hours-minutes). If tmper = 1-DAY, allowable values of tmofst are 0-0-0 and 1-0-0 only.

Table 2-555. SCHED-PMREPT Input Parameters (cont 6 of 6)

Parameter Name	Description
	If <i>tmper</i> = 15-MIN, allowable values of <i>tmofst</i> are 0-{0-7}-{0,15,30,45} and 0-8-0. In the specific case of <i>tmofst</i> = 0-0-0, the NE reports the PM data accumulated during the <i>current</i> time period (<i>tmper</i>). If <i>tmofst</i> is NULL, the default is to report PM data for the most recently completed time period (<i>tmper</i>) interval. That is, if <i>tmper</i> = 15-MIN, the <i>tmofst</i> default is 0-0-15. If <i>tmper</i> = 1-DAY, the <i>tmofst</i> default is 1-0-0. For example, if <i>tmofst</i> is NULL and a PM report is scheduled to be generated at 12:05 P.M. for <i>tmper</i> = 15-MIN, the PM data accumulated from 11:45 A.M. to 12:00 Noon is reported. The NE supports parameter grouping, with single ampersands (&), of non-null <i>tmofst</i> values to allow PM reports to be scheduled at intervals (<i>reptinvl</i>) greater than 15 minutes and still include all 15-minute PM data accumulated during the report interval (<i>reptinvl</i>). The NE accepts multiple (up to 4) non-null <i>tmofst</i> values separated by single ampersands (&), and reports PM data based on each such <i>tmofst</i> value specified. The order of entry of multiple <i>tmofst</i> values is not significant (and doesn't affect the order of output in the REPT PM messages). If any of the <i>tmofst</i> values in the same command is duplicated, for example, <i>tmofst</i> = 0-0-0&0-0-0, the NE denies the whole command. If any of the <i>tmofst</i> values is not valid, the NE denies the whole command.

OUTPUT FORMAT

If the NE fully complies with the schedule PM report request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the NE receives a valid **SCHED-PMREPT** command with a ***numrept*** value of **0** (to delete a PM schedule), but no active PM schedules match based on the other input parameter values, the NE provides a normal completion response.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **RTRV-HDR OUTPUT PARAMETERS** section.

EXAMPLE INPUT/OUTPUT

The following example contains **aid** instances:

```
SCHED-PMREPT-T3:LT-TID123:b-1:123456::15-MIN,12-05,1,CVL,1-  
UP,NEND,,15-MIN,0-0-0&0-0-45&0-0-30&0-0-15;  
IP 123456  
<  
    LT-TID123 93-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **SCHED-PMREPT** command.

If the NE receives a **SCHED-PMREPT** command with a command code modifier other than those listed as allowable for the input parameter **modifier**, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

Starting in Release 7.1, if a **SCHED-PMREPT** command has an **aid** of a variable rate port and a command code **modifier** that is not consistent with the provisioned signal type of the port (see **ENT-rr:signaltype** and **ENT-OTPE:signaltype**), the following error response is returned:

```
sid date time  
M ctag DENY  
IENE  
/* Input, Entity Not Exists */  
;
```

If the NE receives a **SCHED-PMREPT** command without an **aid** value, or an **aid** value that is invalid or that conflicts with the command code **modifier**, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid Access Identifier */
;
```

If the NE receives a **SCHED-PMREPT** command with an invalid **reptinvl** value, or a **reptinvl** value that conflicts with the **tmper** value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid REPTINVL */
;
```

If the NE receives a **SCHED-PMREPT** command with an invalid **reptstatm** value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid REPTSTATM */
;
```

If the NE receives a **SCHED-PMREPT** command with an invalid **numrept** value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid NUMREPT */
;
```

If the NE receives a **SCHED-PMREPT** command with a **montype** value that is not supported by the NE or a **montype** value that conflicts with the command code **modifier**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid MONTYPE */
;
```

If the NE receives a **SCHED-PMREPT** command with an invalid **monlev** value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid MONLEV */
;
```

If the NE receives a **SCHED-PMREPT** command with an invalid **locn** value, or a **locn** value that conflicts with the command code **modifier**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid LOCN */
;
```

If the NE receives a **SCHED-PMREPT** command with an invalid **dirn** value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid DIRN */
;
```


If the NE receives a **SCHED-PMREPT** command with an invalid **tmper** value (that is, anything other than **15-MIN** or **1-DAY**) or a **tmper** value that conflicts with the command code **modifier**, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid TPPER */
;
```

If the NE receives a **SCHED-PMREPT** command with an invalid **tmofst** value, or a **tmofst** value that conflicts with the **tmper** value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid TMOFST */
;
```

If the NE receives a **SCHED-PMREPT** command that exactly matches all input parameter values (except **ctag**) of a previous **SCHED-PMREPT** whose schedule is still active, the following error response is returned:

```
sid date time
M ctag DENY
  SROF
/* Status, Requested Operation Failed, duplicate scheduled PM
reports */
;
```

If the NE receives a **SCHED-PMREPT** command that would exceed the NE's maximum number of scheduled PM reports or maximum PM data volume to be reported, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, too many scheduled PM
reports */
;
```

RELATED TL1 MESSAGES

REPT PM

RTRV-PM

RTRV-PMSCHED

NAME

SET-ATTR-ALM: Set Attribute Alarm

The **SET-ATTR-ALM** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

SET-ATTR-ALM:*tid::ctag:::spec_block;*

DESCRIPTION

The **SET-ATTR-ALM** command can be initiated by general users to provision the incoming signal alarm delay and the alarm clear delay intervals.

The alarm clear delay intervals only apply to equipment alarms, not to signal failures. Signal failures have a fixed clear delay of 10 seconds.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **SET-ATTR-ALM** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-556. SET-ATTR-ALM Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. This is the name of the network element (NE) to which the command is addressed.
<i>ctag</i>	Correlation Tag. This is included in the command by the user and is repeated by the network element in the response to allow the user to associate the command and response messages.
<i>spec_block</i>	Specific Block. The following are the <i>spec_block</i> parameters.

Parameter Name	Description of <i>spec_block</i> Parameters
<i>almdel</i>	Alarm Delay. This parameter is the incoming signal alarm delay parameter. The incoming alarm signal sets the time that the NE will wait, after it finds an incoming signal condition, before it reports the condition. The value is an integer representing seconds. A null value leaves the parameter unchanged. Value: 0 - 30 . Initial value is 2 .
<i>clrdel</i>	Alarm Clear Delay. This parameter sets the time that the NE will wait after a condition clears before reporting the condition. The value is an integer represented in seconds. A null value leaves the parameter unchanged. Value: 0 - 30 . Initial value is 10 . This parameter does not apply to signal failures. For signal failures, <i>clrdel</i> is always 10 seconds.
<i>pmn</i>	Power Minor Alarm Level. This is the office alarm level to be raised during a power minor alarm condition. Values: MJ, MN . MN is the default value. Beginning in Release 4.0, the following value is also provisionable for <i>pmn</i> : CR Beginning in Release 6.0, the <i>pmn</i> parameter is removed. See the <i>pwrfail</i> parameter of the SYSTEM <i>pftype</i> in ENT-ASAP-ASGNMT and ED-ASAP-PROF TL1 commands for provisioning and assigning the Power Minor Alarm.

OUTPUT FORMAT

If the NE fully complies with the **SET-ATTR-ALM** request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the **SET-ATTR-ALM** command does not alter the existing attributes, the NE will not deny the command. Instead, the system will respond with the completion (**ctag COMPLD**) message shown above.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

The following example shows a **SET-ATTR-ALM** command that provisions the incoming signal alarm delay to 5 seconds.

```
SET-ATTR-ALM::LT-TID123:123456:::almdel=5;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

The following example shows a **SET-ATTR-ALM** command that provisions the alarm clear delay to 14 seconds.

```
SET-ATTR-ALM:LT-TID123::123456:::clrdel=14;  
  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If a **SET-ATTR-ALM** command is received with an invalid **almdel** parameter, the following error response is returned:

```
LT-TID123 00-04-12 23:11:54
M 123456 DENY
IDNV
/* Input, Data Not Valid, invalid almdel parameter */
;
```

If a **SET-ATTR-ALM** command is received with an invalid **clrdel** parameter, the following error response is returned:

```
LT-TID123 00-04-12 23:11:54
M 123456 DENY
IDNV
/* Input, Data Not Valid, invalid clrdel parameter */
;
```

If a **SET-ATTR-ALM** command is received with an invalid **pmn** parameter, the following error response is returned:

```
LT-TID123 00-04-12 23:11:54
M 123456 DENY
IDNV
/* Input, Data Not Valid, invalid pmn parameter */
;
```

RELATED TL1 MESSAGES

RTRV-ATTR-ALM

REFERENCE

NAME

SET-ATTR-CONT: Set Attribute Control

The **SET-ATTR-CONT** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

SET-ATTR-CONT:*tid:aid:ctag::[conttype];*

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **SET-ATTR-CONT** command generates a **REPT DBCHG** message.

DESCRIPTION

The **SET-ATTR-CONT** command can be used to provision (define) the description associated with a miscellaneous discrete environmental (external) control output point. The **RTRV-ATTR-CONT** command can be used to retrieve these descriptions so that, for example, a remote user can verify that a control point is associated with a fan (and not a sprinkler) before operating the control.

INPUT PARAMETERS

Table 2-557. SET-ATTR-CONT Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access identifier (AID). The AID identifies the environmental control point for which the description is being specified. For more information on related AIDs, refer to Appendix A.
<i>ctag</i>	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-557. SET-ATTR-CONT Input Parameters (cont 2 of 2)

Parameter Name	Description
conttype	Control type. This is the condition description to be associated with the addressed control point. The conttype is a case-sensitive (upper and lower case) string of alphanumeric and symbolic characters. With no spaces, conttype may be up to 26 characters long enclosed within a pair of double quotes (" "). This parameter is an exception to the general rule of TL1 input parameters being case-insensitive. For control points 1 - 4, the default conttype is controln (where "n" matches the number of the point reflected in the AID). A null value causes conttype to keep its current value. The following symbolic characters cannot be included in a conttype: ; semicolon @ at sign \ back slash : colon " double quote " " space ? question mark ! exclamation mark = equal sign , comma Additionally, the following control characters and special keys cannot be included in a conttype: <CR> carriage return <bksp> backspace key <del> delete key <tab> tab key <esc> escape key

OUTPUT FORMAT

If the NE fully complies with the **SET-ATTR-CONT** request, the following normal completion response is returned:

```
IP ctag
<
    sid date time
M ctag COMPLD
;
```


If the NE receives a valid **SET-ATTR-CONT** command, but the command does not alter the existing attributes, the NE provides a normal completion response.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there may apply to this command also.

EXAMPLE INPUT/OUTPUT

The following example shows a **SET-ATTR-CONT** command that provisions the text string for control point 3 to "*Fan3*".

```
SET-ATTR-CONT:LT-TID123:CONT-3:123456::"fan3";
```

```
IP 123456  
<
```

```
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD
```

The following example shows a **SET-ATTR-CONT** command that provisions the text string for control point 3 to "*StartGenerator*".

```
SET-ATTR-CONT:LT-TID123:CONT-3:123456::"StartGenerator";
```

```
IP 123456  
<
```

```
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to this command.

If a **SET-ATTR-CONT** command is received with an invalid access identifier, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid Access Identifier */
;
```

RELATED TL1 MESSAGES

OPR-EXT-CONT

REPT COND

REPT EVT

RTRV-ATTR-CONT

RTRV-COND

NAME

SET-ATTR-ENV: Set Attribute Environment

The **SET-ATTR-ENV** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

SET-ATTR-ENV:*tid:aid:ctag::[ntfcncde],[almtype][,almmsg];*

DESCRIPTION

SET-ATTR-ENV commands can be used to set the notification code (alarm level), alarm type (condition type), and/or alarm message (condition description) associated with miscellaneous discrete environmental alarm/status input points.

Environmental alarm conditions are reported by TL1 autonomous **REPT ALM ENV** messages. *Environmental status conditions* are reported by TL1 autonomous **REPT EVT** messages and periodically via **REPT COND**. The provisioned notification code, alarm type, and alarm message are included in the TL1 messages that are used to report the occurrence of an environmental status condition.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **SET-ATTR-ENV** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-558. SET-ATTR-ENV Input Parameters (cont 1 of 3)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier (<i>aid</i>). This is the address of the environmental input point(s) to be provisioned.

Table 2-558. SET-ATTR-ENV Input Parameters (cont 2 of 3)

Parameter Name	Description
	Note: Environmental input point 15 is dedicated to monitor for fan shelf failures and cannot be provisioned. For more information on related AIDs, refer to Appendix A.
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
ntfcncde	Notification Code. This is the alarm level to be associated with the addressed environmental point(s), and may have one of the following values: ■ CR Critical alarm ■ MJ Major alarm ■ MN Minor alarm (Default) ■ NA Not alarmed Note: The ntfcncde value for environmental input point 15 is always MN. Note: Beginning in Release 4.0, the ntfcncde value for environmental input point 15 may be provisioned to CR, MJ, MN, or NA. The default value is MJ. A null value for ntfcncde leaves it unchanged.
almtype	Alarm Type. This is the TL1 alarm type, also referred to as the TL1 condition type, to be associated with the addressed environmental input point. The alarm types listed in Telcordia GR-833 are recommended, but the NE accepts any alarm type value consisting of from 1 to 10 alphanumeric characters and/or dashes. The default value for almtype is MISC. (The almtype for environmental input point 15 is always EXT). A null value for almtype leaves it unchanged.
almmsg	Alarm Message. This is the condition description to be associated with the addressed environmental input point. The description is a case-sensitive string of up to 26 characters consisting of case-sensitive (upper-case and lower-case) alphanumeric and symbolic characters. The description must be enclosed within a pair of double quotes (" "). This parameter is an exception to the general rule of TL1 input parameters being case-insensitive. For environmental input points 1 - 14 and 16 - 19, the default almmsg is environmentn (where "n" matches the number of the point reflected in the AID). (The almmsg for environmental input point 15 is always "fan shelf failed").

Table 2-558. SET-ATTR-ENV Input Parameters (cont 3 of 3)

Parameter Name	Description
	A null provisioned value for <i>almmsg</i> leaves it unchanged. The following symbolic characters cannot be included in a <i>conttype</i>: ; semicolon @ at sign \ back slash " " space : colon " double quote ? question mark ! exclamation mark = equal sign , comma Additionally, the following control characters and special keys cannot be included in a <i>conttype</i>: <CR> carriage return <bksp> backspace key <del> delete key <tab> tab key <esc> escape key

OUTPUT FORMAT

If the NE fully complies with the **SET-ATTR-ENV** request, the following normal completion response is returned:

```
IP ctag
<
  sid date time
M ctag COMPLD
;
```

If the NE receives a valid **SET-ATTR-ENV** command, but the command does not alter the existing attributes, the NE provides a normal completion response.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section for a normal completion response. The output parameters listed there also apply to this command.

EXAMPLE INPUT/OUTPUT

```
SET-ATTR-ENV:LT-DMX:env-10:123456::MJ,, "environment10";
```

```
IP 123456  
<
```

```
LT-DMX 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the NE receives a **SET-ATTR-ENV** command with an invalid command modifier, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

If the NE receives a **SET-ATTR-ENV** command with an invalid *aid* value, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid Access Identifier */
;
```

If the NE receives a **SET-ATTR-ENV** command with an invalid *ntfcncde* value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid NTFNCNDE */
;
```

If the NE receives a **SET-ATTR-ENV** command with an invalid *almmmsg* value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid ALMMMSG */
;
```

If the NE receives a **SET-ATTR-ENV** command with an invalid *almttype* value, the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid ALMTYPE */
;
```

RELATED TL1 MESSAGES

REPT ALM ENV

REPT COND

REPT EVT

RTRV-ALM-ENV

RTRV-ALM-NTWK

RTRV-ATTR-ENV

RTRV-COND

NAME

SET-GENERIC: Select software release and database.

The **SET-GENERIC** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 6.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

SET-GENERIC:*tid::ctag:::spec_block;*

DESCRIPTION

When the system controller resets, it uses the active software release and its associated database stored on the system controller's removable non-volatile memories (NVMs). Under normal circumstances the active software release and database on the two NVMs are identical. When the system controller is replaced, to maintain the database, at least one of the NVMs from the replaced controller is inserted into the new controller. The NVMs may then contain valid but different active software releases and/or databases. Under those conditions, when the system controller resets, it may not be able to determine which software release and/or database to use and the NE goes into Maintenance Mode.

When the NE is in Maintenance Mode, the user can execute the **SET-GENERIC** command to select a software release and a database. **SET-GENERIC** can be run only in Maintenance Mode. Other user options when the NE is in Maintenance Mode include

- downloading a new software release using the **CPY-MEM:DOWNLOAD** or,
- if the software releases on the NVMs are the same but the databases are either different or invalid, restoring the database from a remote backup file using the **CPY-MEM:RESTORE** command, or resetting the database to all default values using the **SET-GENERIC** command. Restoring a database using the **CPY-MEM:RESTORE** command will store the restored database as the **backup_db**, but will not select it. **CPY-MEM:RESTORE** will also write the system MAC address into the restored database if possible.

When the NE is in Maintenance Mode and **CPY-MEM** is used to download a new software generic and/or to restore a database to the NE, **CPY-MEM** will allow both the new generic and the restored database to be of a release that is later than the software generic currently running on the NE. However, the NE is not able to correctly recognize a data base release later than the current running software release and the NE MAC address will not be correctly updated in the restored

database by the **SET-GENERIC** command. When the NE is subsequently reset, the restored database will be considered to be invalid if the database MAC address doesn't match the NE's MAC address and the NE will again start in Maintenance mode. This occurs even if a downloaded new software generic that will be running on the NE after it restarts has a release number that is the same or later than the database that had been restored while the NE was previously in Maintenance mode.

Each NVM may contain up to three different software releases and three different databases: the currently active release and database running on the system controller, the previous release and database, a dormant release and a backup database. The dormant release and the backup database are not necessarily associated.

The software release and databases on the NVMs, their validity and selection are identified by the **RTRV-GENERIC** command.

The **SET-GENERIC** command allows the user to select a software release and/or a database. After both a release and a database have been selected, executing **INIT-SYS:ph=3,aid=CTL-1** or **aid=CTL-ALL** writes the selected software release and database to all NVMs as the active release and active database and the system controller is reset. **SET-GENERIC** does not reset the controller. Executing **INIT-SYS:ph=3,aid=CTL-1** or **aid=CTL-ALL** is required to reset the controller. If the active release and active database are valid, the NE will exit Maintenance Mode.

When **INIT-SYS:ph=3** is executed after a valid release and a valid database are selected, or a valid release is selected and the default database is specified, the selected release and database are written to all NVMs as the **active_rel** and **active_db**.

When **INIT-SYS:ph=3** is executed after a valid release and a valid database are selected, if the **dormant_rel** and/or **backup_db** are selected, they are uncompressed before they are written to all NVMs as the **active_rel** and **active_db**.

If the **dormant_rel** on an NVM is selected, it is also written in compressed form to all NVMs as the **dormant_rel**. If a **dormant_rel** is not selected, when **INIT-SYS:ph=3** is executed:

- If there is only one valid **dormant_rel** among all NVMs, that **dormant_rel** is written to all NVMs as the **dormant_rel**.
- If no **dormant_rel** is valid, any **dormant_rel** on any NVM is deleted.
- If there is more than one valid **dormant_rel**, the valid **dormant_rel** on the NVM with the lowest numbered NVM AID is copied to all NVMs as the **dormant_rel**.

When **INIT-SYS:ph=3** is executed after a valid release and a valid database are selected, if a **previous_rel** on an NVM is selected, when **INIT-SYS:ph=3** is executed, it is written to all NVMs as the **active_rel**.

When **INIT-SYS:ph=3** is executed after a valid release and a valid database are selected, if a **backup_db** on an NVM is selected, when **INIT-SYS:ph=3** is executed, besides written in uncompressed form as the **active_db**, it is written in compressed form to all NVMs as the **backup_db**. If a **backup_db** is not selected, when **INIT-SYS:ph=3** is executed, any **backup_db** on any NVM is deleted.

If a valid software release, but not a valid database has been selected and **INIT-SYS:ph=3** is executed, the selected release will be written as the **active_rel**, but there will be no change to any database on any NVM. Similarly, if a database, but not a software release is selected and **INIT-SYS:ph=3** is executed, the selected database will be written as the **active_db** but there will be no change to any software release on any NVM. Because either a valid database or a valid release has not been selected, the NE will still be in Maintenance Mode after **INIT-SYS:ph=3** is executed.

Prior to executing **INIT-SYS:ph=3**, the selected software release or selected database may be changed by executing **SET-GENERIC** again with a different release or database selection. The selected release or database may be cleared by specifying the value **NONE** as the **sw_rel** or **database** respectively.

The dormant release, which may also be on the NVMs, may be a new software release for the NE that has not as yet been installed, or it may be a software release for a different product type. It may also be a DMX release prior to DMX R6.0, in which case it is treated as if it's a release for a different product type. If **SET-GENERIC** is used to select a dormant release for a different product type, the command will be denied.

Execution of this command will be recorded in the Security log.

The **SET-GENERIC** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Parameter Name	Description
sw_nvm_aid	NVM Access Identifier. The access identifier assigned to the NVM socket. This is the AID of the NVM that contains the software release to be used.

Table 2-559. **SET-GENERIC spec_block** Parameters (cont 1 of 4)

Parameter Name	Description
	Refer to Appendix A for the valid AIDs. This is the AID of an individual NVM. “ ALL ” is not allowed in the AID specified for sw_nvm_aid. If sw_nvm_aid is specified, sw_rel must also be specified. If sw_nvm_aid is specified and sw_rel is not, then command is denied. if sw_nvm_aid is specified and the value of sw_rel is NONE, the value of sw_nvm_aid is ignored.
sw_rel	The software release on the specified NVM to be selected. The values are : ■ ACTIVE Select the <i>active_rel</i> ■ PREVIOUS Select the <i>previous_rel</i> ■ DORMANT Select the <i>dormant_rel</i> ■ NONE Clears the selected software release If sw_nvm_aid is specified, then this parameter must also be specified. If sw_nvm_aid is not specified, sw_rel is ignored if its value is ACTIVE, PREVIOUS or DORMANT. It is not ignored if its value is NONE.
db_nvm_aid	NVM Access Identifier. The access identifier assigned to the NVM socket. This is the AID of the NVM that contains the database to be used. Refer to Appendix A for the valid AIDs. This is the AID of an individual NVM. “ ALL ” is not allowed in the AID specified for db_nvm_aid. If db_nvm_aid is specified, database must also be specified. If db_nvm_aid is specified and database is not, then command is denied. if db_nvm_aid is specified and the value of database is DEFAULT or NONE, the value of db_nvm_aid is ignored.
database	The database on the specified NVM to be selected. The values are: ■ ACTIVE Select the <i>active_db</i> ■ PREVIOUS Select the <i>previous_db</i> ■ BACKUP Select the <i>backup_db</i> ■ DEFAULT Use a database with all parameters set to their default values ■ NONE Clears the selected database

Table 2-559. SET-GENERIC *spec_block* Parameters (cont 2 of 4)

Parameter Name	Description
	If database is set to DEFAULT, then db_nvm_aid doesn't have to be specified, and if it is, it is ignored. If db_nvm_aid is specified, then this parameter must also be specified. If db_nvm_aid is not specified, database is ignored if its value is ACTIVE, PREVIOUS or BACKUP. It is not ignored if its value is DEFAULT or NONE. If DEFAULT is selected, the default database created will be that of the maintenance mode release that is currently running, which may not be compatible with the selected release. The shelf may then restart in maintenance mode running the selected release, at which time DEFAULT should be again chosen to create a compatible default database.
ssc_nvm_aid	Subshelf Configuration NVM AID. The AID of the NVM that contains the subshelf configuration to be used. Refer to Appendix A for values. Refer to Appendix A for the valid AIDs. This is the AID of an individual NVM. "ALL" is not allowed in the AID specified for ssc_nvm_aid. If ssc_nvm_aid is specified, ssconfig must also be specified. If ssc_nvm_aid is specified and ssconfig is not, then command is denied. If ssc_nvm_aid is specified and the value of ssconfig is DEFAULT or NONE, the value of ss_nvm_aid is ignored.

Table 2-559. SET-GENERIC *spec_block* Parameters (cont 3 of 4)

Parameter Name	Description
ssconfig	Subshelf Configuration. Values ■ ACTIVE Select the active subshelf configuration ■ DEFAULT Use a database with all parameters set to their default values ■ NONE Clears the select subshelf configuration. If ssconfig is set to DEFAULT, then ssc_nvmm_aid doesn't have to be specified, and if it is, it is ignored. If ssc_nvmm_aid is specified, then this parameter must also be specified. If ssc_nvmm_aid is not specified, ssconfig is ignored if its value is ACTIVE, but not ignored if its value is DEFAULT or NONE. If DEFAULT is selected, the default subshelf configuration created will be that of the maintenance mode release that is currently running, which may not be compatible with the selected release. The shelf may then restart in maintenance mode running the selected release, at which time DEFAULT should be again chosen to create a compatible default subshelf configuration. When upgrading software directly from Release 5.1.x to Release 9.0 or later, the user must set ssconfig=DEFAULT. Until this is set, the NE will enter maintenance mode upon rebooting.

Table 2-559. SET -GENERIC *spec_block* Parameters (cont 4 of 4)

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```

sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to the **SET-GENERIC** command.

EXAMPLE INPUT/OUTPUT

The following **SET-GENERIC** example selects the active release from NVM-2:

```
set-generic:LT-TID123::123456::sw_nvm_aid=ctl-1-nvm-2,sw_rel=active;  
IP 123456  
<  
    LT-TID123 05-09-22 16:12:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **SET-GENERIC** command.

The NE returns the following error response if **SET-GENERIC** is executed when the NE is not in Maintenance Mode (**RTRV-SYS:nemode**).

```
sid date time  
M ctag DENY  
SNVS  
/* Status, Not in Valid State, NE not in maintenance mode */  
;
```

The NE returns the following error response if a value of **database** other than **DEFAULT** is specified and an NVM access identifier value is not specified.

```
sid date time  
M ctag DENY  
IIAC  
/* Input, Invalid ACcess identifier, no nvm aid specified */  
;
```

Beginning in Release 9.0, the NE also returns the previous error response if a value of **ssconfig** other than **DEFAULT** is specified and **ssc_nvm_aid** is not specified.

The NE returns the following error response if the specified value of **sw_nvm_aid** is invalid.

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, sw_nvm_aid invalid */
;
```

The NE returns the following error response if the specified value of **db_nvm_aid** is invalid.

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, db_nvm_aid invalid */
;
```

The NE returns the following error response if the specified value of **ssc_nvm_aid** is invalid.

```
sid date time
M ctag DENY
  IIAC
  /* Input, Invalid ACcess identifier, ssc_nvm_aid invalid */
;
```

The NE returns the following error response if the NVM slot identified by the NVM access identifier (**sw_nvm_aid** or **db_nvm_aid**) is not equipped with a valid NVM.

```
sid date time
M ctag DENY
  ENMD
  /* Equipage, Not equipped with Memory Device, NVM not equipped */
;
```

Beginning in Release 9.0, the NE also returns the previous error response if the NVM slot identified by **ss_nvm_aid** is not equipped with a valid NVM.

The NE returns the following error response if the NVM slot identified by the NVM access identifier (**sw_nvm_aid** or **db_nvm_aid**) is equipped with a failed or invalid NVM.

```
sid date time
M ctag DENY
  SNIS
  /* Status, Not In Service, NVM failed or invalid */
;
```

Beginning in Release 9.0, the NE also returns the previous error response the NVM slot identified **ssc_nvm_aid** is equipped with a failed or invalid NVM.

The NE returns the following error response if the value of **database** is invalid.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, database parameter invalid */
;
```

The NE returns the following error response if the value of **ssconfig** is invalid.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, ssongfig parameter invalid */
;
```

The NE returns the following error response if the value of **sw_rel** is invalid.

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, sw_rel invalid */
;
```

The NE returns the following error response if the software release specified by **sw_rel** on the NVM identified by **sw_nvm_aid** is missing or invalid.

```
sid date time
M ctag DENY
SDNC
/* Status, input Data is Not Consistent with ne data, sw_rel
invalid or missing */
;
```

The NE returns the following error response if the database specified by **database** on the NVM identified by **db_nvm_aid** is missing or invalid.

```
sid date time
M ctag DENY
SDNC
/* Status, input Data is Not Consistent with ne data, database
invalid or missing */
;
```

The NE returns the following error response if the database specified by **ssconfig** on the NVM identified by **ssc_nvm_aid** is missing or invalid.

```
sid date time
M ctag DENY
SDNC
/* Status, input Data is Not Consistent with ne data, ssconfig
invalid or missing */
;
```

The NE returns the following error response if **sw_nvm_aid** is specified but **sw_rel** is not specified.

```
sid date time
M ctag DENY
IPMS
/* Input, Parameter MiSsing, SW release not specified */
;
```

The NE returns the following error response if **db_nvm_aid** is specified but **database** is not specified.

```
sid date time
M ctag DENY
IPMS
/* Input, Parameter MiSsing, database not specified */
;
```

The NE returns the following error response if **ssc_nvm_aid** is specified but **ssconfig** is not specified.

```
sid date time
M ctag DENY
IPMS
/* Input, Parameter MiSsing, ssconfig not specified */
;
```

If the NE receives a **SET - GENERIC** command with **database=DEFAULT** and a SYSCTL failure prevents the NE from creating a default database, the NE returns the following error response:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, SYSCTL failure, can't create
default DB */
;
```

Beginning in Release 9.0, the also returns the pervious error response if it NE receives a **SET - GENERIC** command with **ssonfig=DEFAULT** and a SYSCTL failure prevents the NE from creating a default ssconfig.

RELATED TL1 MESSAGES

CPY - MEM

INIT - SYS

RTRV - GENERIC

NAME

SET-MAP-RING: Set Map Ring

The **SET-MAP-RING** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 2.1

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

SET-MAP-RING: *tid*: [*aid*]: *ctag*: : [*rid*];

DESCRIPTION

The **SET-MAP-RING** command is used to copy the manually provisioned ring map (see **ED-MAP-RING**) to NVM for use by the Bidirectional Line Switched Ring (BLSR) port protection group as the active ring map. The command permits the user to address a BLSR protection group using the BLSR protection group AID or the Ring ID. In systems supporting automatic ring discovery (ARD) this command will be denied if ARD is enabled.

This command is denied if the manually provisioned ring map:

- does not contain the local node ID,
- does not contain at least 2 nodes,
- contains duplicate nid values,
- contains duplicate tid values, and/or
- contains an unequal number of nids and tids.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

In response to the **SET-MAP-RING** command, the NE shall issue a **REPT DBCHG** message. The message shall include the 2F BLSR protection group *aid* and the *rid*. The BLSR ring map shall not be included.

INPUT PARAMETERS

Table 2-560. SET - MAP - RING Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. See Appendix A - AID Tables. This is the access identifier for a BLSR protection group. Either the <i>aid</i> or <i>rid</i> , but not both, must be specified.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>rid</i>	Ring Identification name. Storage and retrieval of the <i>rid</i> is case sensitive, but actual use of the <i>rid</i> to determine the corresponding protection group is case insensitive. Value: The ring ID parameter is a quoted text string of up to 15 characters consisting of 7-bit hex values of [20-7E] (i.e., printable (ASCII) characters found in the English language), with the following exceptions: ; (semicolon) is not allowed, and " (double quote) and \ (backslash) must be preceded by a backslash. If this parameter is specified, then the command will operate on the protection group associated with that ring ID. Beginning in R3.1, the " (double quote) and \ (backslash) characters are not allowed within the quoted text string. Either the <i>rid</i> or the <i>aid</i>, but not both must be specified.

OUTPUT FORMAT

After receiving the **SET - MAP - RING** command, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

OUTPUT PARAMETERS

Refer to the **RTRV-HDR** command **OUTPUT PARAMETERS** section. The output parameters listed there also apply to the **SET-MAP-RING** command.

EXAMPLE INPUT/OUTPUT

The following is an example of the **SET-MAP-RING** command using **aid** as the 2F BSLR protection group identifier:

```
SET-MAP-RING:LT-DMX:main-1:123456;  
LT-DMX 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

The following is an example of the **SET-MAP-RING** command using **rid** as the 2F BSLR protection group identifier:

```
SET-MAP-RING:LT-DMX::123456::"rid1";  
LT-DMX 98-01-01 08:00:00  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the error responses in **RTRV-HDR** command **ERROR RESPONSES** section. The error messages listed there may also apply.

If the system receives an otherwise valid **SET-MAP-RING** command to update the active ring map and automatic ring discovery is enabled, the command shall be denied and the following error response shall be returned:

```
sid date time  
M ctag DENY  
SNVS  
/* Status, Not in Valid State, ARD enabled */  
;
```

Beginning in Release 5.1, the previous error response is replaced by the following one:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, and enabled */
;
```

If the system receives an otherwise valid **SET-MAP-RING** command to update the active ring map and the manually provisioned inactive ring map contains one of the following errors:

- map not provisioned,
- missing local nid,
- duplicate nids,
- duplicate tids, and/or
- unequal number of tids and nids.

the command shall be denied and the following error response shall be returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, invalid inactive ring map*/
;
```

If the system receives an otherwise valid **SET-MAP-RING** command to update the active ring map and there is at least one cross-connections for which the value of its associated *loca* parameter and/or *locz* parameter appears in the active ring map but not in the inactive ring map, the command shall be denied and the following error response shall be returned.

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, existing cross-connections to/from deleted
node */
;
```


If the system receives a **SET-MAP-RING** command in which the specified *rid* is not enclosed in quotes, the command is denied and the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, rid is not quoted */
;
```

RELATED TL1 MESSAGES

RTRV-MAP-RING

ED-MAP-RING

REPT-DBCHG

NAME

SET-SID: Set Source Identifier

The **SET-SID** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.1

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

SET-SID: *tid::ctag::sid*;

DESCRIPTION

Network element (NE) access is affected by this command. This command can be initiated by an user to change the Target/Source. When the NE receives a **SET-SID** command, the NE will update its Target/Source identifier as requested.

The Target/Source (*sid*) identifier remains active until it is changed. For example, it may remain active until it is changed by the TL1 command **SET-SID** or **ENT-SYS**, or until it is overridden by a NE reset or initialization.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-561. SET-SID Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.

Table 2-561. SET -SID Input Parameters (cont 2 of 2)

Parameter Name	Description
ctag	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
sid	Target/Source Identifier. This is the new name of the network element to which the command is addressed. For proper operation of the TL1 interfaces, the sid must be unique for each network element (NE) within a subnetwork. sid is a case-insensitive character string of up to 20 characters. The allowed ASCII characters are letters "A" through "Z" and "a" through "z", numbers "0" through "9", and special characters: "#" (pound), "%" (percent), "+" (plus), "-" (hyphen), and "." (period). Starting in Release 5.1, the "#" (pound) , "%" (percent) and "+" (plus) special characters are not allowed in sid. Thus, the allowed ASCII characters are letters "A" through "Z" and "a" through "z", numbers "0" through "9", and special characters: "-" (hyphen), and "." (period). When changing the TID, the NE drops the session after completing the command.

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The output format listed there also applies to the **SET-SID** command.

If the requested **SET-SID** command does not alter the existing condition, the NE shall not deny the command. Instead the NE shall respond with a COMPLD message. If the NE receives a valid **SET-SID** command, but the command does not change the NE's current **tid** value, the NE provides a normal completion response.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there also apply to the **SET-SID** command.

EXAMPLE INPUT/OUTPUT

The following example requests the identifier be changed:

```
set-sid:LT-TID123::123456::LT-TID456;  
  
IP 123456  
<  
    LT-TID456 93-10-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **SET-SID** command.

If the NE receives a **SET-SID** with an otherwise valid set of input parameter values, but the **sid** specified in the command is exactly the same as the values for some other NE in the subnetwork, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, invalid SID */  
;
```

If the NE receives a **SET-SID** with an otherwise valid set of input parameter values but the **sid** specified in the command is syntactically incorrect, the following error response is returned:

```
sid date time  
M ctag DENY  
IITA  
/* Invalid TID, unallowed characters or too long */  
;
```

If the NE receives a **SET-SID** without the **sid** parameter, the following error response is returned:

```
sid date time  
M ctag DENY  
IDNV  
/* Input, Data Not Valid, missing SID */  
;
```

If the NE receives a **SET -SID** with an otherwise valid set of input parameter values, but the command could not be completed by the NE, the following error response is returned:

```
sid date time
M ctag DENY
  SROF
/* Status, Requested Operation Failed */
;
```

If an NE receives a **SET -SID** command to change the **sid** value and the NE is not equipped with at least one MAIN slot circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, at least one main slot must be
equipped */
;
```

Starting in Release 6.0, the restriction specified in the previous error response that the NE must be equipped with at least one MAIN slot circuit pack when changing the value of **sid** does not apply.

Starting in Release 5.1, if an NE receives a **SET -SID** command with an **sid** value that is a duplicate of another TID in a BLSR ring, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, duplicate TID in BLSR */
;
```

RELATED TL1 MESSAGES

ENT -SYS

RTRV -SYS

NAME

SET-SYNCN: Set Synchronization

The **SET-SYNCN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged access.

INPUT FORMAT

The command supports the following synchronization modes that are enabled with the **syncnmod** parameter.

Starting in Release 1.0, the synchronization modes are:

Free Running Timing:

SET-SYNCN: *tid:aid:ctag[::[syncnmod]]*;

Line Timed:

SET-SYNCN: *tid:aid:ctag[::[syncnmod], [mdsw], [src], [auto]]*;

Line Timed with Sync Out:

SET-SYNCN: *tid:aid:ctag[::[syncnmod], [mdsw], [src], [auto], [ds1_1iof], [ds1_2iof], [ds1_1equ], [ds1_2equ], [aisthres]]*;

External Timing:

SET-SYNCN: *tid:aid:ctag[::[syncnmod], [mdsw], , , [ds1_1iof], [ds1_2iof], , , [ds1_1ilc], [ds1_2ilc]]*;

External Timing with Sync Out:

SET-SYNCN: *tid:aid:ctag[::[syncnmod], [mdsw], [src], , [ds1_1iof], [ds1_2iof], [ds1_1equ], [ds1_2equ], [aisthres], [ds1_1ilc], [ds1_2ilc]]*;

Starting in Release 4.0, the synchronization modes are:

Free Running Timing:

SET-SYNCN: *tid:aid:ctag[::[syncnmod]]*;

Line Timed:

SET-SYNCN: *tid:aid:ctag[::[syncnmod], [mdsw], [src], [auto], , , , , , [refswmod]]*;

Line Timed with Sync Out:

SET-SYNCN: *tid:aid:ctag*[::[*syncnmod*], [*mdsw*], [*src*],
[*auto*], [*ds1_1iof*], [*ds1_2iof*], [*ds1_1equ*],
[*ds1_2equ*], [*aisthres*],,, [*refswmod*]]];

External Timing:

SET-SYNCN: *tid:aid:ctag*[::[*syncnmod*], [*mdsw*],,,
[*ds1_1iof*], [*ds1_2iof*],,,, [*ds1_1ilc*], [*ds1_2ilc*], [*refswmod*]]];

External Timing with Sync Out:

SET-SYNCN: *tid:aid:ctag*[::[*syncnmod*], [*mdsw*], [*src*],,
[*ds1_1iof*], [*ds1_2iof*], [*ds1_1equ*], [*ds1_2equ*],
[*aisthres*], [*ds1_1ilc*], [*ds1_2ilc*], [*refswmod*]]];

Starting in Release 7.0, the input format includes an optional *spec_block* as follows

Free Running Timing:

SET-SYNCN: *tid:aid:ctag*[::[*syncnmod*]]];

Line Timed:

SET-SYNCN: *tid:aid:ctag*[::[*syncnmod*], [*mdsw*], [*src*],
[*auto*],,,,,,, [*refswmod*][:*spec_block*]]];

Line Timed with Sync Out when **syncctrl=SONETSYNC**:

SET-SYNCN: *tid:aid:ctag*[::[*syncnmod*], [*mdsw*], [*src*],
[*auto*], [*ds1_1iof*], [*ds1_2iof*], [*ds1_1equ*],
[*ds1_2equ*], [*aisthres*],,, [*refswmod*][:*spec_block*]]];

Line Timed with Sync Out when **syncctrl=SDHSYNC**:

SET-SYNCN: *tid:aid:ctag*[::[*syncnmod*], [*mdsw*], [*src*], [*auto*],,,,,,
[*aisthres*],,, [*refswmod*][:*spec_block*]]];

External Timing when **syncctrl=SONETSYNC**:

SET-SYNCN: *tid:aid:ctag*[::[*syncnmod*], [*mdsw*],,,
[*ds1_1iof*], [*ds1_2iof*],,,, [*ds1_1ilc*], [*ds1_2ilc*],
[*refswmod*][:*spec_block*]]];

External Timing when **syncctrl=SDHSYNC**:

SET-SYNCN: *tid:aid:ctag*[::[*syncnmod*], [*mdsw*],,,,,,,],


```
[refswmod][:spec_block]];
```

External Timing with Sync Out when **synccrtc=SONETSYNC**:

```
SET-SYNCN:tid:aid:ctag[::[syncnmod],[mdsw],[src],,  
[ds1_1iof],[ds1_2iof],[ds1_1equ],[ds1_2equ],  
[aisthres],[ds1_1ilc],[ds1_2ilc],[refswmod][:spec_block]];
```

External Timing with Sync Out when **synccrtc=SDHSYNC**:

```
SET-SYNCN:tid:aid:ctag[::[syncnmod],[mdsw],[src],,,,,,  
[aisthres],,,[refswmod][:spec_block]];
```

If only the *spec_block* parameters are changed, regardless of the timing mode:

```
SET-SYNCN:tid:aid:ctag:::spec_block;
```

DESCRIPTION

This command provisions the mode switching, the synchronization mode, the synchronization source, the DS1 signal format of the external timing reference inputs and sync outputs, the DS1 signal line code of the external timing reference inputs, the automatic line timing synchronization source switching, and minimum line timing quality level for the NE. The timing generators are embedded in the main optical line interface units (OLIUs).

Starting in Release 4.0 this command also provisions the revertive reference switching mode and primary reference. Revertive reference switching applies to external references when in **EXT** or **EXT_SYNCOUT** mode, or to line timing references when in **LINE** or **LINE_SYNCOUT** mode.

Starting in Release 7.0, the line timing reference may be provisioned from any optical line on any MAIN, FN or Growth slot circuit pack. If Sync Autoreconfiguration is enabled, line Sync Reference Switching operates only between the provisioned optical line timing reference and its companion line on the companion circuit pack.

The line timing source parameter, **src**, specifies the optical line used as the line timing reference and is required when the synchronization mode, **syncnmod**, is **LINE** or **LINE_SYNCOUT**. It also specifies the optical line used to derive the DS1 sync output and is required when **syncnmod** is **EXT_SYNCOUT**. It is not used and is not required when **syncnmod** is **FRNG** or **EXT**.

Starting in Release 7.0, the line timing source, **src**, does not have an initial value and will be undefined until a value is specified. The following rules apply:

- if the synchronization mode, **syncnmod**, is changed from a mode that does not require a value for **src**, i.e., **FRNG** or **EXT**, to a mode that requires a **src** value, **src** must be specified in the same command as **syncnmod**, otherwise the command will be denied.
- if the synchronization mode, **syncnmod**, is changed from a mode that requires a value for **src**, to a different mode that requires a **src** value, **src** does not need to be specified in the same command as **syncnmod**, and if not specified, **src** will retain its previous value.
- if the synchronization mode, **syncnmod**, is changed from a mode that requires a value for **src** to a mode that does not require a **src** value, the value of **src** will be changed to be undefined.
- if the NE is provisioned to a synchronization mode, **syncnmod**, that does not require a value for **src**, i.e., **FRNG** or **EXT**, attempting to provision a **src** value will be denied.

Starting in Release 7.0, **syncnmod=LINE**, **LINE_SYNCOUT** and **EXT_SYNCOUT** are valid for the LNW80 headless MAIN circuit pack and socketed MAIN circuit packs operating as headless MAINs as long as **src** is provisioned for an optical line on a FN or Growth slot circuit pack. When the NE is provisioned for headless MAINs, **src** cannot be provisioned to a MAIN optical line. MAIN circuit packs operating as headless MAINs are identified by all sockets provisioned to the unequipped state.

Starting in Release 7.0, when the NE is equipped with VLF MAIN circuit packs, the NE synchronization characteristics may be provisioned as either SONET synchronization or SDH synchronization. See Appendix D for the VLF MAIN circuit packs. When provisioned for SONET synchronization, DS1 timing references, SONET sync status messages (SSM), and SONET synchronization characteristics apply. When provisioned for SDH, E1 timing references, SDH sync status messages, and SDH synchronization characteristics apply as specified in ITU-T GR.813 Option 1. The SDH or SONET synchronization characteristics are provisioned by **syncrtc**, which has values **SONETSYNC** and **SDHSYNC**. **SONETSYNC** is the initial value. **syncrtc** cannot be changed to **SDHSYNC** if the NE is not equipped with VLF MAIN circuit packs.

Starting in Release 7.1, Sync Status Messaging (SSM) is supported on the input and output DS1/E1 external timing references. As with SSM on the OC-n line references, when the NE is provisioned to use the external timing reference inputs and when SSM is enabled, the SSM on the incoming DS1/E1 reference is retrieved and interpreted and is available via the **RTRV-SYCN** command. When provisioned for SSM, the incoming SSM on both external reference inputs are monitored and the NE will switch to the external reference with the highest SSM quality as its external timing source.

Enabling DS1/E1 external reference SSM applies to both of the input and both of the output external references; they cannot be individually enabled or disabled for SSM. The **ext_issm** parameter is used to enable or disable DS1/E1 external reference SSM.

SSM is supported on a DS1 external reference only when it is provisioned for the ESF frame format and not for the SF frame format. SSM is supported on a E1 external reference only when it is provisioned for the CRC4 frame format and not for the FAS frame format. SSM on the DS1/E1 lines applies only to the DS1/E1 External timing references, not to the DS1/E1 service lines.

When the NE is provisioned for SDH synchronization, the E1 S_a bit used for SSM is user provisionable. The **ext_isa** and **ext_osa** parameters are used to provision the E1 S_a bit used for SSM on the input and output E1 external timing references.

For OC-n lines, when SSM is disabled, the output message is Do Not Use (DUS, i.e the S1 byte is set to 1111). Therefore, no special provisioning is needed to force the SSM to be DUS. When SSM on the ESF DS1 output timing reference is disabled, the value is set to Synchronized - Traceability Unknown (STU). The E1 output timing reference S_a bits are set to Synchronization Supply Unit - Type A (SSU_A) when SSM is disabled. Thus, the parameter **frcdus** is used to force the SSM on the DS1/E1 output timing references to DUS.

Starting in Release 3.1, execution of this command, whether successful or denied, is recorded in the Security log.

This command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-562. SET - SYNCN Input Parameters (cont 1 of 8)

Parameter Name	Description
tid	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
aid	Access Identifier. This identifies the associated facility. The aid can only have the value ALL .
ctag	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
mdsw	Mode Switching. It may have one of the following values: ■ REVERTIVE Revertive mode switching (initial value). If the system switches to holdover timing mode due to a failure of the timing references, it will automatically switch back to the provisioned synchronization mode after one of the references becomes good.

Table 2-562. SET - SYNCN Input Parameters (cont 2 of 8)

Parameter Name	Description
	■ NONREVERTIVE Nonrevertive mode switching. If the system switches to holdover timing mode due to a failure of the timing references, it will stay in holdover even after a reference becomes good. The OPR - SYNCNSW command must be used to restore the system to the provisioned timing mode.
syncnmod	Synchronization Mode. This sets the synchronization mode of the NE. It can assume one of the following values: ■ FRNG Free Running (initial value prior to Release 3.0). In this mode, the NE derives timing from the internal Stratum 3 oscillator. This internal timing is used to time all synchronous outgoing signals. ■ LINE Line timed. In this mode, the NE derives timing from an incoming high-speed optical line. Timing received from the specified high-speed line is used to time all synchronous outgoing signals. The source selection is made in src parameter. Starting in Release 7.0, the NE derives timing from an incoming MAIN, FN or Growth slot optical line. Timing received from the specified optical line is used to time all synchronous outgoing signals. Note: The value LINE is not valid for the LNW80. Starting in Release 7.0, the value LINE is valid when the MAIN circuit pack is an LNW80. ■ EXT Externally timed. In this mode, the NE derives timing from one of the two DS1 timing reference inputs. The DS1 timing reference is used to time all synchronous outgoing signals. EXT is the initial value in Release 3.0 and later.

Table 2-562. SET - SYNCN Input Parameters (cont 3 of 8)

Parameter Name	Description
■ EXT_SYNCOUT ■ LINE_SYNCOUT	Starting in Release 7.0, when syncmod is set to EXT, the input external timing reference is DS1 if synccrtc is provisioned to SONETSYNC and is E1 if synccrtc is provisioned to SDHSYNC. In addition to EXT above, DS1 Sync Output mode will be enabled. Note: The value EXT_SYNCOUT is not valid for the LNW80. Starting in Release 7.0, the value EXT_SYNCOUT is valid when the MAIN circuit pack is an LNW80. Starting in Release 7.0, when syncmod is set to EXT_SYNCOUT, the input external timing reference and the derived timing output is DS1 if synccrtc is provisioned to SONETSYNC and is E1 if synccrtc is provisioned to SDHSYNC. In addition to LINE above, DS1 Sync Output mode will be enabled. Note: The value LINE_SYNCOUT is not valid for the LNW80. Starting in Release 7.0, the value LINE_SYNCOUT is valid when the MAIN circuit pack is the LNW80. Starting in Release 7.0, when syncmod is set to LINE_SYNCOUT, the derived timing output is DS1 if synccrtc is provisioned to SONETSYNC and is E1 if synccrtc is provisioned to SDHSYNC.
refswmod	Reference Switching Mode. When syncnmod is LINE or LINE_SYNCOUT it only has effect if auto is ENABLED. refswmod may have one of the following values (it defaults to the initial value if syncnmod is changed):

Table 2-562. SET -SYNCN Input Parameters (cont 4 of 8)

Parameter Name	Description
	■ REVERTIVE-1 Revertive reference switching - primary. The system will automatically select for active the primary reference whenever there is no reason to prefer the alternate. REF-1 is primary when external timing; MAIN-1-1 is primary when line timing. Starting in Release 7.0, when the NE is provisioned for line timing, the provisioned line in slot 1 of the slot group specified by the AID value of src is the primary reference. ■ REVERTIVE-2 Revertive reference switching - primary. The system will automatically select for active the primary reference whenever there is no reason to prefer the alternate. REF-2 is primary when external timing; MAIN-2-1 is primary when line timing. Starting in Release 7.0, when the NE is provisioned for line timing, the provisioned line in slot 2 of the slot group specified by the AID value of src is the primary reference. ■ NONREVERTIVE Nonrevertive reference switching (initial value). Whenever a reference is selected for active it will remain so even after the other reference recovers from the degradation that caused the switch, unless line timed and Sync Autoreconfiguration (auto) is enabled and the other reference has changed to a higher quality.
src	Source of synchronization. This parameter selects the optical line from which shelf line timing and/or the synchronization output will be derived. If the source is bad and Sync Autoreconfiguration (auto) is enabled it will switch to a better-quality reference; otherwise the timing generator will switch to HOLDOVER. If Sync Autoreconfiguration is enabled, the command OPR-SYNCNSW can change the source. src may have one of the following values: ■ MAIN-1-1 initial value Starting in Release 7.0, src does not have an initial value and will be undefined until specified.

Table 2-562. SET - SYNCN Input Parameters (cont 5 of 8)

Parameter Name	Description				
	■ MAIN-2-1 Starting in Release 7.0, in support of line timing from FN and Growth slots, src may have as its value the AID of any optical line on any circuit pack in the MAIN, FN or Growth slots. Sync Autoreconfiguration, if enabled, and Sync Reference Switching operate only between the optical line specified by src and its companion line on the circuit pack in the companion slot. Starting in Release 7.1, line timing is not supported from an LNW705 Muxponder circuit pack.				
auto	Sync Autoreconfiguration. If auto=ENABLED the system chooses the best timing source to use when it is provisioned for LINE, LINE_SYNCOUT or EXT_SYNCOUT. When Sync Autoreconfiguration is enabled, the system automatically reconfigures between line timing sources. Automatic protection switching (APS) to the standby timing source occurs when the active source fails. The switch is nonrevertive, and there will not be an automatic switch back when the failed source becomes good. Use the OPR-SYNCNSW command to manually switch to the other timing source. Starting in Release 4.0 the revertive/nonrevertive behavior is controlled by refswmod. If auto=DISABLED, the system goes into HOLDOVER when the timing source specified by src fails. The parameter auto may have one of the following values: <table> <tr> <td>■ ENABLED</td><td>SyncAutoreconfiguration is active. This is not allowed if sync messaging is disabled on either source (see syncmsg in ENT-rr).</td></tr> <tr> <td>■ DISABLED</td><td>SyncAutoreconfiguration is not active (initial value).</td></tr> </table>	■ ENABLED	SyncAutoreconfiguration is active. This is not allowed if sync messaging is disabled on either source (see syncmsg in ENT-rr).	■ DISABLED	SyncAutoreconfiguration is not active (initial value).
■ ENABLED	SyncAutoreconfiguration is active. This is not allowed if sync messaging is disabled on either source (see syncmsg in ENT-rr).				
■ DISABLED	SyncAutoreconfiguration is not active (initial value).				
aisthres	AIS Threshold. This parameter sets the threshold level for AIS generation on the derived reference outputs, based on the received Synchronization Status Message of the optical line used to derive the timing. When the received quality level is at or below the threshold (i.e. the quality level number is at or above the threshold), an AIS signal is transmitted on the sync output signals. The values are: Starting in Release 7.0, the following values of aisthres apply when syncrrtc is provisioned to SONETSYNC. The values are:				

Table 2-562. SET-SYNCN Input Parameters (cont 6 of 8)

Parameter Name	Description
	■ LEVEL7 Send DS1 AIS for incoming quality level 7, including traceable SONET Minimum Clock (SMC), or greater (i.e, quality level 7 or 8, or greater). ■ LEVEL6 Send DS1 AIS for incoming quality level 6, traceable Stratum 3 (ST3) or greater. (initial value) ■ LEVEL5 Send DS1 AIS for incoming quality level 5, traceable Stratum 3E (ST3E), or greater. ■ LEVEL4 Send DS1 AIS for incoming quality level 4, traceable Transit Node Clock (TNC), or greater. ■ LEVEL3 Send DS1 AIS for incoming quality level 3, traceable Stratum 2 (ST2), or greater. ■ LEVEL2 Send DS1 AIS for incoming quality level 2, Sync Traceability Unknown (STU), or greater. Starting in Release 7.0, when synccrtc is provisioned to SDHSYNC, aisthres sets the threshold level for AIS generation on the derived E1 outputs, based on the received Synchronization Status Message of the optical line used to derive the timing. Starting in Release 7.0, the following values of aisthres apply when synccrtc is provisioned to SDHSYNC. The values are: ■ LEVEL4 Send E1 AIS for incoming quality level 4, SDH Equipment Clock (SEC), or greater (initial value). ■ LEVEL3 Send E1 AIS for incoming quality level 3, Synchronization Supply Unit - Type B (SSU_B), or greater. ■ LEVEL2 Send E1 AIS for incoming quality level 2, Synchronization Supply Unit - Type A (SSU_A), or greater.
ds1_1iof	DS1 input and output format for port 1. This selects the signal format for port 1 DS1 timing reference input or timing output on main-1 circuit pack. It may have one of the following values:

Table 2-562. SET - SYNCN Input Parameters (cont 7 of 8)

Parameter Name	Description
	■ SF Super Frame. This sets the DS1 signal format to Super Frame (initial value). ■ ESF Extended Super Frame. This sets the DS1 signal format to Extended Super Frame. Starting in Release 7.0, ds1_1iof applies only when synccrtc is provisioned to SONETSYNC.
ds1_1ilc	DS1 input line code for port 1. This selects the line code for port 1 DS1 timing reference input on main-1 circuit pack. It may have one of the following values: ■ AMI This sets the DS1 line code to Alternate Mark Inversion (initial value). ■ B8ZS This sets the DS1 line code to Bipolar 8 Zero Substitution. Starting in Release 7.0, ds1_1ilc applies only when synccrtc is provisioned to SONETSYNC.
ds1_1equ	DS1 sync output equalization. This selects the equalization on the DS1 sync output of the main-1 circuit pack: ■ 20 This sets the maximum cable length for 600 Type cable at 131 feet, or for 1249 Type cable at 90 feet (initial value). ■ 40 This sets the maximum cable length for 600 Type cable at 262 feet, or for 1249 Type cable at 180 feet. ■ 60 This sets the maximum cable length for 600 Type cable at 393 feet, or for 1249 Type cable at 270 feet. ■ 80 This sets the maximum cable length for 600 Type cable at 524 feet, or for 1249 Type cable at 360 feet. ■ 100 This sets the maximum cable length for 600 Type cable at 655 feet, or for 1249 Type cable at 450 feet. Starting in Release 7.0, ds1_1equ applies only when synccrtc is provisioned to SONETSYNC.
ds1_2iof	Same as ds1_1iof, except this is for port 2 DS1 signal on main-2 circuit pack.

Table 2-562. SET -SYNCN Input Parameters (cont 8 of 8)

Parameter Name	Description
	Starting in Release 7.0, ds1_2iof applies only when syncctrl is provisioned to SONETSYNC .
ds1_2ilc	Same as ds1_1ilc , except this is for port 2 DS1 signal on main-2 circuit pack. Starting in Release 7.0, ds1_2ilc applies only when syncctrl is provisioned to SONETSYNC .
ds1_2equ	Same as ds1_1equ , except this is for the DS1 sync output signal on main-2 circuit pack. Starting in Release 7.0, ds1_2equ applies only when syncctrl is provisioned to SONETSYNC .
spec_block	The spec_block parameters are listed and described in the following table.

Table 2-563. SET -SYNCN Input *spec_block* Parameters (cont 1 of 3)

Parameter Name	Description of <i>spec_block</i> Parameters
syncctrl	System Synchronization Characteristic. syncctrl has the following values: ■ SONETSYNC SONET synchronization characteristics, including DS1 external references and SONET sync message interpretation. This is the initial value. ■ SDHSYNC SDH synchronization characteristics, including E1 external references and SDH sync message interpretation.

Parameter Name	Description of <i>spec_block</i> Parameters
	NOTE: Changing the System Synchronization Characteristic while an NE is carrying service will result in the loss of service.
e1_1iof	E1 input and output format for port 1. This selects the signal format for port 1 E1 timing reference input or timing output on main-1 circuit pack. This parameter applies only when synccrtc is provisioned to SDHSYNC. e1_1iof may have one of the following values: ■ FAS Frame Alignment Signal. ■ CRC4 Cyclic Redundancy Check-4 (Initial Default) multiframe alignment.
e1_2iof	Same as e1_1iof, except this is for port 2 E1 signal on main-2 circuit pack. This parameter applies only when synccrtc is provisioned to SDHSYNC.
ext_issm	External timing reference SSM support. ext_issm is used to enable or disable SSM on the input and output external timing references. This parameter applies only when syncnmod=EXT, EXT_SYNCOUT or LINE_SYNCOUT, and only when ds1_1iof and ds1_2iof are both set to ESF (synccrtc=SONETSYNC) or when e1_1iof and e1_2iof are both set to CRC4 (synccrtc=SDHSYNC). The values are ENABLED and DISABLED. The initial value is DISABLED. When ext_issm is set to DISABLED and synccrtc=SONETSYNC, the output message sent on the DS1 output timing references is "Synchronized - T raceability Unknown " (STU). When ext_issm is set to DISABLED and synccrtc=SDHSYNC, the output message sent on the E1 output timing references is "Synchronization Supply Unit - T type A " (SSU_A).
frcdus	Force "DUS" on the external output timing reference's SSM. This parameter applies only when syncnmod=LINE_SYNCOUT or EXT_SYNCOUT and when ext_issm=ENABLED. The values are ■ ENABLED The SSM on the output timing references is set to DUS.

Table 2-563. SET-SYNCN Input *spec_block* Parameters (cont 3 of 3)

Parameter Name	Description of <i>spec_block</i> Parameters
	■ DISABLED (Initial Default) The SSM on the output timing references is set to the appropriate value based on the input SSM and the state of the NE.
<i>ext_isa</i>	E1 S_a bit to use for SSM on the input E1 external timing references. This parameter applies only when <i>synccrtc</i> is provisioned to SDHSYNC and when <i>syncnmod</i>=EXT or EXT_SYNCOUT. <i>ext_isa</i> can be provisioned regardless of the value of <i>ext_issm</i>. Values are SA4, SA5, SA6, SA7 and SA8. SA4 is the initial value.
<i>ext_osa</i>	E1 S_a bit to use for SSM on the output E1 external timing references. This parameter applies only when <i>synccrtc</i> is provisioned to SDHSYNC and when <i>syncnmod</i>=LINE_SYNCOUT or EXT_SYNCOUT. <i>ext_osa</i> can be provisioned regardless of the value of <i>ext_issm</i>. Values are SA4, SA5, SA6, SA7 and SA8. SA4 is the initial value.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

When sync messaging (provisioned by the **ENT-rr** commands) is active, and the user requests to set the timing source to a Line Timed source which has a sync message that does not support timing, the command will be completed. If SyncAutoconfiguration is enabled, and the other source is good, timing will switch to the other source. Otherwise timing will be switched to Holdover mode.

If the requested command does not alter the existing condition, the NE responds with the COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to this command.

EXAMPLE INPUT/OUTPUT

This example sets the system to external timing, allows revertive switching from holdover, and sets both DS1 external references to ESF format and B8ZS line code.

```
SET-SYNCN:LT-TID:all:123456::ext,revertive,,,esf,esf,,,,b8zs,b8zs;  
  
IP 123456  
<  
    LT-TID 00-03-23 16:12:11  
M 123456 COMPLD  
;
```

This example sets the system to line timing, allows revertive switching from holdover, sets the initial timing source to main-2-1, and enables sync autoreconfiguration.

```
SET-SYNCN:TID123:all:123456::line,revertive,main-2-1,enabled;  
  
IP 123456  
<  
    TID123 00-03-23 16:12:11  
M 123456 COMPLD  
;
```

Starting in Release 4.0 this example sets the system to line timing, allows revertive switching from holdover, makes the reference switching revertive with main-2-1 primary, sets the initial timing source to main-2-1, and enables sync autoreconfiguration.

```
SET-SYCN:TID123:all:123456::line,revertive,main-2-1,enabled,,,,,  
,revertive-2;
```

```
IP 123456  
<  
    TID123 00-03-23 16:12:11  
M 123456 COMPLD  
;
```

Starting in Release 7.0 this example sets the NE to SDH synchronization characteristics.

```
SET-SYCN:TID123:all:123456::syncrtc=SDHSYNC;
```

```
IP 123456  
<  
    TID123 00-03-23 16:12:11  
M 123456 COMPLD  
;
```

Starting in Release 7.0 this example sets the NE to SDH synchronization characteristics.

```
SET-SYCN:tid:aid:ctag::ext,revertive:syncrtc=sdhsync,e1_1lof=fas;
```

```
IP 123456  
<  
    TID123 00-03-23 16:12:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR** error responses section. The error responses listed there may also apply to this command.

The NE returns the following error response if the **aid** value is missing or is invalid.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier */
;
```

The NE returns the following error response if the **mdsw** value is invalid.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid MDSW */
;
```

The NE returns the following error response if the **src** value is invalid.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SRC */
;
```

The NE returns the following error response if the **syncnmod** value is invalid.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SYNCNMOD */
;
```

Starting in Release 7.0, if the NE is provisioned for a **syncnmod** of **FRNG** or **EXT**, and a **SET-SYCN** command is received with a value of **syncnmod** of **LINE**, **LINE_SYNCOUT** or **EXT_SYNCOUT** and a value of **src** is not specified in the command, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, SRC not specified */
;
```

Starting in Release 7.0, if the NE which is provisioned for a **syncnmod** of **FRNG** or **EXT**, and a **SET-SYCN** command is received with a value of **src** but which does not also specify a value of **syncnmod** of **LINE**, **LINE_SYNCOUT** or **EXT_SYNCOUT**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, SRC cannot be specified when SYNCNMOD is
EXT or FRNG */
;
```

The NE returns the following error response if the **auto** value is invalid.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid AUTO */
;
```

The NE returns the following error response if the **aisthres** value is invalid.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid AISTHRES */
;
```


If the NE receives a **SET-SYNCN** command with an invalid **ds1_1iof** or **ds1_2iof** value, one of the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid DS1_1IOF */
;
```

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid DS1_2IOF */
;
```

If the NE receives a **SET-SYNCN** command with an invalid **ds1_1ilc** or **ds1_2ilc**, one of the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid DS1_1ILC */
;
```

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid DS1_2ILC */
;
```

If the slot selected as a timing source is not equipped with an appropriate optical circuit pack, or if the **src** parameter value selected refers to a slot that is not equipped or not properly equipped, then the command request will be denied and the following denial message will be displayed:

```
sid date time
M ctag DENY
ENSI
/* Equipage, Not equipped for Setting specified Information */
;
```

For Sync Autoreconfiguration (**auto**), synchronization messaging must be enabled on the main optical lines (using **ENT - rr** with **syncmsg=SBYTE**) before this feature can be enabled. If sync messaging is not enabled, the command request to set **auto** to **ENABLED** will be denied with the following message:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, sync messages disabled */
;
```

Starting in Release 3.1:

For Sync Autoreconfiguration (**auto**), synchronization messaging must be enabled on the main optical lines (using **ENT - rr** with **syncmsg=SBYTE**) before this feature can be enabled. If sync messaging is not enabled, or if the mode is not line-timed, the command request to set **auto** to **ENABLED** will be denied with the following message:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, not line timed or sync messages
disabled */
;
```

Starting in Release 7.0:

For Sync Autoreconfiguration (**auto**), synchronization messaging must be enabled on the MAIN, FN or Growth optical line that is provisioned as the line timing source and on its companion line (using **ENT - rr** with **syncmsg=SBYTE**) before this feature can be enabled. If sync messaging is not enabled, or if the mode is not line-timed, the command request to set **auto** to **ENABLED** will be denied with the following message:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, not line timed or sync messages
disabled */
;
```

Starting in Release 7.0, if the circuit pack in the slot identified by the **src** line AID is not valid for line timing, the command will be denied with the following message:

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, Not equipped for setting Specified Information, CP
  does not support line timing */
;
```

A circuit pack in the slot identified by the **src** line AID is not valid for line timing if it is not an OLIU circuit pack.

Starting in Release 7.1, the previous error response is returned if circuit pack in the slot identified by the **src** line AID is an LNW705 Muxponder pack, even if **src** is the AID of a client port on this circuit pack that is provisioned as an OC-n line.

Starting in Release 7.0, if the line identified by the **src** AID is not valid for line timing, the command will be denied with the following message:

```
sid date time
M ctag DENY
  ENSI
  /* Equipage, Not equipped for Setting specified Information, line
  not valid for line timing */
;
```

A line identified by the **src** AID is not valid for line timing if the socket or slot identified by **src** is not provisioned for a pluggable optics module or for a circuit pack, that is, the slot or socket is in the unequipped state.

Starting in Release 7.1, a line identified by the **src** AID is also not valid for line timing if the line is not available on a multi-rate line because the line is blocked due to circuit pack provisioning or because the optical port rate of the line is set to unprovisioned (**RTRV-rr:signaltype=STNA**).

Starting in Release 7.0, if the NE is provisioned for line timing and the companion line on the companion circuit pack of the line identified by the **src** AID is not valid

for line timing, the command request to set **auto** to **ENABLED** will be denied with the following message:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, companion line not valid for line
timing */
;
```

Starting in Release 7.0, if the NE is provisioned for Sync Autoreconfiguration and the companion line on the companion slot identified by **src** AID is not valid for line timing, the command request to change the **src** will be denied with the following message:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, companion line not valid for line
timing */
;
```

Starting in Release 7.0, the companion line of the FN or Growth slot line identified by the **src** AID is not valid for line timing if

- it is not an OCn optical line
- the socket or slot identified by **src** is not provisioned for a pluggable optics module or for a circuit pack, that is, the slot or socket is in the unequipped state
- the line identified by the **src** AID is provisioned for 0x1S1 or 0x1S2 (**RTRV-rr:application**). When a line is provisioned for 0x1S1 or 0x1S2, the companion line does not exist.

Starting in Release 7.1, the companion line of the FN or Growth slot line identified by the **src** AID is also not valid for line timing if the line is not available on a multi-rate line because the line is blocked due to circuit pack provisioning or because the optical port rate of the line is set to unprovisioned (**RTRV-rr:signaltype=STNA**).

If Sync Autoreconfiguration has been enabled, and the user attempts to re-provision timing from line timed to external or free running, the following error response will be returned:

```
sid date time
M ctag DENY
  SROF
  /* Status, Requested Operation Failed, sync autoreconfiguration enabled
  */
;
```

If the NE receives a **SET-SYNCN** command with an invalid **ds1_1equ** or **ds1_2equ**, one of the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid DS1_1EQU */
;
```

```
sid date time
M ctag DENY
  IDNV
  /* Input, Data Not Valid, invalid DS1_2EQU */
;
```

If this command is executed when the NE is in Ring Upgrade mode, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, command not allowed in Ring Upgrade
  mode */
;
```

Starting in Release 6.0, the previous error response is obsolete; the **SET-SYNCN** command is allowed when the NE is in Ring Upgrade mode.

The NE returns the following error response if the **refswmod** value is invalid.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid REFSWMOD */
;
```

The NE returns the following error response if the **synccrtc** value is not **SONETSYNC** or **SDHSYNC**:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid SYNCRTC */
;
```

If the NE that is equipped with non-VLF MAIN circuit packs receives a **SET-SYNCN** command with a **synccrtc** value of **SDHSYNC**, the following error response is returned:

```
sid date time
M ctag DENY
ENSI
/* Equipage, Not equipped for Setting specified Information, not
equipped for SDH synchronization */
;
```

If the NE receives a **SET -SYNCN** command with an invalid **e1_1iof** or **e1_2iof** value, one of the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid E1_1IOF */
;
```

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid E1_2IOF */
;
```

Starting in Release 7.1, if the NE receives a **SET -SYNCN** command with an invalid **ext_issm**, **ext_isa**, **ext_osa** or **frcdus**, one of the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid EXT_ISSM */
;
```

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid EXT_ISA */
;
```

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid EXT_OSA */
;
```

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid FRCDUS */
;
```

Starting in Release 7.1, if the values of either **ds1_1iof** and/or **ds1_2iof** are set to **SF**, and NE receives a **SET-SYNCN** command with an **ext_issm** value of **ENABLED**, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, DS1_1IOF or DS1_2IOF incompatible
with EXT_ISSM */
;
```

Starting in Release 7.1, the previous error response is returned if **ext_issm** has a value of **ENABLED** and NE receives a **SET-SYNCN** command with a value of either **ds1_1iof** or **ds1_2iof** of **SF**, or if the NE receives a **SET-SYNCN** command with both a value of **ext_issm** of **ENABLED** and a value of either **ds1_1iof** or **ds1_2iof** of **SF**.

Starting in Release 7.1, if the values of either **e1_1iof** and/or **e1_2iof** are set to **FAS**, and NE receives a **SET-SYNCN** command with an **ext_issm** value of **ENABLED**, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, E1_1IOF or E1_2IOF incompatible
with EXT_ISSM */
;
```

Starting in Release 7.1, the previous error response is returned if **ext_issm** has a value of **ENABLED** and NE receives a **SET-SYNCN** command with a value of either **e1_1iof** or **e1_2iof** of **FAS**, or if the NE receives a **SET-SYNCN** command with both a value of **ext_issm** of **ENABLED** and a value of either **e1_1iof** or **e1_2iof** of **FAS**.

Starting in Release 7.1, if **frcdus=ENABLED** and the NE receives a **SET-SYNCN** command with an **ext_issm** value of **DISABLED**, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, FRCDUS set to enabled */
;
```

Starting in Release 7.1, if **ext_issm=DISABLED** and the NE receives a **SET-SYNCN** command with a value of **frcdus=ENABLED**, the following error response is returned:

```
sid date time
M ctag DENY
SROF
/* Status, Requested Operation Failed, can't enable FRCDUS when EXT_ISSM
set to disabled */
;
```

Starting in Release 7.1, if the NE is not equipped with VLF MAIN circuit packs and the NE receives a **SET-SYNCN** command with a value of **frcdus**, **ext_issm**, **ext_isa** and/or **ext_osa**, the following error response is returned:

```
sid date time
M ctag DENY
ENSI
/* Equipage, Not equipped for Setting specified Information */
;
```

If the NE is provisioned for SDH synchronization characteristics (**SET-SYNCN:synccrtc=SDHSYNC**) and it receives a **SET-SYNCN** command to provision a value for **ds1_1iof**, **ds1_1ilc**, **ds1_1equ**, **ds1_2iof**, **ds1_2ilc** or **ds1_2equ**, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, NE in SDH synchronization mode */
;
```

If the NE is provisioned for SONET synchronization characteristics (**SET-SYNCN:synccrtc=SONETSYNC**) and it receives a **SET-SYNCN** command to provision a value for **e1_1iof** or **e1_2iof**, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, NE in SONET synchronization mode */
;
```

Starting in Release 7.1, the previous error response is also sent if the NE is provisioned for SONET synchronization characteristics (**SET-SYNCN:synccrtc=SONETSYNC**) and it receives a **SET-SYNCN** command to provision a value for **ext_isa** or **ext_osa**.

Starting in Release 7.1, if the NE is not provisioned for a **syncnmod** of **EXT**, **EXT_SYNCOUT** or **LINE_SYNCOUT**, and a **SET-SYNCN** command is received with a value of **ext_issm**, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, not provisioned for external input
or output timing references */
;
```

Starting in Release 7.1, if the NE is not provisioned for a **syncnmod** of **EXT** or **EXT_SYNCOUT**, and a **SET-SYNCN** command is received with a value of **ext_isa**, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, not provisioned for external input
timing references */
;
```

Starting in Release 7.1, if the NE is not provisioned for a **syncnmod** of **EXT_SYNCOUT** or **LINE_SYNCOUT**, and a **SET-SYNCN** command is received with a value of **ext_osa** or **frcdus**, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, not provisioned for external output
timing references */
;
```

RELATED TL1 MESSAGES

OPR-SYNCNSW

RTRV-SYNCN

NAME

SET-TH-rr: Set Threshold

The **SET-TH-rr** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General and Maintenance access.

INPUT FORMAT

Input format of **SET-TH** is as shown below.

SET-TH -
modifier:tid:aid:ctag::montype,thlev,[locn],[dirn],tmper[,fmt];

Beginning in release 3.0, the following input format of **SET-TH-rr** is applicable:

SET-TH -
modifier:tid:aid:ctag::montype,thlev,[locn],[dirn],[tmper][,fmt];

DESCRIPTION

SET-TH instructs a network element (NE) to set the threshold level for a monitored parameter.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

The **SET-TH** command generates a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-564. SET-TH-rr Input Parameters (cont 1 of 5)

Parameter Name	Description
<i>modifier</i>	This is the command code modifier, and must have one of the following values: E1 This sets the threshold level for the E1 level.

Table 2-564. SET-TH-rr Input Parameters (cont 2 of 5)

Parameter Name	Description
EC1	This sets the threshold level for the electrical carrier signal level 1.
OC3	This sets the threshold level for optical carrier level 3.
OC12	This sets the threshold level for optical carrier level 12.
OC48	This sets the threshold level for optical carrier level 48.
OC192	This sets the threshold level for optical carrier level 192.
STS1	This sets the threshold level for synchronous transport signal level 1.
STS3c	This sets the threshold level for synchronous transport signal level 3.
STS12c	This sets the threshold level for synchronous transport signal level 12
STS48c	This sets the threshold level for synchronous transport signal level 48
T1	This sets the threshold level for the DS1 level.
T3	This sets the threshold level for the DS3 level.
VT1	This sets the threshold level for the virtual tributary signal level 1.5.
VC12	This sets the threshold level for dropped VC12 channels.
FE	This sets the threshold level for Ethernet FE ports.
1GE	This sets the threshold level for Ethernet 1GE ports.
10GE	This sets the threshold level for Ethernet 10 GE ports.
DATA	This sets the threshold level for DATA ports.
STP	This sets the threshold level for Spanning Tree Protocol counters.
OCH	This is for optical channels.
OTS	This is for the optical transmission section.
ODU2	This is for optical channel data unit 2.

Table 2-564. SET-TH-rr Input Parameters (cont 3 of 5)

Parameter Name	Description
	OTU2 This is for optical channel transport unit 2.
tid	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
aid	Access Identifier. This identifies the facility to which the threshold applies. The aid can only have the value ALL . Beginning in Release 9.0, in a multi-shelf DCS system, ALL applies to the entire system.
ctag	Correlation tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
montype	Monitored parameter type. This is the performance monitoring parameter type for which a threshold is being set. Refer to Appendix B for information on Monitored Parameter Types.
thlev	Threshold level. This is the threshold level to be set for the particular montype . A threshold value of zero (0) will disable thresholding for that montype . Starting in Release 7.1, a threshold value of zero (0) will disable thresholding for the non-optical analog montype values only. For optical analog montypes TOPRL, TOPRH, OPTL, OPTH, OPRL and OPRH, a threshold value of 9999 will disable thresholding for that montype . NOTE: the valid range of these optical analog montypes is -510 to +510 (in 1/10 dB units) and thus zero (0) cannot be used as the value to disable thresholding For optical analog montypes TOPRH, OPTH and OPRH, a TCA is issued when the monitored power level exceeds the value of thlev . For optical analog montypes TOPRL, OPTL and OPRL, a TCA is issued when the monitored power level drops below the value of thlev . Refer to Appendix B for information concerning the threshold levels.
locn	Location. This is the location value for the facility identified by the AID. The valid locations are: locn is not a valid parameter for the following modifiers : FE

Table 2-564. SET-TH-rr Input Parameters (cont 4 of 5)

Parameter Name	Description
	1GE 10GE DATA STP FEND Far-end (for <i>modifier</i> T1 and T3 only). Beginning in Release 4.0, FEND is valid for all <i>modifiers</i> for which <i>locn</i> is valid. NEND Near-end If <i>locn</i> is null, the default value is NEND.
<i>dirn</i>	Direction. This specifies the direction in which the threshold is to be set. The value of direction must be null or NA (not applicable). If null, the default value is NA .
<i>tmper</i>	Time Period. This is the accumulation time period for the PM information. The only valid time periods are: 15-MIN 1-DAY If <i>tmper</i> is null, the default value is 15-MIN.
<i>fmt</i>	Format. This parameter is valid when the <i>modifier</i> is T1, <i>montype</i> is CVP, and <i>locn</i> is NEND. It specifies the type of formatting on the DS1 path. The valid formats are: SF The DS1 path is formatted using <i>super frame (SF)</i> encoding. ESF The DS1 path is formatted using <i>extended super frame (ESF)</i> encoding. If the format is null, the default value is ESF. This parameter is valid when the <i>modifier</i> is T3, <i>montype</i> is CVP, and <i>locn</i> is NEND. It specifies the DS3 performance monitoring scheme. This parameter will have one of the following values: PBIT PBIT scheme is used for DS3 PM. This is the default value. FMBIT FMBIT scheme is used for DS3 PM.

Table 2-564. SET-TH-rr Input Parameters (cont 5 of 5)

Parameter Name	Description
CPBIT	CPBIT scheme is used for DS3 PM.

OUTPUT FORMAT

If the NE fully complies with the request, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the requested **SET-TH-rr** command does not alter the existing condition, the NE responds with a COMPLD message.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response may also apply to the **SET-TH-rr** command.

EXAMPLE INPUT/OUTPUT

```
set-th-oc3:LT-TID123:OC3:123456::cv1,691,,1-day;
IP 123456
<
LT-TID123 01-03-22 16:12:11
M 123456 COMPLD
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **SET-TH** command.

The NE returns the following error response if the access identifier (**aid**) value is missing, invalid, or conflicts with the command code **modifier**.

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier */
;
```

The NE returns the following error response if the **montype** value is missing, not supported, or conflicts with the command code **modifier**.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid MONTYPE */
;
```

The NE returns the following error response if the **thlev** value is missing or out of range.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid THLEV */
;
```

The NE returns the following error response if the **dirn** value is invalid or out of range.

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid DIRN */
;
```

The NE returns the following error response if the **locn** value is invalid, or conflicts with the command code **modifier**.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid LOCN */
;
```

The NE returns the following error response if the **tmper** value is invalid.

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid TMPER */
;
```

The NE returns the following error response if the **fmt** value is invalid or conflicts with the command code **modifier**, **montype**, or **locn** (for example, **SET-TH-T3** with a **fmt** value of **ESF**).

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid FMT */
;
```

RELATED TL1 MESSAGES

ENT-rr

REPT EVT

REPT PM

RTRV-PM

RTRV-PMSCHED

SET-TH
TL1 Message Details

SET-TH
Alcatel-Lucent 1665 DMX, R9.0

RTRV - TH

SCHED - PMREPT

NAME

SW-TOPROTN: Switch to Protection

The **SW-TOPROTN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

SW-TOPROTN -*modifier:tid:aid:ctag::mode;*

DESCRIPTION

Caution: Executing this command may affect service.

SW-TOPROTN commands can be initiated to instruct the network element (NE) to perform an equipment (circuit pack) protection switch on a Function or Growth unit. Switching is non-revertive only.

When the NE receives a **SW-TOPROTN** command with an address that indicates a Function or Growth unit circuit pack slot pair, an equipment (circuit pack) protection switch takes place using one of the following modes (in priority order): **INHIBIT**, **FRCD** (Forced) or **NORM** (Normal and Manual).

Beginning in Release 5.1, a manual switch request may be initiated by setting the *mode* parameter to either **NORM** or **MAN**.

Beginning in Release 3.0, this command does not apply to OLIUs.

Beginning in Release 3.0, references to “active and standby” are used to also imply “active timing and active”, respectively.

Beginning in Release 7.1, references to “active and standby” are used to also imply “active-wan and inactive-wan”, respectively.

Beginning in Release 3.1, the DS3 autolock feature is offered for protection groups with DS3 packs. Refer to **ENT-SYS** for parameters to enable and configure this feature. When autolock is enabled, a **SW-TOPROTN INHIBIT**, **FRCD** or **NORM**, or **SW-TOWKG RESET** request will clear autolock switch counters. In addition, if a group is in the autolock state, a **SW-TOPROTN INHIBIT**, **FRCD**, or **SW-TOWKG RESET** request will clear the autolock state, and a **SW-TOPROTN NORM** request will be denied.

Beginning in Release 5.1, when autolock is enabled, a **SW-TOPROTN MAN** request will clear autolock switch counters. In addition, if a group is in the autolock state, a **SW-TOPROTN MAN** request will be denied.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

Beginning in Release 5.1, **mode** may be set to either **NORM** or **MAN** in order to perform a manual switch. The history log and the security log shall reflect the parameter value (**NORM** or **MAN**) that was actually entered to perform the switch.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Parameter Name	Description
modifier	Modifier. This is a message modifier to the SW-TOPROTN message and may only have the following value(s): ■ EQPT Equipment. This is currently the only modifier available for use with this command.
tid	Target Identifier. This is the name of the network element (NE) to which the command is addressed.
aid	Access Identifier. This is the slot address within the NE for which the SW-TOPROTN command is intended. For circuit pack protection switching, the aid value must identify a Function unit or Growth equipment group. Refer to Appendix A for a list of valid addresses.
ctag	Correlation Tag. This is included in the command by the user and is repeated by the NE in the response to allow the user to associate the command and response messages.
mode	Protection switch Mode (priority). This is the protection switch request priority of the command. The mode parameter must have one of the following values, which are listed in order of priority: ■ INHIBIT Inhibit. This mode requests that protection switching be inhibited. The effect of this request is to Inhibit (freeze) protection switching for the addressed entity. The protection switching inhibit remains in effect until a protection switching Reset is entered (SW-TOWKG with mode = RESET).

Table 2-565. SW-TOPROTN Input Parameters (cont 1 of 2)

Parameter Name	Description
	■ FRCD Forced. This requests an equipment protection switch with a priority of Forced, and is accepted unless another protection switch request of equal or higher priority is in effect. Service is switched from the active side to the standby side. The forced protection switch remains in effect until a protection switching INHIBIT or RESET is entered. ■ NORM Normal. This requests an equipment protection switch with a priority of Manual, and is accepted if no other automatic or manual protection switch requests of equal or higher priority are in effect. Service is switched from the active side to the standby side. The manual protection switch remains in effect until a higher-priority protection switching request is received, or until overridden by automatic protection switching (APS). The manual protection switching does not need to be released. ■ MAN Manual. This requests an equipment protection switch with a priority of Manual, and is accepted if no other automatic or manual protection switch requests of equal or higher priority are in effect. Service is switched from the active side to the standby side. The manual protection switch remains in effect until a higher-priority protection switching request is received, or until overridden by automatic protection switching (APS). The manual protection switching does not need to be released.

Table 2-565. SW-TOPROTN Input Parameters (cont 2 of 2)

OUTPUT FORMAT

If the protection switch request completes successfully, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the NE receives a valid **SW-TOPROTN** command, but the protection switching request does not alter the existing protection switching state and/or priority, the NE provides a normal completion response.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The output parameters listed there for the normal completion response also apply to the **SW-TOPROTN** command.

EXAMPLE INPUT/OUTPUT

The following example shows a successful function unit pack slot manual protection switching command request.

```
SW-TOPROTN-EQPT:LT-TID:fn-a:123456::NORM;
```

```
IP 123456  
<  
    LT-TID 94-05-28  19:13:56  
M  123456 COMPLD  
;
```

```
SW-TOPROTN-EQPT:LT-TID:fn-a:123456::MAN;
```

```
IP 123456  
<  
    LT-TID 94-05-28  19:13:56  
M  123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **SW-TOPROTN** command also.

If the NE receives a **SW-TOPROTN** command with a command code *modifier* other than **EQPT**, the following error response is returned:

```
sid date time
M ctag DENY
  ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

If the NE receives a **SW-TOPROTN** command without an *aid* value or with an *aid* value that is invalid for this command, the following error response is returned:

```
sid date time
M ctag DENY
  IIAC
/* Input, Invalid AAccess identifier */
;
```

If the NE receives a **SW-TOPROTN** command without a *mode* value or with an invalid *mode* value (either due to a conflict with the *aid* or a *mode* value that is not supported by this command), the following error response is returned:

```
sid date time
M ctag DENY
  IDNV
/* Input, Data Not Valid, invalid MODE */
;
```

If the NE receives a **SW-TOPROTN** command that would otherwise change the protection switching state and/or priority, and is lower than or equal to the priority

of the preexisting protection switching state, the following error response is returned:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, equal or higher priority switch
request exists */
;
```

In Release 3.0 and later, if the NE receives a **SW-TOPROTN** command addressed to a group equipped with OLIUs, the following error response is returned:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, equipped OC circuit pack
incompatible with switch request */
;
```

In Release 8.0 and later, if the NE receives a **SW-TOPROTN** command addressed to a circuit pack for which this command is not supported, the following error response is returned:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, equipped circuit pack
incompatible with switch request */
;
```

If the NE receives a **SW-TOPROTN** command with *mode* = **FRCD** or **NORM**, but the protection slot is unequipped or has the wrong type of circuit pack, the following error response is returned:

```
sid date time
M ctag DENY
ENPS
/* Equipage, Not equipped with Protection Switching */
;
```

Beginning in release 5.1, this error response replaces the previous requirement. If the NE receives a **SW-TOPROTN** command with *mode* = **FRCD**, **NORM**, or **MAN**, but the protection slot is unequipped, the following error response is returned:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, equal or higher-priority switch
request exists or standby unavailable */
;
```

If the NE receives a **SW-TOPROTN** command, but the command cannot be completed because a hardware problem exists when the command is executed, the following response is returned:

```
sid date time
M ctag DENY
SPFA
/* Status, Protection unit Failed, hardware problem with protection
switching mechanism */
;
```

If the user attempts to execute this command when the NE is in Ring Upgrade mode, the following error response is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, command not allowed in Ring Upgrade mode */
;
```

Beginning in Release 7.0, if the NE receives an otherwise valid **SW-TOPROTN** command, and a pack required to complete the switch request is resetting, the following error message is returned.

```
sid date time
M  ctag DENY
   SNVS
/* Status, Not in Valid State, required pack is resetting */
;
```

RELATED TL1 MESSAGES

RTRV-STATE-EQPT

SW-TOWKG

NAME

SW-TOWKG: Switch to Working

The **SW-TOWKG** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged and General access.

INPUT FORMAT

SW-TOWKG-*modifier:tid:aid:ctag::mode;*

DESCRIPTION

Executing this command may affect service.

The **SW-TOWKG** commands can be initiated to instruct the network element (NE) to reset equipment (circuit pack) protection switching on function or growth unit(s). Only non-revertive switching is supported.

Beginning in Release 3.0, this command does not apply to OLIUs.

When the NE receives a **SW-TOWKG** command with an address indicating a valid circuit pack switching entity, a hardware switch is operated with a *mode* of **RESET**.

Beginning in Release 3.1, the DS3 autolock feature is offered for protection groups with DS3 packs. Refer to **ENT-SYS** for parameters to enable and configure this feature. When autolock is enabled, a **SW-TOPROTN INHIBIT**, **FRCD** or **NORM**, or **SW-TOWKG RESET** request will clear autolock switch counters. In addition, if a group is in the autolock state, a **SW-TOPROTN INHIBIT**, **FRCD**, or **SW-TOWKG RESET** request will clear the autolock state, and a **SW-TOPROTN NORM** request will be denied.

Beginning in Release 5.1, when autolock is enabled, a **SW-TOPROTN MAN** will clear autolock switch counters. In addition, if a group is in the autolock state, a **SW-TOPROTN MAN** request will be denied.

Starting in release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

This command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-566. SW - TOWKG Input Parameters

Parameter Name	Description
<i>modifier</i>	Modifier. This is a message modifier to the SW - TOPROTN message and may only have the following value: ■ EQPT Equipment. This is currently the only available modifier for use with this command.
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the slot address within the NE for which the SW - TOWKG command is intended. For circuit pack protection switching, the <i>aid</i> value must identify a Function unit or Growth equipment group. Refer to Appendix A for a list of valid addresses.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>mode</i>	Protection switch mode (priority). This provides the protection switch request priority of the command. The <i>mode</i> parameter must have the following value: ■ RESET This requests that protection switching be RESET. The effect of this request is to reset any previous FRCD or INHIBIT requests for the addressed entity (see SW - TOPROTN).

OUTPUT FORMAT

If the protection switch request completes successfully, the following normal completion response is returned:

```
sid date time
M ctag COMPLD
;
```

If the NE receives a valid **SW-TOWKG** command, but the protection switching reset request does not alter the existing protection switching state and/or priority, the NE provides a normal completion response.

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**.

EXAMPLE INPUT/OUTPUT

The following example shows a successful Function unit circuit pack protection group reset of a protection switching command request.

```
SW-TOWKG-EQPT:LT-TID:fn-d:123456::RESET;  
  
IP 123456  
<  
  
    LT-TID 94-05-26 16:42:11  
M 123456 COMPLD  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **SW-TOWKG** command.

If the NE receives a **SW-TOWKG** command with a *modifier* other than **EQPT**, the following error response is returned:

```
sid date time  
M ctag DENY  
ICNV  
/* Input, Command Not Valid, invalid modifier */  
;
```

If the NE receives a **SW-TOWKG** command without an *aid* or with an *aid* that is invalid, the following error response is returned:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier */
;
```

If the NE receives a **SW-TOWKG** command without a *mode* or with an invalid *mode*, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid MODE */
;
```

In Release 3.0 and later, if the NE receives a **SW-TOWKG** command addressed to a group equipped with OLIUS, the following error response is returned:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, equipped OC circuit pack
incompatible with switch request */
;
```

In Release 8.0 and later, this error response replaces the previous. If the NE receives a **SW-TOWKG** command addressed to a circuit pack for which this command is not supported, the following error response is returned:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, equipped circuit pack
incompatible with switch request */
;
```


If the NE receives a **SW-TOWKG** command but the protection slot is unequipped the following error response is returned:

```
sid date time
M ctag DENY
ENPS
/* Equipage, Not equipped with Protection Switching */
;
```

If the NE receives a **SW-TOWKG** command but the protection slot is unequipped the following error response is returned:

```
sid date time
M ctag DENY
SSRD
/* Status, Switch Request Denied, equal or higher-priority switch
request exists or standby unavailable */
;
```

If this command is received by the NE while a mix of incompatible packs exists in the main group (for example, during an upgrade), the following error message is returned:

```
sid date time
M ctag DENY
SNVS
/* Status, Not in Valid State, both main slots must be
equipped with compatible OLIU packs */
;
```

If the user attempts to execute this command when the NE is in Ring Upgrade mode, the following error response shall be returned:

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, command not allowed in Ring Upgrade
mode */
;
```

Beginning in Release 7.0, if the NE receives an otherwise valid **SW-TOWKG** command, and a pack required to complete the switch request is resetting, the following error message is returned.

```
sid date time
M ctag DENY
  SNVS
/* Status, Not in Valid State, required pack is resetting */
;
```

RELATED TL1 MESSAGES

RTRV-STATE-EQPT

SW-TOPROTN

NAME

TEST - IAOLAN: Test Inter-Area Office Local Area Network

The **TEST - IAOLAN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

The **TEST - IAOLAN** command is available to users with Privileged, General and Maintenance access.

INPUT FORMAT

TEST - IAOLAN:*tid:[aid]:ctag*;

DESCRIPTION

Using this command does not affect service. This command tests the shelf's IAO LAN ports, and reports the results.

Execution of this command is not recorded in the Security log.

INPUT PARAMETERS

The **TEST - IAOLAN** input parameters are summarized in the following table.

Table 2-567. TEST - IAOLAN Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. The AID identifies the IAO LAN address to which the command applies.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the network element (NE) fully complies with the **TEST - IAOLAN** request, the following normal completion response is returned:

```
IP ctag
<

    sid date time
M  ctag COMPLD
    "result"
;
```

Starting in Release 1.1, the previous completion response output format is no longer supported.

If the NE fully complies with a **TEST - IAOLAN** request, the following normal completion response is returned:

```
IP ctag
<

    sid date time
M  ctag COMPLD
    "aid:result"
    ["aid:result"]
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV - HDR**. Parameters that specifically apply to this command response are defined in the following table:

Table 2-568. TEST - IAOLAN Output Parameters

Parameter Name	Description
<i>aid</i>	Access Identifier. The AID identifies the specific IAO LAN port.
<i>result</i>	This is the result of the system test. Possible values are: ■ IAO LAN test PASSED ■ IAO LAN test FAILED

EXAMPLE INPUT/OUTPUT

The following example shows a **TEST-IAOLAN** command where the test passed:

```
TEST-IAOLAN:LT-TID123::123456;  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
"IAO LAN test PASSED"  
;  
;
```

Starting in Release 1.1, the output format of the previous example is no longer supported.

The following example shows a **TEST-IAOLAN** command where the front IAO LAN port test passed, but the rear IAO LAN port test failed:

```
TEST-IAOLAN:LT-TID123:lan-all:123456;  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
"lan-1:IAO LAN test PASSED"  
"lan-2:IAO LAN test FAILED"  
;  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **TEST-IAOLAN** command.

RELATED TL1 MESSAGES

ENT-FECOM

REFERENCES

NAME

TEST - LED: Test LED indicators

The **TEST - LED** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General and Maintenance access.

INPUT FORMAT

TEST - LED:*tid:[aid]:ctag[::repeat];*

DESCRIPTION

This command activates circuit pack or user panel LEDs for 10 seconds on, then 10 seconds off, after which the LED reverts to normal operation. This command does not affect office alarms.

Execution of this command will not be recorded in the Security log.

INPUT PARAMETERS

Table 2-569. TEST - LED Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV - HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This is the address of any slot(s), with a default value of ALL.
	In a multi-shelf DCS system, ALL applies to LEDs on the main shelf only. To test LEDs on a subshelf, use {shelf}-ALL where {shelf} indicates the subshelf number.
<i>ctag</i>	Correlation Tag. Refer to the RTRV - HDR command for the input parameter syntax and description for this parameter.

Table 2-569. TEST - LED Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>repeat</i>	The <i>repeat</i> parameter specifies the number of times that the test should be repeated. It is an integer with the range 1 through 10, and a default value of 1.

OUTPUT FORMAT

After completing the **TEST - LED** request, the following normal completion response is returned:

```
IP 123456
<

  SID Date time
M  ctag COMPLD
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV - HDR**.

EXAMPLE INPUT/OUTPUT

The following example shows an input/output as a result of the **TEST - LED** command for a system after test completion:

```
TEST-LED:LT-TID123::123456;
IP 123456
<

  LT-TID123 00-10-26 16:42:11
M  ctag COMPLD
;
```


ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there may apply to the **TEST-LED** command also.

If this command is entered while an **TEST-LED** command is in progress, or if the test cannot be done due to other activity in the system, the following denial message will be output:

```
sid date time
M ctag DENY
  SSRB
/* Status, System Resources Busy */
;
```

If a **TEST-TRMSN-rr** test is currently in progress, the following error response shall be returned:

```
sid date time
M ctag DENY
  SSRB
/* Status, System Resources Busy */
;
```

RELATED TL1 MESSAGES

None.

NAME

TEST -SYSCTL : Test System Controller

The **TEST -SYSCTL** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

This command is available to users with Privileged, General and Maintenance access.

INPUT FORMAT

The input format of **TEST -SYSCTL** is as follows:

TEST -SYSCTL : *tid* : : *ctag* [: : :] ;

Beginning with Release 6.0, the input format of **TEST -SYSCTL** is as follows:

TEST -SYSCTL : *tid* : [*aid*] : *ctag* [: : :] ;

DESCRIPTION

The **TEST -SYSCTL** command causes the System Controller to perform a memory self test. The command is not service affecting.

Execution of this command is not recorded in the Security log.

INPUT PARAMETERS

Table 2-570. TEST -SYSCTL Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV -HDR command for the input parameter syntax and description of this parameter.
<i>aid</i>	Access Identifier. This optional parameter is the address of the system controller to be tested. The default value is ctl-1 .
<i>ctag</i>	Correlation Tag. Refer to the RTRV -HDR command for the input parameter syntax and description of this parameter.

OUTPUT FORMAT

If the NE fully complies with the **TEST-SYSCTL** request, the following normal completion response is returned:

```
IP ctag
<

sid date time
M ctag COMPLD
result
;
```

OUTPUT PARAMETERS

The output parameters included in the normal completion response are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. Parameters that specifically apply to this command response are defined below:

Table 2-571. TEST-SYSCTL Output Parameters

Parameter Name	Description
<i>sid</i>	Source Identifier. This is the system name.
<i>result</i>	This is the result of the system test. Possible values are: PASSED The system controller has passed the self-test. SYSCTL-CP- FAILED The controller circuit pack has failed the self- test.

EXAMPLE INPUT/OUTPUT

The following example shows an input/output of the **TEST - SYSCTL** command for a system where the test(s) pass:

```
TEST-SYSCTL:LT-TID123::123456;  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M ctag COMPLD  
"passed"  
;
```

Beginning with Release 6.0, the input/output of the **TEST - SYSCTL** command for a system where the test(s) pass is as shown below.

```
TEST-SYSCTL:LT-TID123:ctl-1:123456;  
IP 123456  
<  
  
LT-TID123 00-10-26 16:42:11  
M ctag COMPLD  
"passed"  
;
```

ERROR RESPONSES

Refer to the **RTRV - HDR ERROR RESPONSES** section. The error responses listed there may also apply to the **TEST - SYSCTL** command.

If a **TEST - TRMSN - rr** test is currently in progress, the following error response is returned:

```
sid date time  
M ctag DENY  
SSRB  
/* Status, System Resources Busy */  
;
```

TEST-SYSCTL
TL1 Message Details

TEST-SYSCTL
Alcatel-Lucent 1665 DMX, R9.0

RELATED TL1 MESSAGES

None.

NAME

TEST - TRMSN: Test Transmission

The **TEST - TRMSN** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

The **TEST - TRMSN** command is available to users with Privileged, General and Maintenance access.

INPUT FORMAT

TEST-TRMSN-modifier:*tid:aid:ctag[::[spec_block]]*;

DESCRIPTION

This command sets up an automated transmission test (for one minute) for a channel addressed by a single low-speed electrical port.

For a DS1 port, the direction of the test can be towards either the **TERMINAL** (toward the high-speed optical fiber or cross-connect fabric) or the **FACILITY** (toward the DSX).

For an E1 port, the direction of the test can be towards either the **TERMINAL** (toward the high-speed optical fiber or cross-connect fabric) or the **FACILITY** (toward the DSX).

For a DS3 port, the direction of the test can only be toward the **TERMINAL** (toward the high-speed optical fiber or cross-connect fabric).

Only one channel is tested at a time; multiple channels may not be tested simultaneously. Additional commands will not be denied, but will be queued, and executed in the order entered. Execution of this command will affect service on the addressed port.

If an external fiber loopback is used while performing this test in the **TERMINAL** direction, an "inconsistent DCC values" alarm condition may be reported by the network element (NE). This alarm should be ignored during the test. To avoid this condition, the user may disable the DCC prior to testing (see **ENT - FECOM**).

When the NE receives a **TEST - TRMSN** command from the user, the NE performs the transmission test for the specified low-speed port for a one minute duration, and reports the results.

This test proceeds to completion if it is not interrupted by an NE reset or initialization.

To perform this command on a port in the **TERMINAL** direction, either a fiber loopback on the near-end system, or a DSX loopback at the far-end system is required for the test signal to be monitored.

To perform this command on a port in the **FACILITY** direction, only a DSX loopback on the near-end system is required.

Beginning in Release 7.0, port maintenance must not be inhibited for the request to be accepted (see **RTRV-PORTMNTC**, *portmntc*=INHIBIT).

Execution of this command is recorded in the Security log.

The **TEST-TRMSN-rr** command does not generate a **REPT DBCHG** message.

INPUT PARAMETERS

Table 2-572. TEST-TRMSN Input Parameters (cont 1 of 2)

Parameter Name	Description
<i>modifier</i>	This is the command modifier for the TEST-TRMSN-rr command. The modifier is a required field, and must only have one of the following values: ■ T1 This is for the DS1 port transmission test. The T1 test does not apply to the LNW18 TMUX. The T1 test does not apply to the LNW20 48TMUXDS3EC1. ■ E1 This is for the E1 port transmission test. ■ T3 This is for the DS3 port transmission test. The T3 test does not apply to the LNW18 TMUX. The T3 test does not apply to the LNW19 48DS3EC1. The T3 test applies to the LNW19B 48DS3EC1. The T3 test does not apply to the LNW20 48TMUXDS3EC1.
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description for this parameter.

Table 2-572. TEST - TRMSN Input Parameters (cont 2 of 2)

Parameter Name	Description
<i>aid</i>	Access Identifier. The <i>aid</i> determines the low-speed port at which the test is to be conducted. Value: Port AID. See Appendix A for valid port AIDs.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific Block. The following are the <i>spec_block</i> parameters:

Table 2-573. TEST - TRMSN Input *spec_block* Parameters

Parameter Name	Description of Spec_block Parameters
<i>dirn</i>	Direction of the transmission test. This optional parameter may have one of the following values: TERMINAL The test signal is inserted in the TERMINAL direction and the received signal is monitored from the high-speed optical fiber. This is the default value, and is applicable all valid modifiers. FACILITY The test signal is inserted in the FACILITY direction and the received signal is monitored from the low-speed electrical interface. This is applicable to the T1 and E1 modifiers.

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The requirements listed there apply to this command also.

When a **TEST-TRMSN-T1** command begins, the NE sends the following TL1 autonomous message:

```

sid date time
A atag REPT EVT T1
  "aid:LPBKNETWORK,SC,date,time,,,,:\DS1 trmsn test IP\""
;
```

When the test completes, the above standing condition is cleared:

```
sid date time
A atag REPT EVT T1
  "aid:LPBKNETWORK,CL,date,time,,,:\DS1 trmsn test IP\""
;
```

When a **TEST - TRMSN - E1** command begins, the NE sends the following TL1 autonomous message:

```
sid date time
A atag REPT EVT E1
  "aid:LPBKNETWORK,SC,date,time,,,:\E1 trmsn test IP\""
;
```

When the test completes, the above standing condition is cleared:

```
sid date time
A atag REPT EVT E1
  "aid:LPBKNETWORK,CL,date,time,,,:\E1 trmsn test IP\""
;
```

When a **TEST - TRMSN - T3** command begins, the NE sends the following TL1 autonomous message:

```
sid date time
A atag REPT EVT T3
  "aid:LPBKNETWORK,SC,date,time,,,:\DS3 trmsn test IP\""
;
```

When the test completes, the above standing condition is cleared:

```

sid date time
A atag REPT EVT T3
  "aid:LPBKNETWORK,CL,date,time,,,:\DS3 trmsn test IP\"
;

```

Upon completing a **TEST-TRMSN-rr** command, the NE will respond with the completion message shown below:

```

sid date time
M ctag COMPLD
  "dur=n, es=m, error=error"
;

```

OUTPUT PARAMETERS

The output parameters indicated in the normal completion are specified in the **OUTPUT PARAMETERS** section for **RTRV-HDR**. The remainder of the parameters are described below:

Table 2-574. TEST-TRMSN Output Parameters

Parameter Name	Description
<i>dur</i>	Duration. This is the elapsed time in seconds of the test.
<i>es</i>	Errored Seconds. This is the total number of errored seconds during the time interval indicated by the elapsed time value.
<i>error</i>	This parameter is set equal to oof if at least one out-of-frame (oof) condition was detected during testing.

EXAMPLE INPUT/OUTPUT

The following example requests a transmission test at the **T1** level toward the **FACILITY**:

```
TEST-TRMSN-T1:LT-TID123:a-2-4:123456::dirn=FACILITY;  
IP 123456  
<  
  LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
  "dur=60,es=0"  
;
```

The following example requests a DS3 level test in the **TERMINAL** direction for the fixed 1-minute duration.

Note: Note the 'error=oof' (out of frame) condition reported for the reporting interval:

```
TEST-TRMSN-T3:LT-TID123:d-8:123456::dirn=TERMINAL;  
IP 123456  
<  
  LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
  "dur=60,es=30,error=oof"  
;
```

The following example requests a DS1 level test in the default **TERMINAL** direction for the fixed 1-minute duration. The test is aborted after 35 seconds due to hardware failure:

```
TEST-TRMSN-t1:TID123:a-4-3:123456;  
IP 123456  
<  
  TID123 00-10-26 16:42:11  
M 123456 COMPLD  
  "dur=35,es=0"  
  /* Hardware Failure - Test Aborted */  
;
```

The NE will abort the test and terminate the TL1 command within 1 second of the hardware failure.

The following example requests a DS3 level test in the default **TERMINAL** direction for the fixed 1-minute duration. The NE did not detect a loopback at the far end.

```
TEST-TRMSN-t3:LT-TID123:b-2:123456;  
IP 123456  
<  
    LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
  "dur=0,es=0"  
  /* Preliminary hardware test indicates no loopback. */  
;
```

The following example requests a transmission test at the **E1** level toward the **FACILITY**:

```
TEST-TRMSN-E1:LT-TID123:a-2-3:123456::dirn=FACILITY;  
IP 123456  
<  
    LT-TID123 07-10-26 16:42:11  
M 123456 COMPLD  
  "dur=60,es=0"  
;
```

The following example requests an E1 level test in the default **TERMINAL** direction for the fixed 1-minute duration. The test is aborted after 35 seconds due to hardware failure:

```
TEST-TRMSN-E1:TID123:a-4-3:123456;  
IP 123456  
<  
    TID123 07-10-26 16:42:11  
M 123456 COMPLD  
  "dur=35,es=0"  
  /* Hardware Failure - Test Aborted */  
;
```

The NE will abort the test and terminate the TL1 command within 1 second of the hardware failure.

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The requirements listed there may also apply to the **TEST-TRMSN** command.

If the system receives a **TEST-TRMSN-rr** command with an invalid **modifier**, the following error response is returned:

```
sid date time
M ctag DENY
ICNV
/* Input, Command Not Valid, invalid modifier */
;
```

If the system receives a **TEST-TRMSN-rr** command without an **aid** value, with an **aid** that is not supported for any modifier, or with an **aid** value that is invalid for the modifier provided (that is, because the **aid** refers to a different type of entity than is specified by the **modifier**), the following error response is returned to the user:

```
sid date time
M ctag DENY
IIAC
/* Input, Invalid ACcess identifier, AID is missing,
wrong or inconsistent with modifier */
;
```

If the system receives a **TEST-TRMSN-rr** command with a **dirn** value that is not valid, or is supported for the **modifier**, the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid DIRN */
;
```

If the system receives a **TEST-TRMSN-rr** but the addressed **aid** is not properly equipped for this command, the following error response is returned:

```
sid date time
M ctag DENY
ENEQ
/* Equipage, Not Equipped */
;
```

Beginning in Release 5.0, if the system receives a **TEST-TRMSN-rr** but the addressed **aid** is not properly equipped for this command, the following error response is returned:

```
sid date time
M ctag DENY
  EQWT
  /* Equipage, Wrong Type */
;
```

If the system receives a **T3** request on a DS3 port with an active loopback (**OPR-LPBK-T3**), the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, transmission test running or
  loopback exists */
;
```

Beginning in Release 5.0, if the system receives a **T1** or **E1** request, and a loopback is active (**OPR-LPBK-rr**) on the same port, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, transmission test running or
  loopback exists */
;
```

If the system receives a request and the port specified in the **aid** is involved in a test access session as a tributary under test, or as a test access tributary, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, test access active */
;
```

Beginning in Release 7.0, maintenance on the port or line must not be inhibit for the request to be accepted (see **RTRV-PORTMNTC**, *portmntc*=INHIBIT). If maintenance is inhibited, the following error response is returned:

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, specified port or line is in an
inhibited state */
;
```

For requests to test transmission on a port in a subshelf of a multi-shelf DCS system utilizing a single TID, the NE issues the following error response.

```
sid date time
M ctag DENY
  SNVS
  /* Status, Not in Valid State, provisioning not allowed in mutli-
shelf DCS system */
;
```

RELATED TL1 MESSAGES

OPR-LPBK

RLS-LPBK

ALW-PORTMNTC

INH-PORTMNTC

RTRV-PORTMNTC

NAME

UPD-SYS: Update System

The **UPD-SYS** command is available beginning in:

- Alcatel-Lucent 1665 DMX, Release 1.0

LOGIN PRIVILEGE

The **UPD-SYS** command is available to users with Privileged and General access.

INPUT FORMAT

The input format of **UPD-SYS** is as shown below:

UPD-SYS:*tid::ctag;*

Beginning with Release 2.1, the input format of **UPD-SYS** is as shown below:

UPD-SYS:*tid::ctag:::[spec_block];*

DESCRIPTION

Executing this command may affect service on a protected line or slot if the associated circuit packs are missing.

The **UPD-SYS** command may be performed at any time except before or during the first 10 seconds after powering the system controller, while the CR LED is flashing.

This command updates the system database (which is stored in non-volatile memory) to reflect the current configuration and incoming signals.

The command is also used for the OC48 to OC48FBW optical line interface unit (OLIU) node upgrade, for the OC-48 to OC-192 UPSR ring upgrade, and for the OC-48 to OC-192 BLSR ring upgrade.

This command can also be executed either by pushing the Update/Initialize Button located on the system controller circuit pack, or by entering the command.

When the Update/Initialize button is pushed, a dot (.) will appear on the **IND** display.

In a multi-shelf DCS system, pushing the UPD/INIT button on a subshelf does not initiate a subshelf update or system update.

This command should be executed after the following actions:

- Removing a circuit pack. Executing this command following a circuit pack removal deletes the circuit pack from the equipment list and clears the associated alarm. The circuit pack is deleted from the equipment list under the following conditions:
 - If hair-pin cross-connects exist and if they are protected by the companion circuit pack.
 - If add/drop cross-connects exist, they are protected by the companion circuit pack.
 - No pass-through cross-connects exist.
 - No existing locked cross-connects.
- Starting in Release 4.0, the circuit pack is not deleted from the equipment list if any of the following additional conditions exist:
 - If the removed CP is a function or growth unit and there is a test access tributary associated with the CP.
 - If the removed CP is a MAIN OLIU and at least one test access session exists in the NE.
- Starting in Release 7.0, an OC-n circuit pack is not deleted from the equipment list if the following additional conditions exist:
 - If there are cross-connections to a 0x1 line on the circuit pack that has been removed.
 - It contains the line that is the provisioned line timing source (**RTRV-SYNCN:sync_source**) or it is the companion circuit pack to the provisioned line timing source when sync auto-reconfiguration is enabled (**RTRV-SYNCN:sync_autoreconfiguration**).
- Starting in Release 8.0, a non-PTM based DWDM circuit pack is not deleted from the equipment list if the following additional conditions exist:
 - If there are optical cross-connections to a line on the circuit pack that has been removed.
- Starting in Release 7.0, if both MAIN circuit packs are removed and **UPD-SYS** is executed, both MAIN slots will transition to the not equipped state only if there are no accepted circuit packs in any of the FN or Growth slots.
- Starting in Release 9.0, an OC-n circuit pack in the main shelf of a multi-shelf DCS system is not deleted from the equipment list if the following additional condition exists:
 - A port on the pack is provisioned as a subshelf interface and its companion pack is not in the equipment list.

- Removing an optical transceiver. Executing this command following the removal of a removable optical transceiver deletes the optical transceiver from the circuit pack and socket equipment list and clears the associated alarm. This command deletes the optical transceiver from the circuit pack and socket equipment list under the following conditions:
 - If hair-pin cross-connects exist and if are protected by the companion plug.
 - If add/drop cross-connects exist, they are protected by the companion plug.
 - No pass-through cross-connects exist on the socket.
 - No existing locked cross-connects through that socket.

If there is a test access tributary associated with the optical transceiver port, the optical transceiver is not deleted from the circuit pack and socket equipment list.

For point-to-point or private line Ethernet or Data port sockets, the socket may transition from equipped to not equipped when **UPD-SYS** is run if the socket is empty, and there are no cross-connections to the corresponding VCG (for these ports, there's a one-to-one correspondence between the port and the VCG). For switched Ethernet port sockets, there is no cross-connect check; the socket transitions from equipped to not equipped if the socket is empty when **UPD-SYS** is run.

- Starting in Release 7.0, an optical transceiver socket will not transition from equipped to not equipped when **UPD-SYS** is run if the following additional condition exists:
 - it is the provisioned line timing source (**RTRV-SYNCN:sync_source**) or it is the companion to the provisioned line timing source when sync auto-reconfiguration is enabled (**RTRV-SYNCN:sync_autoreconfiguration**)
- Starting in Release 8.0, an optical transceiver socket will not transition from equipped to not equipped when **UPD-SYS** is run if the following additional condition exists:
 - If optical cross-connections exists on the line associated with the socket.
- Removing input signal. When an incoming low speed electrical signal is removed, the system database is updated to reflect the change and clear the associated alarm.
- When an incoming signal is removed from a line, if the line is in service, executing the **UPD-SYS** command will transition the line to the AUTO state.
- If a channel is receiving incoming AIS or unequipped, and if the AIS is not locally generated, executing the **UPD-SYS** command will transition the line to the AUTO state.

If VT1.5 AIS is generated locally, for example, due to a fiber cut, an in-

service VT1.5 channel will not transition to AUTO when the **UPD-SYS** command is executed. The alarm must be cleared before the channel can be transitioned to the auto state.

- Removing E1 input signal. When an incoming E1 signal is removed, the system database is updated to reflect the change and clear the associated alarm.

Changing a switch on a circuit pack. This command should be activated following switch setting changes on the 12DS3/EC-1 circuit packs. This command enters the new settings into the system. Failure to update will cause an "unexpected CP switches" or "unexpected CP type" alarm, since the new switch settings do not agree with the switch settings already recorded in the system. Activating the update function will clear this alarm and make the new switch settings effective.

Starting in Release 2.0, the previous paragraph no longer applies and is obsolete.

Starting in Release 7.1, if the port state of an Optical Transmission Section (OTS) port or Optical Channel (OCH) port is IS and **UPD-SYS** is executed while the optical port is receiving an LOS-P, the port state will transition to AUTO.

Executing an **UPD-SYS** command after a synch reference OOL out of lock alarm is declared clears the alarm. If the OOL condition still exists on the active reference, the alarm will be redeclared.

Starting in Release 7.0, executing an **UPD-SYS** command after a synch reference EEOF excessive out of frame alarm is declared clears the alarm. Clearing the alarm restarts the 24 hour EEOF event counter.

UPD-SYS performs several functions, including updating the circuit pack and optical module inventory, clearing the Sync reference out of lock (OOL) alarm, and updating line, port and channel states, thereby clearing line, port and channel alarms. Starting in release 4.0, by specifying a value for the **function** parameter, the user can select to perform only one of these functions when executing **UPD-SYS**.

By specifying **function=INVENTORY**, **UPD-SYS** will update circuit pack (CP) and optical module (OM) inventory data only, including inventory-related changes associated with node and ring upgrades. This may result in the clearing of inventory-related CP or OM alarms such as a "CP removed" alarm, but will not clear line, port and channel alarms or the Sync reference OOL alarm.

By specifying **function=REFERENCE**, **UPD-SYS** clears the Sync reference OOL out of lock alarm.

Starting in Release 7.0, by specifying **function=REFERENCE**, **UPD-SYS** clears an active sync reference EEOF excessive out of frame alarm.

By specifying **function=STATES**, **UPD-SYS** will update the line, port and channel states. This may clear line, port and channel alarms.

Ring or node upgrades require either **function=INVENTORY**, **function=ALL** or **function** not to be specified. Specifying **function=INVENTORY** does not replace other requirements for ring or node upgrades, such as the NE being in **RING-UPGRADE** mode for ring upgrades. If the NE is in **RING-UPGRADE** mode or if the conditions exist for a node upgrade, executing **UPD-SYS** with **function=REFERENCE** or **function=STATES** will not change the upgrade status or upgrade related alarms.

The parameter **dir** is valid only when the NE is in **RING-UPGRADE** mode, and the **UPD-SYS** command is denied if this parameter is specified when the NE is not in this mode. If the NE is in this mode and **dir** is specified and if **function=REFERENCE** or **function=STATES** is also specified, the command will attempt to execute, and the **dir** parameter will be ignored.

Starting in Release 7.1.1, the restriction that the parameter **dir** is valid only when the NE is in **RING-UPGRADE** mode is removed. **dir** is valid whether or not the NE is in **RING-UPGRADE** mode.

Starting in Release 7.1, when a LNW170 circuit pack is removed and **UPD-SYS** is executed, the circuit pack is deleted from the equipment list and the associated alarm is cleared. The LNW170 is deleted from the equipment list if either

- cross-connects exist and they are protected by the companion circuit pack, or
- no cross-connects exist

Starting in Release 7.1, certain OLIU circuit packs in the MAIN or FN/Growth slots may be upgraded in service to a different OLIU circuit pack with additional ports that support the same rate. If the upgrade circuit pack is a multi-rate pack and if the upgrade is successful, the signal type values for the ports on the upgrade circuit pack will be set to the port rates of the equivalent ports on the original circuit pack. The signal type values of the upgrade circuit pack ports that do not have equivalent ports on the original circuit pack will be set to **STNA**. See **ENT-rr:signaltype**.

Starting in Release 8.0, an LNW70 100/1G FXS may be upgraded to an LNW170 100/1G FXS. When an LNW70 circuit pack is replaced with an LNW170 circuit pack, an “unexpected CP type” alarm is issued. When **UPD-SYS** is executed, the upgrade LNW170 pack is checked for circuit pack and PTM failures (but not for signal failures), and for the correct socket equipage. If there are no detected failures and the socket equipage matches the provisioned equipage for the original LNW70 pack, then the expected CP type is change to LNW170 and the “unexpected CP type” alarm is cleared.

Starting in Release 9.0, execution of this command (on a main shelf) in a multi-shelf DCS system is applied to the main shelf and to any subshelves for which the communication link is operational.

Starting in Release 3.1, execution of this command, whether successful or denied, will be recorded in the Security log.

INPUT PARAMETERS

Table 2-575. UPD-SYS Input Parameters

Parameter Name	Description
<i>tid</i>	Target Identifier. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>ctag</i>	Correlation Tag. Refer to the RTRV-HDR command for the input parameter syntax and description of this parameter.
<i>spec_block</i>	Specific parameter block. The following are the <i>spec_block</i> parameters.

Table 2-576. UPD-SYS Input *spec_block* Parameters (cont 1 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
<i>dir</i>	Slot to which the UPD-SYS command is directed for changing the expected CP type of the MAIN slots. This parameter is valid only when the Network Element is in Ring Upgrade mode, i.e., ENT-SYS: nemode = RING-UPGRADE. The values are "MAIN-1" and "MAIN-2". The default value is "MAIN-1". Starting in Release 7.1.1, the restriction that <i>dir</i> is valid only when the NE is in RING-UPGRADE mode is removed. <i>dir</i> is valid whether or not the NE is in RING-UPGRADE mode.
<i>function</i>	UPD-SYS function to run. UPD-SYS performs several functions, including updating the circuit pack and optical module inventory, clearing the Sync reference out of lock (OOL) alarm, and updating line, port and channel states, thereby clearing line, port and channel alarms. This parameter allows the user to execute UPD-SYS for any one of these types of functions. The parameter values are:

Table 2-576. UPD-SYS Input *spec_block* Parameters (cont 2 of 2)

Parameter Name	Description of <i>spec_block</i> Parameters
	■ INVENTORY Update circuit pack (CP) and pluggable transmission module (PTM) inventory only, including inventory-related changes associated with node and ring upgrades. This may result in the clearing of inventory-related CP or PTM alarms such as a "CP removed" alarm, but will not clear line, port and channel alarms or the Sync reference OOL alarm. ■ REFERENCE Clear the Sync reference Out-of-Lock (OOL) alarm. Starting in Release 7.0, REFERENCE also clears an Excessive Out-of-Frame (EOOF) alarm. ■ STATES Update the line, port and channel states. This may clear line, port and channel alarms. ■ ALL Execute all of the UPD-SYS functions. If <i>function</i> is not specified, the command will act as if <i>function</i> = ALL.

OUTPUT FORMAT

Refer to the **RTRV-HDR OUTPUT FORMAT** section. The output format listed there apply to the **UPD-SYS** command, also.

If the network element receives a valid **UPD-SYS** command, the network element provides a normal completion response even if the update resulted in no change to the database of the network element.

OUTPUT PARAMETERS

Refer to the **RTRV-HDR OUTPUT PARAMETERS** section. The requirements listed there apply to this command also.

EXAMPLE INPUT/OUTPUT

In the following example, the entire system updates without any errors:

```
upd-sys:LT-TID123::123456;
```

```
IP 123456  
<  
    LT-TID123 00-10-26 16:42:11  
M 123456 COMPLD  
;
```

Beginning in Release 3.0, a history log entry is created for the above response.

In the following example, the entire system is updated without any errors. When updating the MAIN circuit packs, the **UPD-SYS** command is directed to MAIN-2 as the expected CP type.

```
upd-sys:LT-TID123::123456:::dir=main-2;
```

```
IP 123456  
<  
    LT-TID123 03-11-15 11:07:38  
M 123456 COMPLD  
;
```

In the following example, the **UPD-SYS** command will only clear a sync reference OOL alarm.

```
upd-sys:LT-TID123::123456:::function=reference;
```

```
IP 123456  
<  
    LT-TID123 03-11-15 11:07:38  
M 123456 COMPLD  
;
```


In the following example, some of the slots could not be updated, due to various conditions:

```
upd-sys:LT-TID123::123456;  
  
IP 123456  
<  
    LT-TID123 00-10-26 16:42:11  
M 123456 PRTL  
  "fn-a:SR0F"  
  /* Status, Requested Operation Failed, Provisioning upgrades not allowed  
    from slot 2 when slot 1 is equipped */  
;  
;
```

ERROR RESPONSES

Refer to the **RTRV-HDR ERROR RESPONSES** section. The error responses listed there also apply to this command.

If the NE receives a **UPD-SYS** command and one or more slots are not properly equipped, the following error response is returned inside a partial completion message:

```
sid date time  
M ctag PRTL  
  "AID:SR0F"  
  /* Status, Requested Operation Failed, Not equipped properly */  
;  
;
```

If a circuit pack is removed before the incoming signal is removed or while the associated port or ports are in the nmon state, the system will not recognize that service is no longer being carried on the port and will not remove the circuit pack from the equipment list. If a cross connection already exists, the operation will fail. The following error response will be returned inside a partial completion message:

```
sid date time  
M ctag PRTL  
  "AID:SR0F"  
  /* Status, Requested Operation Failed, CRS exists or Port state NMON/IS */  
;  
;
```

Starting in Release 4.0, the previous error response is replaced with the following partial completion message:

```
sid date time
M ctag PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, CRS exists */
;
```

Starting in Release 4.0, the previous error response also applies to the removal of a Pluggable Transmission Module when cross-connects exist on the line associated with the socket.

If the NE is provisioned for line timing (**RTRV-SYNCN:provisioned_mode=LINETIMED** or **LINE_SYNCOUT**) and the addressed circuit pack is not selected for line timing, the slot state will not change to not equipped and the following error response will be returned inside a partial completion message:

```
sid date time
M ctag PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, CP required for selected timing */
;
```

If the NE is provisioned for line timing (**RTRV-SYNCN:provisioned_mode=LINETIMED** or **LINE_SYNCOUT**) and sync auto re-configuration is enabled (**RTRV-SYNCN:sync_autoreconfiguration**), and the addressed circuit pack is one of the sources for timing, the slot state will not change to not equipped and the following error response will be returned inside a partial completion message:

```
sid date time
M ctag PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, CP required for selected timing */
;
```

Starting in Release 7.0, the previous two error responses are replaced with the following error response.

If the NE is provisioned for line timing (**RTRV-SYNCN:provisioned_mode=LINETIMED** or **LINE_SYNCOUT**) or external sync out (**RTRV-SYNCN:provisioned_mode=EXT_SYNCOUT**) with synchronization auto reconfiguration either enabled or disabled (**RTRV-SYNCN:sync_autoreconfiguration**) and the addressed circuit pack is the

provisioned source for timing or external sync out (**RTRV-SYNCN:sync_source**, **RTRV-SYNCN:ds1_active_reference** or **RTRV-SYNCN:e1_active_reference**), the slot will not change to "not equipped" and the following error response will be returned inside a partial completion message:

```
sid date time
M ctag PRTL
  "AID:SROF"
  /* Status, Requested Operation Failed, CP required for selected timing */
;
```

Starting in Release 7.0, if the NE is provisioned for line timing (**RTRV-SYNCN:provisioned_mode**=LINETIMED or LINE_SYNCOU) or external sync out (**RTRV-SYNCN:provisioned_mode**=EXT_SYNCOU) with synchronization auto reconfiguration either enabled or disabled (**RTRV-SYNCN:sync_autoreconfiguration**) and the addressed OC-n port is the provisioned source for timing or external sync out (**RTRV-SYNCN:sync_source**, **RTRV-SYNCN:ds1_active_reference** or **RTRV-SYNCN:e1_active_reference**), if the pluggable optical module is removed, the socket will not change to "not equipped" and the following error response will be returned inside a partial completion message:

```
sid date time
M ctag PRTL
  "AID:SROF"
  /* Status, Requested Operation Failed, PTM required for selected timing */
;
```

If synchronization autoreconfiguration is enabled (**RTRV-SYNCN:sync_autoreconfiguration**) and the addressed circuit pack is the companion CP to the circuit pack that has the active reference for line timing or line timing sync out (**RTRV-SYNCN:sync_source**), the slot state will not change to auto and the following error response will be returned inside a partial completion message:

```
sid date time
M ctag PRTL
  "AID:SROF"
  /* Status, Requested Operation Failed, Disable Autoreconfig First */
;
```

Starting in Release 7.0, the previous error response is replaced with the following error response:

If synchronization autoreconfiguration is enabled (**RTRV-SYNCN:sync_autoreconfiguration**) and the addressed circuit pack is the companion CP to the circuit pack that has the active reference for line timing or line timing sync out (**RTRV-SYNCN:sync_source**), the slot state will not change to unequipped and the following error response will be returned inside a partial completion message:

```
sid date time
M ctag PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, CP required for selected timing
  protection */
;
```

Starting in Release 7.0, if the NE is provisioned for line timing with synchronization auto reconfiguration enabled (**RTRV-SYNCN:sync_autoreconfiguration**) and the addressed OC-n line is the provisioned source for timing or external sync out, if the pluggable optical module is removed, the socket state will not change to "not equipped" and the following error response will be returned inside a partial completion message:

```
sid date time
M ctag PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, PTM required for selected timing
  protection */
;
```

If the expected circuit pack type for the Main slots is LNW26 (6 STS-1s worth of VT1.5) or LNW26B with a jumper setting (of *cpmode*) to LNW26, and an LNW26B with **RTRV-SYS:cpmode=LNW26B** is inserted in Main-1, the following error response will be returned in a partial completion message:

```
sid date time
M ctag PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, Not equipped properly */
;
```

Starting in Release 2.1, the previous error message no longer applies and is obsolete.

If the expected CP type for the MAIN slots is LNW26 or LNW26B with **RTRV-SYS:cpmode=LNW26**, and an LNW26B with **RTRV-SYS:cpmode=LNW26B** is

inserted in MAIN-1, the **UPD-SYS** error response will be returned inside a partial completion message:

```
sid date time
M ctag PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, Upgrade to LNW26B with CPMODE=LNW26B not
supported - CP type not changed */
;
```

If the expected CP type for the MAIN slots is LNW26B with **RTRV-SYS:cpmode=LNW26B** and an LNW26 or LNW26B with **RTRV-SYS:cpmode=LNW26**, is inserted in MAIN-1, the **UPD-SYS** error response will be returned inside a partial completion message:

```
sid date time
M ctag PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, Downgrade from LNW26B with CPMODE=LNW26B
not supported - CP type not changed */
;
```

Starting in Release 2.1, the previous error message no longer applies and is obsolete.

If a node is in the Ring Upgrade mode and if either or both of the MAIN slots are equipped with a circuit pack type other than LNW26, LNW26B, LNW27 or LNW56, the following error response is returned inside a partial completion message:

```
IP 123456
<
  TID123 05-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, wrong circuit packs in MAIN slots for
ring upgrade - CP type not changed */
;
```

When in Ring Upgrade mode, if an LNW27 family or an LNW56 family circuit pack using version 3 or later of the Vitesse 9188 device is replaced by an LNW56 or LNW27 circuit pack respectively that uses version 2 of the Vitesse 9188 device, the **UPD-SYS** error response will be returned inside a partial completion message:

```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, VT device on upgrade circuit pack not
compatible with expected CP type */
;
```

When the **UPD-SYS** command is executed after the circuit pack in the designated MAIN slot is replaced with a different upgrade circuit pack, if a circuit pack failure is detected, then the error response returned will include the reason or reasons for the failure. The following error response shows all of the possible reasons for failure - the actual response may include one or more of the reasons for the failure shown. If the reason for failure is that the pack failed the circuit pack equations tests, the specific test code will be returned:

```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed - CP type not changed */
  /* Pack Failure - pack setup error */
  /* Pack Failure - EEPROM access */
  /* Pack Failure - device read access */
  /* Pack Failure - did not pass equations (code = 0x0000) */
;
```

Starting in Release 7.1, the previous error response applies when a circuit pack failure is detected after the circuit pack in the designated MAIN or FN/Growth slot is replaced with a different upgrade circuit pack.

Starting in Release 7.1, when an OLIU circuit pack in the designated MAIN or FN/Growth slot is replaced with a different upgrade OLIU circuit pack with PTM based ports, if a PTM is missing or failed, the error response below is returned. If the original circuit pack is replaced with an upgrade OLIU circuit pack that has additional ports, only the ports which are equivalent to ports on the original circuit pack that have provisioned cross-connects need to be equipped with operational PTMs for the upgrade to succeed.

```
IP 123456
<
  TID123 08-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed - PTM missing or failed */
;
```

Starting in Release 8.0, the previous error response also applies to valid upgrades of non-OLIU circuit packs, such as an upgrade from an LNW70 100/1G FXS pack to an LNW170 100/1G FXS pack.

If the user specifies a value for **dir** and the NE is not in Ring Upgrade mode, then the following error response will be returned inside a partial completion message:

```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "main-1:SR0F"
  /* Status, Requested Operation Failed, dir valid only when NE is in Ring Upgrade
mode - CP type not changed */
;
```

Starting in Release 7.1.1, the previous error response is obsolete. **dir** is valid whether or not the NE is in Ring Upgrade mode.

If an NE receives an **UPD-SYS** command with a **dir** value other than "MAIN-1" or "MAIN-2", the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid DIR */
;
```

When the **UPD-SYS** command is executed after the circuit pack in the designated MAIN slot is replaced with a different upgrade circuit pack, if the circuit pack does not successfully carry transmission with the adjacent node, then the error response returned will include the reason or reasons for the failure. The following

error response shows the possible reasons for failure - the actual response may include one or more of the reasons for the failure shown:

```
IP 123456
<
  TID123 08-10-26 16:42:11
M 123456 PRTL
  "AID:SROF"
  /* Status, Requested Operation Failed - CP type not changed */
  /* Line Fault - LOS detected */
  /* Line Fault - OOF detected */
  /* Line Fault - LOF detected */
  /* Line Fault - AIS detected */
  /* Line Fault - RDI detected */
  /* Line Fault - B2 signal degrade detected */
  /* Line Fault - B2 signal fail detected */
;
```

Starting in Release 7.1, certain OLIU circuit packs in the MAIN or FN/Growth slots may be upgraded in service to a different OLIU circuit pack with additional ports that support the same rate. When the **UPD-SYS** command is executed after the circuit pack is replaced with the upgrade circuit pack, if the ports on the upgrade circuit pack that are equivalent to the transmission-carrying ports on the original circuit pack do not successfully carry transmission with the adjacent node, then the previous error response will be returned and will include the reason or reasons for the failure. The previous error response shows the possible reasons for failure - the actual response may include one or more of the failure reasons that are shown.

For example, all of the multi-port upgrade circuit packs have PTM-based ports. If the PTM inserted in the upgrade circuit pack doesn't support the same port rate as the equivalent port on the original circuit pack (even if the upgrade circuit pack is a multi-rate circuit pack that could support the PTM port rate), a loss of frame (LOF) could be detected and **UPD-SYS** would return a partial error response specifying a LOF line fault.

If the original circuit pack is a multi-port OLIU, some ports may not have cross-connects provisioned. When **UPD-SYS** is executed, ports on the upgrade circuit pack are not evaluated for successful transmission if the equivalent ports on the original circuit pack do not have cross-connects provisioned.

When an OC48 to OC48 Full Bandwidth OLIU upgrade (i.e., LNW 26 or LNW26B family OLIU to an LNW27 family OLIU) has been identified by the circuit pack replacement, or when an NE is in Ring Upgrade mode and the **UPD-SYS** command is executed, if a loopback exists on either circuit pack in the MAIN slots, the **UPD-SYS** command shall be denied and the following PRTL error response will be returned:


```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, cannot update when loopback exists - CP
type not changed */
  ;
```

When an OC48 to OC48 Full Bandwidth OLIU upgrade (i.e., LNW 26 or LNW26B family OLIU to an LNW27 family OLIU) has been identified by the circuit pack replacement, or when an NE is in Ring Upgrade mode and the **UPD-SYS** command is executed, if a forced protection switch exists on either circuit pack in the MAIN slots, the **UPD-SYS** command shall be denied and the following PRTL error response will be returned:

```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, cannot update when forced protection
switch exists - CP type not changed */
  ;
```

When an OC48 to OC48 Full Bandwidth OLIU upgrade (i.e., LNW 26 or LNW26B family OLIU to an LNW27 family OLIU) has been identified by the circuit pack replacement, or when an NE is in Ring Upgrade mode and the **UPD-SYS** command is executed, if a protection lockout exists on either circuit pack in the MAIN slots, the **UPD-SYS** command shall be denied and the following PRTL error response will be returned:

```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, cannot update when protection lockout
exists - CP type not changed */
  ;
```

Starting in Release 3.1, when an OC48 to OC48 Full Bandwidth OLIU upgrade (i.e., LNW 26 or LNW26B family OLIU to an LNW27 family OLIU) has been identified by the circuit pack replacement, or when an NE is in Ring Upgrade mode and the **UPD-SYS** command is executed, if a 1-way VT cross-connection exists, the **UPD-SYS** command shall be denied and the following PRTL error response will be returned:

```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, cannot update when 1-way VT cross-
connection exists - CP type not changed */
  ;
```

If a user attempts to back out of a ring upgrade using a circuit pack that is different from the one with which the node was originally equipped, then the following PRTL error response will be returned:

```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, incompatible circuit pack in MAIN slot -
CP type not changed */
  ;
```

Starting in Release 3.1, the previous error response is obsolete and is replaced with the following error response.

Starting in Release 3.1, if a user attempts to back out of a ring or node upgrade to a circuit pack that has less cross-connection capability than the originally equipped circuit pack or if any cross-connections have been added since the upgrade was completed, even if they are subsequently deleted, then the following PRTL error response is returned:

```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "AID:SROF"
  /* Status, Requested Operation Failed, wrong CP for upgrade or back out - CP type
not changed */
  ;
```

Starting in Release 3.1, if a user attempts to upgrade to a circuit pack that is not a valid upgrade circuit pack, or to back out of a ring or node upgrade to a circuit pack that is not valid for back out, then the following PRTL error response is returned:

```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "AID:SROF"
  /* Status, Requested Operation Failed, wrong CP for upgrade or back out - CP type
not changed */
  ;
```

If the NE is equipped with LNW6 or LNW7 circuit packs and the user attempts to upgrade the NE from non-VLF MAIN circuit packs to VLF MAIN circuit packs, the upgrade will be denied and the following PRTL error response will be returned:

```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "AID:SROF"
  /* Status, Requested Operation Failed, upgrade pack does not support accepted
equipage - CP type not changed */
  ;
```

If the user attempts to upgrade the NE from non-VLF MAIN circuit packs to VLF MAIN circuit packs while there are pre-existing "unexpected CP type" or "illegal CP type" alarms on any slot other than the slots being upgraded, the upgrade will be denied and the following PRTL error response will be returned:

```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, CP alarm on non-upgrade slots - CP type
not changed */
  ;
```

If the NE has been upgraded from non-VLF MAIN circuit packs to VLF MAIN circuit packs and the user subsequently provisions any parameter that is supported only by VLF MAIN circuit packs or inserts a circuit pack that is supported only by VLF MAINs into an unequipped slot, a backout of the upgrade will be denied even if the provisioning or circuit pack is subsequently removed. The following PRTL error response will be returned:

```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, NE provisioning or equipage incompatible
with upgrade back out - CP type not changed */
  ;
```

If the user attempts to upgrade a DMXtend NE from a MAIN circuit pack, such as an LNW41, to a combination pack that spans the MAIN and FN-A/B slots, such as an LNW84, and the FN-A/B slots are not in the unequipped state, the following PRTL error response will be returned:

```
IP 123456
<
  TID123 09-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, NE provisioning or equipage incompatible
with upgrade - CP type not changed */
  ;
```

When an OLIU or electrical circuit pack upgrade has been identified by the circuit pack replacement, and the **UPD-SYS** command is executed, if at least one test

access session is provisioned anywhere in the NE, the **UPD-SYS** command returns following PRTL error response will be returned:

```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, cannot update when a test access session
exists - CP type not changed */
  ;
```

Starting in Release 5.1, if a circuit pack in a function or growth slot is removed and there is a test access tributary associated with the CP, or if a MAIN OLIU is removed and at least one test access session exists in the NE, the **UPD-SYS** command returns the following PRTL error response:

```
IP 123456
<
  TID123 05-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, cannot delete CP when a test access
session exists */
  ;
```

Starting in Release 5.1, if an optical module is removed and there is a test access tributary associated with the optical module, the **UPD-SYS** command returns the following PRTL error response:

```
IP 123456
<
  TID123 00-10-26 16:42:11
M 123456 PRTL
  "AID:SR0F"
  /* Status, Requested Operation Failed, cannot delete an optical module when a
test access session exists */
  ;
```

If an NE receives an **UPD-SYS** command with a **function** value other than "INVENTORY", "REFERENCE", "STATES" or "ALL", the following error response is returned:

```
sid date time
M ctag DENY
IDNV
/* Input, Data Not Valid, invalid FUNCTION */
;
```

Because of differences in the way combinations of VT cross-connects are provisioned on the 28DS1 circuit pack and the 56DS1 circuit pack, it may not be possible to map some VT cross-connects when upgrading from a 28DS1 CP to a 56 DS1 CP. When this occurs, the following PRTL error response will be returned:

```
sid date time
M ctag PRTL
"AID:SROF"
/* Status, Requested Operation Failed - CP type not changed */
/* Cannot Update - Invalid VT cross-connect combinations exist */
;
```

If an NE receives an **UPD-SYS** command when the NE is provisioned for external timing and synchronization reference switching is inhibited, as set by the **OPR-SYNCN-SW** command with **sc=INHIBIT** and **syncfunction=REFERENCE**, the following error response is returned inside a partial completion message:

```
sid date time
M ctag PRTL
"ref-1:SROF"
/* Status, Requested Operation Failed, inhibit switch exists */
;
```

If an NE receives an **UPD-SYS** command when upgrading from an LNW6 or LNW7 28DS1 CP to an LNW8 56DS1E1 CP and there is not sufficient VT

capacity for the upgrade, the following error response is returned inside a partial completion message:

```
sid date time
M ctag PRTL
SARB
/* Status, All Resources Busy, insufficient VT capacity for DS1 upgrade - CP
type not changed */
;
```

Starting in Release 9.0, the previous error response also applies when upgrading from an LNW6 or LNW7 28DS1 CP to an LNW801 56DS1E1 CP and there is not sufficient VT capacity for the upgrade.

Starting in Release 7.0, if both MAIN circuit packs are removed and **UPD-SYS** is executed, and there is an accepted circuit pack in any of the FN or Growth slots the **UPD-SYS** command returns the following PRTL error response:

```
IP 123456
<
TID123 07-10-26 16:42:11
M 123456 PRTL
"AID:SROF"
/* Status, Requested Operation Failed, can't remove Main when FN/Growth equipped
*/
;
```

Starting in Release 7.0, if both MAIN circuit packs are removed and **UPD-SYS** is executed, and the NE is provisioned for SDH synchronization (**RTRV-SYNCN:syncrtc=SDHSYNC**) the **UPD-SYS** command returns the following PRTL error response:

```
IP 123456
<
TID123 07-10-26 16:42:11
M 123456 PRTL
"AID:SROF"
/* Status, Requested Operation Failed, can't remove Main when NE provisioned for
SDH synchronization */
;
```

Starting in Release 7.1, when companion slots are equipped with LNW170 circuit packs, the slots are provisioned for **prot_state=PROT** and there are cross-connects or virtual switches provisioned, if one or both circuit packs are removed

and **UPD-SYS** is executed, the **UPD-SYS** command returns the following PRTL error response:

```
IP 123456
<
  TID123 07-10-26 16:42:11
M 123456 PRTL
  "AID:SROF"
  /* Status, Requested Operation Failed, can't remove CP when the slot pair
  protection state is PROT and cross-connects or virtual switches exist */
  ;
```

In the main shelf of a multi-shelf DCS system, if a circuit pack with a provisioned subshelf interface is removed from the shelf and its companion pack is not in the equipment list, then when **UPD-SYS** is executed, the pack is not removed from the equipment list and the command returns the following PRTL error response:

```
IP 123456
<
  TID123 10-10-26 16:42:11
M 123456 PRTL
  "AID:SROF"
  /* Status, Requested Operation Failed, subshelf interface exists */
  ;
```

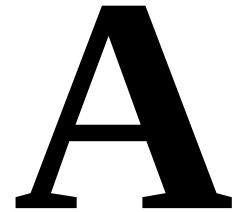
For each unavailable subshelf in a multi-shelf DCS system, the command returns the following PRTL error response:

```
IP 123456
<
  TID123 10-10-26 16:42:11
M 123456 PRTL
  "AID:SROF"
  /* Status, Requested Operation Failed, subshelf unavailable */
  ;
```

RELATED TL1 MESSAGES

INIT-SYS

Appendix A



Overview

This section provides detailed information about the Access Identifier (AID) values.

Access Identifier Table

The following table specifies the valid addresses for slots, lines, ports, channels, paths, cross-connections, and operations interfaces.

Where lists of items appear in braces {}, any one (and only one) of these items may be used to form the address.

For each "entity" entry in the following tables, one or more "prototype" (structural) address specifications is included to show meaning of the components that make up the address. The prototype is built from the elements listed below. Each individual prototype will use only a subset of these elements.

Table A-1: AID Element Definitions (Sheet 1 of 3)

Element	Values
alm/cont point	Possible values are 1 - 19 and a l l. Environment alarm or control point.
freq	Possible values are 9520 - 9590 (counting by 10s) and a l l. This identifies a WDM frequency.
group	Possible values are m, a, b, c, d, g and a l l. Note carefully in the tables below when this is followed by a dash (-) and when it is not.

Table A-1: AID Element Definitions (Sheet 2 of 3)

LAGnum	Possible values are 1 - 8. This identifies a link aggregation group number.
line	Possible values are 1 - 12, and all. This identifies a line within a slot or slot pair. This notion is used for optical interfaces. Note carefully in the tables below the cases in which all is not allowed.
port	Possible values are 1 - 48 and all. Note carefully in the tables below the cases in which all is not allowed.
shelf	Possible values are 2 - 14 and all. Note carefully in the tables below the cases in which all is not allowed.
slot	Possible values are 1, 2, and all. This identifies a slot within a slot pair or group. Note carefully in the tables below the cases in which all is not allowed.
slot type	Possible values are main, fn, growth, sysctl and all. Additional values are ctl and rmem. sysctl becomes invalid beginning in Release 6.0.
socket	Possible values are 1 - 12, 17 - 24, and all.
special	Possible values are ref, cit, dcc, x25, lan, lan/dcc, env, cont, fuse, all, shelf, nvm, remaid. x25 becomes invalid beginning in Release 6.0.
STS-1	Possible values are 1 - n when using an OC-n interface. For concatenated signals, STS-1 indicates the first STS-1 of the STS-Nc signal.
tributary	Possible values are 1.
TUG2	Possible values are 1 - 7 and all.
VC12	Possible values are 1 - 3 and all.
VCG	Possible values are 1 - 48. Virtual Concatenation Group.
VT1.5	Possible values are 1 - 4 and all.
VTG	Possible values are 1 - 7 and all.
VT-VCG	Possible values are 1 - 63. VT-based Virtual Concatenation Group.

Table A-1: AID Element Definitions (Sheet 3 of 3)

Ws	Working side for electrical interfaces Equipped slot for an Ethernet pack (which is always equipment-unprotected); otherwise must be 1.

“STS-n” is any of STS-1, STS-3c, STS-12c, or STS-48c.

In “OC-n”, ‘n’ is 3, 12, 48, and 192.

In “xOC-n”, ‘x’ indicates the number of lines in the pack. If ‘x’ is omitted, the pack has one line.

Some ranges for some fields in the following table are supplied in tables beginning with [Table A-5 on page A-17](#). These omitted ranges are called out with the following format: “Tx: *column*” where “x” is the table number. For example, a call-out of “[T-A-5:VCGs](#)” means refer to the VCGs column of [Table A-5](#).

When “all” is part of an AID, no subsequent address fields should be defined. Not all commands allow “all” AIDs; refer to the command page. Generally, most **RTRV** commands allow “all”; most other commands do not.

Table A-2: DMX Address Table Beginning in R6 (Sheet 1 of 8)

Entity	Address	Example
Slots		
Entire system	<i>{slot type}</i> all	all
All slots in a DMX-DCS subshelf	<i>{shelf}-{slot type}</i> [2-14]-all	2-all
Main slot	<i>{slot type}-{slot}</i> main-{1,2,all}	main-all
Main slot in DMX-DCS subshelf	<i>{shelf}-{slot type}-{slot}</i> [2-14]-main-{1,2,all}	2-main-all
Growth slot	<i>{slot type}-{slot}</i> growth-{1,2,all}	growth-1
Growth slot in DMX-DCS subshelf	<i>{shelf}-{slot type}-{slot}</i> [2-14]-growth-{1,2,all}	2-growth-1
Growth Unit pair	<i>{slot type}</i> growth	growth
Function unit slot	<i>{slot type}-{group}-{slot}</i> fn-{a,b,c,d,all}-{1,2,all}	fn-all fn-c-1
Function unit slot in DMX-DCS subshelf	<i>{shelf}-{slot type}-{group}-{slot}</i> [2-14]-fn-{a,b,c,d,all}-{1,2,all}	2-fn-all 2-fn-c-1

Table A-2: DMX Address Table Beginning in R6 (Sheet 2 of 8)

Entity	Address	Example
Function unit pair	<i>{slot type}</i> - <i>{group}</i> fn-{a,b,c,d}	fn-a
System control slot	<i>{slot type}</i> - <i>{slot}</i> ctl-{1,all}	ctl-1
System control slot in DMX-DCS subshelf	<i>{shelf}</i> - <i>{slot type}</i> - <i>{slot}</i> [2-14]-ctl-{1,all}	2-ctl-1
NVMs		
NVM socket	<i>{slot type}</i> - <i>{slot}</i> - <i>{special}</i> - <i>{socket}</i> ctl-{1,all}-nvm-{1,2,all}	ctl-1-nvm-1
NVM socket in DMX-DCS subshelf	<i>{shelf}</i> - <i>{slot type}</i> - <i>{slot}</i> - <i>{special}</i> - <i>{socket}</i> [2-14]-ctl-{1,all}-nvm-{1,2,all}	2-ctl-1-nvm-1
Lines		
xOC-n line	<i>{slot type (main)}</i> - <i>{slot}</i> - <i>{line}</i> main-{1,2}-{1-x,all}	main-1-1
xOC-n line in DMX-DCS subshelf	<i>{shelf}</i> - <i>{slot type (main)}</i> - <i>{slot}</i> - <i>{line}</i> [2-14]-main-{1,2}-{1-x,all}	2-main-1-1
xOC-n line	<i>{slot type (growth)}</i> - <i>{slot}</i> - <i>{line}</i> growth-{1,2}-{1-x,all}	growth-1-1
xOC-n line	<i>{slot type (fn)}</i> - <i>{group}</i> - <i>{slot}</i> - <i>{line}</i> fn-{a,b,c,d}-{1,2}-{1-x,all}	fn-a-1-2
Sockets		
xOC-n socket	<i>{slot type (main)}</i> - <i>{slot}</i> -sc <i>{line}</i> main-{1,2}-sc{1-x,all}	main-2-sc1
xOC-n socket in DMX-DCS subshelf	<i>{shelf}</i> - <i>{slot type (main)}</i> - <i>{slot}</i> -sc <i>{line}</i> [2-14]-main-{1,2}-sc{1-x,all}	2-main-2-sc1
xOC-n socket	<i>{slot type (growth)}</i> - <i>{slot}</i> -sc <i>{line}</i> growth-{1,2}-sc{1-x,all}	growth-1-sc1
xOC-n socket	<i>{slot type (fn)}</i> - <i>{group}</i> - <i>{slot}</i> -sc <i>{line}</i> fn-{a,b,c,d}-{1,2}-sc{1-x,all}	fn-a-1-sc2
LAN socket	<i>{group}</i> <i>{slot}</i> -sc <i>{port}</i> {a,b,c,d,g}{1,2}-sc{TA-5:Sockets,all}	a2-sc19
Invalid (unused) socket (LNW78)	<i>{group}</i> <i>{slot}</i> -sc <i>{port}</i> {a,b,c,d,g}{1,2}-sc{3-4,all}	d1-sc3
Client port socket	<i>{group}</i> <i>{slot}</i> -sc <i>{port}</i> {a,b,c,d,g}{1,2}-sc{TA-11:Client Sockets,all}	a2-sc3
OT Line port socket (Previously OTU2 socket)	<i>{group}</i> <i>{slot}</i> -sc <i>{port}</i> {a,b,c,d,g}{1,2}-sc{TA-11:Line Sockets,all}	b1-sc9

Table A-2: DMX Address Table Beginning in R6 (Sheet 3 of 8)

Entity	Address	Example
Ports		
DS3 Port (using xDS3 LNW16,19, 20)	<i>{group}-{port}</i> <i>{a,b,c,d}-{1-x,all}</i>	a-5
DS3 Port in DMX-DCS subshelf (using LNW20)	<i>{shelf}-{group}-{port}</i> <i>[2-14]-{a,b,c,d}-{1-48,all}</i>	2-a-5
Portless DS3 (using LNW20)	<i>{group}-{port}</i> <i>{a,b,c,d,g}-{1-48^a,all}</i>	d-17
DS3 Port (using TMUX LNW18)	<i>{group}-{port}</i> <i>{a,b,c,d}-{1-12,all}</i>	c-8
EC1 Port (using xEC1 LNW16,19, 20)	<i>{group}-{port}</i> <i>{a,b,c,d}-{1-x,all}</i>	a-5
DS1 Port (using 28DS1 LNW6,7)	<i>{group}-{VTG}-{port}</i> <i>{a,b,c,d}-{1-7,all}-{1-4,all}</i>	a-2-4
DS1 Port (using 56DS1/E1 LNW8,801 in DS1 mode)	<i>{group}-{STS-1}-{VTG}-{port}</i> <i>{a,b,c,d}-{1-2,all}-{1-7,all}-{1-4,all}</i>	a-2-2-4
DS1 Port in DMX-DCS subshelf (using 56DS1/E1 LNW801 in DS1 mode)	<i>{shelf}-{group}-{STS-1}-{VTG}-{port}</i> <i>[2-14]-{a,b,c,d}-{1-2,all}-{1-7,all}-{1-4,all}</i>	2-a-2-2-4
DS1 Port (using TMUX LNW18)	<i>{group}-{STS-1}-{VTG}-{port}</i> <i>{a,b,c,d}-{1-12,all}-{1-7,all}-{1-4,all}</i>	a-9-2-4
DS1 Port (using LNW20 in TMUX applications)	<i>{group}-{STS-1}-{VTG}-{port}</i> <i>{a,b,c,d}-{1-48,all}-{1-7,all}-{1-4,all}</i>	c-45-2-4
DS1 Port in DMX-DCS subshelf (using LNW20 in TMUX applications)	<i>{shelf}-{group}-{STS-1}-{VTG}-{port}</i> <i>[2-14]-{a,b,c,d}-{1-48,all}-{1-7,all}-{1-4,all}</i>	2-c-45-2-4
DS1 Port in Portless DS3 (using LNW20)	<i>{group}-{STS-1}-{VTG}-{port}</i> <i>{a,b,c,d,g}-{1-48,all}-{1-7,all}-{1-4,all}</i>	g-27-5-3
E1 Port (using 56DS1/E1 LNW8,801 in E1 mode)	<i>{group}-{STS-1}-{TUG2}-{port}</i> <i>{a,b,c,d}-{1-2,all}-{1-7,all}-{1-3,all}</i> <i>{a,b,c,d}-{3,all}-{1-4,all}-{1-3,all}</i> <i>{a,b,c,d}-3-5-{1-2,all}</i>	b-2-5-3
Backplane Electrical Ethernet LAN Port	<i>{group}-{port}</i> <i>{a,b,c,d}-{TA-5:LANs,all}</i>	c-2
Optical or SFP Ethernet/DATA LAN Port	<i>{group}{slot}-{port}</i> <i>{a,b,c,d,g}{1,2}-{TA-5:LANs,all}</i>	c1-2

Table A-2: DMX Address Table Beginning in R6 (Sheet 4 of 8)

Entity	Address	Example
Ethernet/DATA WAN (VCG) Port	<i>{group}{slot}-v{vcg}</i> <i>{a,b,c,d,g}{1,2}-v{TA-5:VCGs,all}</i>	b2-v15
RPR Span VCG Port (using LNW78)	<i>{group}{slot}-v{vcg}</i> <i>{a,b,c,d,g}{1,2}-v{TA-5:VCGs^b,all}</i>	a2-v2
RPR IF (interface) (RPR Span VCG Port address- ing RPR IF) (using LNW78)	<i>{group}{slot}-v{vcg}</i> <i>{a,b,c,d,g}{1,2}-v{1,all}</i>	c1-v1
LAG (Link Aggregation Group)	<i>{group}-lag{LAGnum}</i> <i>{a,b,c,d,g}-lag{TA-8:LAGs,all}</i>	d-lag3
WDM Ports/Channels/Tributaries		
OCH (Optical Channel)	<i>{group}{slot}-{freq}</i> <i>{a,b,c,d,g}{1,2}-{TA-10:Freq,all}</i>	d1-9530
Alien Wavelength	<i>{special}</i> remaind	remaind
ODU2 Tributary ^c	<i>{group}{slot}-{port}-{tributary}</i> <i>{a,b,c,d,g}{1,2}-{TA-11:Line ports/Client ports,all}-1</i>	a1-9-1
OTS Port (within OMD packs)	<i>{group}{slot}-ots</i> <i>{a,b,c,d,g}{1,2}-ots</i>	a1-ots
OTU2 Port	<i>{group}{slot}-{port}</i> <i>{a,b,c,d,g}{1,2}-{TA-11:Line ports,all}</i>	d2-9
OT Client Port ^d (Previously OTPE Port)	<i>{group}{slot}-{port}</i> <i>{a,b,c,d,g}{1,2}-{TA-11:Client ports,all}</i>	c1-2
Equipment and Line Protection Groups		
Main equipment group	<i>{slot type}</i> main	main
Main equipment group in DMX-DCS subshelf	<i>{shelf}-{slot type}</i> [2-14]-main	2-main
Growth equipment group	<i>{slot type}</i> growth	growth
Growth equipment group in DMX-DCS subshelf	<i>{shelf}-{slot type}</i> [2-14]-growth	2-growth
Function unit equipment group	<i>{slot type}-{group}</i> fn-{a,b,c,d,all}	fn-a
Function unit equipment group in DMX-DCS subshelf	<i>{shelf}-{slot type}-{group}</i> [2-14]-fn-{a,b,c,d,all}	2-fn-a

Table A-2: DMX Address Table Beginning in R6 (Sheet 5 of 8)

Entity	Address	Example
1+1 or 2F (BLSR) protection group (within xOC-n in Main)	<i>{slot type}-{slot}-{line}</i> main-1-{1-x,all}	main-1-1
1+1 protection group in DMX-DCS subshelf (within OC-n in Main)	<i>{shelf}-{slot type}-{slot}-{line}</i> [2-14]-main-1-{1,all}	2-main-1-1
1+1 or 2F (BLSR) protection group (within xOC-n in Growth)	<i>{slot type}-{slot}-{line}</i> growth-1-{1-x,all}	growth-1-4
1+1 or 2F (BLSR) protection group (within xOC-n in Fn)	<i>{slot type}-{group}-{slot}-{line}</i> fn-{a,b,c,d}-1-{1-x,all}	fn-c-1-2
Channels and Path Protection Groups		
STS-n Ring Channel	<i>{special}</i> all	all
STS-1 Ring Channel (within 28DS1 LNW6,7)	<i>{group}{Ws}-{STS-1}</i> {a,b,c,d}1-1,all	a1-1
STS-1 Ring Channel (within LNW8,801 in DS1 mode)	<i>{group}{Ws}-{STS-1}</i> {a,b,c,d}1-1-2,all	c1-2
STS-1 Ring Channel in a DMX-DCS subshelf (within LNW801 in DS1 mode)	<i>{shelf}-{group}{Ws}-{STS-1}</i> {2-14}-{a,b,c,d}1-1-2,all	2-c1-2
STS-1 Ring Channel (within TMUX LNW18)	<i>{group}{Ws}-{STS-1}</i> {a,b,c,d}1-1-12,all	a1-8
STS-1 Ring Channel (within xDS3/EC1 LNW16,19,20)	<i>{group}{Ws}-{STS-1}</i> {a,b,c,d}1-1-x,all	a1-7
STS-1 Ring Channel in a DMX-DCS subshelf (within LNW20 in DS3 mode)	<i>{shelf}-{group}{Ws}-{STS-1}</i> {2-14}-{a,b,c,d}1-1-x,all	2-a1-7
STS-1 Ring Channel (within LNW20 [portless])	<i>{group}{Ws}-{STS-1}</i> g1-1-48,all	g1-43
STS-1 Ring Channel (within Ethernet pack when PL and backplane-electrical LAN)	<i>{group}{Ws}-v{vcg}-{STS-1}</i> {a,b,c,d,g}{1,2}-v{TA-5:VCGs}-{TA-5:STS1,all}	a1-v2-12
STS-1 Ring Channel (within Ethernet/DATA pack when switched, or PL and optical/SFP LAN)	<i>{group}{slot}-v{vcg}-{STS-1}</i> {a,b,c,d,g}{1,2}-v{TA-5:VCGs}-{TA-5:STS1,all}	a1-v2-12

Table A-2: DMX Address Table Beginning in R6 (Sheet 6 of 8)

Entity	Address	Example
STS-1 Ring Channel (within xOC-n in Main)	$\{group\}\{slot\}\{line\}\{STS-1\}$ $m\{1,2\}\{1-x,all\}\{1-n,all\}$	m2-1-3
STS-1 Ring Channel (within xOC-n in Fn or Growth)	$\{group\}\{slot\}\{line\}\{STS-1\}$ $\{a,b,c,d,g\}\{1,2\}\{1-x,all\}\{1-n,all\}$	a1-2-2
STS-3c Ring Channel (within LNW8,801 in E1 mode)	$\{group\}\{Ws\}\{STS-1\}$ $\{a,b,c,d\}1\{1,all\}$	b1-1
STS-3c Ring Channel (within Ethernet pack when PL and backplane-electrical LAN)	$\{group\}\{Ws\}\{v\{vcg\}\}\{STS-1\}$ $\{a,b,c,d,g\}\{1,2\}\{v\{TA-5:VCGs\}\}\{TA-5:STS3c,all\}$	b1-v2-4
STS-3c Ring Channel (within Ethernet/DATA pack when switched, or PL and opti- cal/SFP LAN)	$\{group\}\{slot\}\{v\{vcg\}\}\{STS-1\}$ $\{a,b,c,d,g\}\{1,2\}\{v\{TA-5:VCGs\}\}\{TA-5:STS3c,all\}$	b1-v2-4
STS-3c Ring Channel (within xOC-n in Main)	$\{group\}\{slot\}\{line\}\{STS-1\}$ $m\{1,2\}\{1-x,all\}\{1,4,7,10,...,all\}$	m1-1-1
STS-3c Ring Channel (within xOC-n in Fn or Growth)	$\{group\}\{slot\}\{line\}\{STS-1\}$ $\{a,b,c,d,g\}\{1,2\}\{1-x,all\}\{1,4,7,...,all\}$	c2-1-1
STS-12c Ring Channel (within Ethernet pack when PL and backplane-electrical LAN)	$\{group\}\{Ws\}\{v\{vcg\}\}\{STS-1\}$ $\{a,b,c,d,g\}\{1,2\}\{v\{TA-5:VCGs\}\}\{TA-5:STS12c,all\}$	b1-v2-1
STS-12c Ring Channel (within Ethernet/DATA pack when switched, or PL and opti- cal/SFP LAN)	$\{group\}\{slot\}\{v\{vcg\}\}\{STS-1\}$ $\{a,b,c,d,g\}\{1,2\}\{v\{TA-5:VCGs\}\}\{TA-5:STS12c,all\}$	b1-v2-1
STS-12c Ring Channel (within xOC-n in Main)	$\{group\}\{slot\}\{line\}\{STS-1\}$ $m\{1,2\}\{1-x,all\}\{1,13,25,37,...,all\}$	m1-1-37
STS-12c Ring Channel (within xOC-n in Fn or Growth)	$\{group\}\{slot\}\{line\}\{STS-1\}$ $\{a,b,c,d,g\}\{1,2\}\{1-x,all\}\{1,13,25,37,...,all\}$	g2-1-13
STS-48c Ring Channel (within xOC-n in Main)	$\{group\}\{slot\}\{line\}\{STS-1\}$ $m\{1,2\}\{1-x,all\}\{1,49,...,all\}$	m1-1-97
STS-48c Ring Channel (within xOC-n in Fn or Growth)	$\{group\}\{slot\}\{line\}\{STS-1\}$ $\{a,b,c,d,g\}\{1,2\}\{1-x,all\}\{1,49,...,all\}$	a2-1-1
VT1.5 Ring Channel (within 28DS1 LNW6,7)	$\{group\}\{Ws\}\{STS-1\}\{VTG\}\{VT1.5\}$ $\{a,b,c,d\}1\{1,all\}\{1-7,all\}\{1-4,all\}$	a1-1-3-4
VT1.5 Ring Channel (within 56DS1/E1 LNW8,801 in DS1 mode)	$\{group\}\{Ws\}\{STS-1\}\{VTG\}\{VT1.5\}$ $\{a,b,c,d\}1\{1-2,all\}\{1-7,all\}\{1-4,all\}$	a1-2-3-4

Table A-2: DMX Address Table Beginning in R6 (Sheet 7 of 8)

Entity	Address	Example
VT1.5 Ring Channel in a DMX-DCS subshelf (within 56DS1/E1 LNW801 in DS1 mode)	$\{shelf\}\{group\}\{Ws\}\{STS-1\}\{VTG\}\{VT1.5\}$ $\{2-14\}\{a,b,c,d\}1\{1-2,all\}\{1-7,all\}\{1-4,all\}$	2-a1-2-3-4
VT1.5 Ring Channel (within xDS3/EC-1 LNW16,19,20)	$\{group\}\{Ws\}\{STS-1\}\{VTG\}\{VT1.5\}$ $\{a,b,c,d\}1\{1-x,all\}\{1-7,all\}\{1-4,all\}$	a1-1-3-4
VT1.5 Ring Channel in a DMX-DCS subshelf (within LNW20 in DS3 mode)	$\{shelf\}\{group\}\{Ws\}\{STS-1\}\{VTG\}\{VT1.5\}$ $[2-14]\{a,b,c,d\}1\{1-x,all\}\{1-7,all\}\{1-4,all\}$	2-a1-1-3-4
VT1.5 Ring Channel (within TMUX LNW18)	$\{group\}\{Ws\}\{STS-1\}\{VTG\}\{VT1.5\}$ $\{a,b,c,d\}1\{1-12,all\}\{1-7,all\}\{1-4,all\}$	c1-12-7-3
VT1.5 Ring Channel (within LNW20 [portless])	$\{group\}\{Ws\}\{STS-1\}\{VTG\}\{VT1.5\}$ $g1\{1-48,all\}\{1-7,all\}\{1-4,all\}$	g1-40-5-1
VT1.5 Ring Channel ^e (within xOC-n in Main)	$\{group\}\{slot\}\{line\}\{STS-1\}\{VTG\}\{VT1.5\}$ $m\{1,2\}\{1-x,all\}\{1-n,all\}\{1-7,all\}\{1-4,all\}$	m1-1-9-4-4
VT1.5 Ring Channel ^e (within xOC-n in Fn or Growth)	$\{group\}\{slot\}\{line\}\{STS-1\}\{VTG\}\{VT1.5\}$ $\{a,b,c,d,g\}\{1,2\}\{1-x,all\}\{1-n\}\{1-7,all\}\{1-4,all\}$	g2-3-3-5-2
VT1.5 Ring Channel (within Ethernet pack when PL and backplane-electrical LAN)	$\{group\}\{Ws\}\{v\{vcg\}\{vt\{VT-VCG\}$ $\{a,b,c,d,g\}\{1,2\}\{v\{TA-5:VCGs,all\}\{vt\{TA-5:VT,all\}$	d1-v13-vt63
VT1.5 Ring Channel (within Ethernet pack when switched, or PL and optical/SFP LAN)	$\{group\}\{slot\}\{v\{vcg\}\{vt\{VT-VCG\}$ $\{a,b,c,d,g\}\{1,2\}\{v\{TA-5:VCGs,all\}\{vt\{TA-5:VT,all\}$	d1-v13-vt63
VC12 Ring Channel (all VC12s in an STS3c) (within xOC-n in Main)	$\{group\}\{slot\}\{line\}\{STS-1\}\{TUG2\}$ $m\{1,2\}\{1-x\}\{1,4,7,...,n\}\{all\}$	m1-1-7-all
VC12 Ring Channel (within xOC-n in Main)	$\{group\}\{slot\}\{line\}\{STS-1\}\{TUG2\}\{VC12\}$ $m\{1,2\}\{1-x,all\}\{1-n,all\}\{1-7\}\{1-3,all\}$	m2-1-9-4-1
VC12 Ring Channel (all VC12s in an STS3c) (within xOC-n in Fn or Growth)	$\{group\}\{slot\}\{line\}\{STS-1\}\{TUG2\}$ $\{a,b,c,d,g\}\{1,2\}\{1-x\}\{1,4,7,...,n\}\{all\}$	a1-7-2-all
VC12 Ring Channel (within xOC-n in Fn or Growth)	$\{group\}\{slot\}\{line\}\{STS-1\}\{TUG2\}\{VC12\}$ $\{a,b,c,d,g\}\{1,2\}\{1-x,all\}\{1-n,all\}\{1-7\}\{1-3,all\}$	a1-3-2-5-2
Operations Interfaces		
User Panel	$\{slot\ type\}$ userpanel	userpanel

Table A-2: DMX Address Table Beginning in R6 (Sheet 8 of 8)

Entity	Address	Example
Fuse	<i>{special}</i> fuse	fuse
Fuse in DMX-DCS subshelf	<i>{shelf}</i> - <i>{special}</i> [2-14]-fuse	2-fuse
CIT Serial ports (front and rear, respectively)	<i>{special}</i> - <i>{line}</i> cit-{1,2,all}	cit-1
CIT Serial ports in a DMX-DCS subshelf (front and rear, respectively) (Valid in REPT EVT only)	<i>{shelf}</i> - <i>{special}</i> - <i>{line}</i> [2-14]-cit-{1-2}	2-cit-1
(Section or Line) ^f Data Comm Channel (all)	<i>{special}</i> - <i>{group}</i> dcc-all	dcc-all
(Section or Line) ^f Data Comm Channel (within xOC-n in Main)(non-1+1)	<i>{special}</i> - <i>{group}</i> <i>{slot}</i> - <i>{line}</i> dcc-m{1,2}-{1-x,all}	dcc-m1-1
(Section or Line) ^f Data Comm Channel (within xOC-n linear (1+1) exten- sions in Main)	<i>{special}</i> - <i>{group}</i> - <i>{line}</i> dcc-m-{1-x,all}	dcc-m-1
(Section or Line) ^f Data Comm Channel (within xOC-n in Fn or Growth)(non-1+1)	<i>{special}</i> - <i>{group}</i> <i>{slot}</i> - <i>{line}</i> dcc-{a,b,c,d,g}{1,2}-{1-x,all}	dcc-a2-1
(Section or Line) ^f Data Comm Channel (within xOC-n linear (1+1) exten- sions in Fn or Growth)	<i>{special}</i> - <i>{group}</i> - <i>{line}</i> dcc-{a,b,c,d,g}-{1-x,all}	dcc-a-2

- a In non-VLF main applications, only odd numbers may be made portless, and the corresponding even port becomes unavailable; in VLF main applications, the entire range may be made portless. Refer to Appendix D for identification of VLF main circuit packs.
- b VCGs 1 and 2 are the two spans of an RPR (Resilient Packet Ring) IF (interface).
- c There is one ODU2 Tributary associated with each OTU2 port. Table A-11 identifies those ports that can be provisioned as OTU2 ports.

- d The **ENT-OPTE** command uses an OT Client Port AID to provision the *signaltype* of an OT client port. Once the *signaltype* is provisioned to a value other than STNA, that port will follow the rules associated with the provisioned port type, including: initial default values, fault monitoring, and provisioning. The TL1 commands associated with the provisioned port type will be used to manage the port, using the AIDs defined for the provisioned port type. (Refer to Table A-12 for a mapping of client port *signaltype* to AID type.) When *signaltype* is provisioned to an OCn value, the port becomes an OCn line. However, no tributaries within that line are addressable. When *signaltype* is provisioned to 1GE or FC, the associated VCG is addressable, but not the VCG tributaries.
- e This AID form is also used for identifying a DS1 within a channelized DS3 being carried in an STS1. This DS1 may be cross-connected using a VT1 cross-connection, routing via an LN20 *pmd*=PORTLESS T3 port (see **ENT-rr** and **ENT-CRS-rr**).
- f Section DCCs are provisioned using **ENT-FECOM**, and Line DCCs are provisioned using **ENT-FECOM-SCN**.

Table A-3: Slot Usage for Logical Ring Channel AID

Application or Equipage	Logical Ring Channel AID Slot Usage
UPSR	Cross-connected side(s) - 1 or 2
1+1	Working side - currently 1
2F	Cross-connected side - 1 or 2
0x1Sn	Side n - 1 or 2
0x1	Cross-connected side - 1 or 2
Ring Channel associated with Back-plane-electrical port (DSn, EC1, E1)	Working side - currently 1
Ring Channel associated with VCG when PL and backplane-electrical LAN	Working side - 1 or 2
Ring Channel associated with VCG when switched, or PL and optical/SFP LAN)	Cross-connected side - 1 or 2
Ring Channel associated with VCG in equipment-protected LAG (LNW170 with RTRV-EQPT: prot_state=PROT)	side 1

Table A-4: DMX Address Table Prior to R6 (Sheet 1 of 6)

Entity	Address	Example
Slots		
Entire system	<i>{slot type}</i> all	all
Main slot	<i>{slot type}</i> - <i>{slot}</i> main-{1,2,all}	main-all
Growth slot	<i>{slot type}</i> - <i>{slot}</i> growth-{1,2,all}	growth-1
Growth Unit pair	<i>{slot type}</i> growth	growth
Function unit slot	<i>{slot type}</i> - <i>{group}</i> - <i>{slot}</i> fn-{a,b,c,d,all}-{1,2,all}	fn-all fn-c-1
Function unit pair	<i>{slot type}</i> - <i>{group}</i> fn-{a,b,c,d}	fn-a
System control slot	<i>{slot type}</i> sysctl	sysctl
Lines		
xOC-n line pair	<i>{slot type (main)}</i> - <i>{line}</i> main-{1-x,all}	main-1
xOC-n line	<i>{slot type (main)}</i> - <i>{slot}</i> - <i>{line}</i> main-{1,2}-{1-x,all}	main-1-1
xOC-n line pair	<i>{slot type (growth)}</i> - <i>{line}</i> growth-{1-x,all}	growth-1
xOC-n line	<i>{slot type (growth)}</i> - <i>{slot}</i> - <i>{line}</i> growth-{1,2}-{1-x,all}	growth-1-1
xOC-n line pair	<i>{slot type (fn)}</i> - <i>{group}</i> - <i>{line}</i> fn-{a,b,c,d}-{1-x,all}	fn-a-all
xOC-n line	<i>{slot type (fn)}</i> - <i>{group}</i> - <i>{slot}</i> - <i>{line}</i> fn-{a,b,c,d}-{1,2}-{1-x,all}	fn-a-1-2
Sockets		
xOC-n socket	<i>{slot type (main)}</i> - <i>{slot}</i> -sc <i>{line}</i> main-{1,2}-sc{1-x,all}	main-2-sc1
xOC-n socket	<i>{slot type (growth)}</i> - <i>{slot}</i> -sc <i>{line}</i> growth-{1,2}-sc{1-x,all}	growth-1-sc1
xOC-n socket	<i>{slot type (fn)}</i> - <i>{group}</i> - <i>{slot}</i> -sc <i>{line}</i> fn-{a,b,c,d}-{1,2}-sc{1-x,all}	fn-a-1-sc2
LAN socket	<i>{group}</i> -sc <i>{port}</i> {a,b,c,d,g}-sc{TA-5:Sockets,all}	a-sc19

Table A-4: DMX Address Table Prior to R6 (Sheet 2 of 6)

Entity	Address	Example
Invalid (unused) socket (LNW78)	$\{group\}\text{-}sc\{port\}$ $\{a,b,c,d,g\}\text{-}sc\{3\text{-}4,all\}$	d-sc3
Ports		
DS3 Port (using xDS3 LNW16,19)	$\{group\}\text{-}\{port\}$ $\{a,b,c,d\}\text{-}\{1\text{-}x,all\}$	a-5
DS3 Port (using TMUX LNW18)	$\{group\}\text{-}\{port\}$ $\{a,b,c,d\}\text{-}\{1\text{-}12,all\}$	c-8
EC1 Port (using xDS3/EC1 LNW16,19)	$\{group\}\text{-}\{port\}$ $\{a,b,c,d\}\text{-}\{1\text{-}x,all\}$	a-5
DS1 Port (using 28DS1 LNW6,7)	$\{group\}\text{-}\{VTG\}\text{-}\{port\}$ $\{a,b,c,d\}\text{-}\{1\text{-}7,all\}\text{-}\{1\text{-}4,all\}$	a-2-4
DS1 Port (using 56DSI/E1 LNW8 in DS1 mode)	$\{group\}\text{-}\{STS\text{-}1\}\text{-}\{VTG\}\text{-}\{port\}$ $\{a,b,c,d\}\text{-}\{1\text{-}2, all\}\text{-}\{1\text{-}7,all\}\text{-}\{1\text{-}4,all\}$	a-2-2-4
DS1 Port (using TMUX LNW18)	$\{group\}\text{-}\{STS\text{-}1\}\text{-}\{VTG\}\text{-}\{port\}$ $\{a,b,c,d\}\text{-}\{1\text{-}12, all\}\text{-}\{1\text{-}7,all\}\text{-}\{1\text{-}4,all\}$	a-9-2-4
E1 Port (using 56DS1/E1 LNW8 in E1 mode)	$\{group\}\text{-}\{STS\text{-}1\}\text{-}\{TUG2\}\text{-}\{port\}$ $\{a,b,c,d\}\text{-}\{1\text{-}2, all\}\text{-}\{1\text{-}7,all\}\text{-}\{1\text{-}3,all\}$ $\{a,b,c,d\}\text{-}\{3,all\}\text{-}\{1\text{-}4,all\}\text{-}\{1\text{-}3,all\}$ $\{a,b,c,d\}\text{-}3\text{-}5\text{-}\{1\text{-}2,all\}$	b-2-5-3
Ethernet/DATA LAN Port	$\{group\}\text{-}\{port\}$ $\{a,b,c,d,g\}\text{-}\{TA\text{-}5\text{:}LANs\}$	a-15
Ethernet/DATA WAN (VCG) Port	$\{group\}\text{-}v\{vcg\}$ $\{a,b,c,d,g\}\text{-}v\{TA\text{-}5\text{:}VCGs,all\}$	b-v15
RPR Span VCG Port (using LNW78)	$\{group\}\text{-}v\{vcg\}$ $\{a,b,c,d,g\}\text{-}v\{1\text{-}4,all\}$	a-v3
RPR IF (interface) (RPR Span VCG Port addressing RPR IF) (using LNW78)	$\{group\}\text{-}v\{vcg\}$ $\{a,b,c,d,g\}\text{-}v\{1,3,all\}$	c-v1
Equipment and Line Protection Groups		
Main equipment group	$\{slot\ type\}$ main	main
Growth equipment group	$\{slot\ type\}$ growth	growth
Function unit equipment group	$\{slot\ type\}\text{-}\{group\}$ fn- $\{a,b,c,d,all\}$	fn-a
1+1 or 2F (BLSR) protection group (within xOC-n in Main)	$\{slot\ type\}\text{-}\{line\}$ main- $\{1\text{-}x,all\}$	main-1

Table A-4: DMX Address Table Prior to R6 (Sheet 3 of 6)

Entity	Address	Example
1+1 or 2F (BLSR) protection group (within xOC-n in Growth)	{slot type}-{line} growth-{1-x,all}	growth-1
1+1 or 2F (BLSR) protection group (within xOC-n in Fn)	{slot type}-{group}-{line} fn-{a,b,c,d}-{1-x,all}	fn-c-2
Channels and Path Protection Groups		
STS-n Channel or Ring Channel	{special} all	all
STS-1 Channel (within 28DS1 LNW6,7)	{group}-{STS-1} {a,b,c,d}-{1,all}	a-1
STS-1 Channel (within LNW8 in DS1 mode)	{group}-{STS-1} {a,b,c,d}-{1-2,all}	c-2
STS-1 Channel (within TMUX LNW18)	{group}-{STS-1} {a,b,c,d}-{1-12,all}	a-8
STS-1 Channel (within xDS3/EC1 LNW16,19)	{group}-{STS-1} {a,b,c,d}-{1-x,all}	a-7
STS-1 Channel (within Ethernet/DATA pack)	{group}-v{vcg}-{STS-1} {a,b,c,d,g}-v{TA-5:VCGs}-{TA-5:STS1,all}	a-v2-12
STS-1 Channel (within xOC-n in Main)	{group}-{line}-{STS-1} m-{1-x,all}-{1-n,all}	m-1-3
STS-1 Ring Channel (within xOC-n in Main)	{group}{slot}-{line}-{STS-1} m{1,2}-{1-x,all}-{1-n,all}	m2-1-3
STS-1 Channel (within xOC-n in Fn or Growth)	{group}-{line}-{STS-1} {a,b,c,d,g}-{1-x,all}-{1-n,all}	a-2-2
STS-1 Ring Channel (within xOC-n in Fn or Growth)	{group}{slot}-{line}-{STS-1} {a,b,c,d,g}{1,2}-{1-x,all}-{1-n,all}	a1-2-2
STS-3c Channel (within LNW8 in E1 mode)	{group}-{STS-1} {a,b,c,d}-{1,all}	b-1
STS-3c Channel (within Ethernet/DATA pack)	{group}-v{vcg}-{STS-1} {a,b,c,d,g}-v{TA-5:VCGs}-{TA-5:STS3c,all}	a-v2-4
STS-3c Channel (within xOC-n in Main)	{group}-{line}-{STS-1} m-{1-x,all}-{1,4,7,10,...,all}	m-1-1
STS-3c Ring Channel (within xOC-n in Main)	{group}{slot}-{line}-{STS-1} m{1,2}-{1-x,all}-{1,4,7,10,...,all}	m1-1-1
STS-3c Channel (within xOC-n in Fn or Growth)	{group}-{line}-{STS-1} {a,b,c,d,g}-{1-x,all}-{1,4,7,...,all}	c-1-1
STS-3c Ring Channel (within xOC-n in Fn or Growth)	{group}{slot}-{line}-{STS-1} {a,b,c,d,g}{1,2}-{1-x,all}-{1,4,7,...,all}	c2-1-1

Table A-4: DMX Address Table Prior to R6 (Sheet 4 of 6)

Entity	Address	Example
STS-12c Channel (within Ethernet/DATA pack)	{group}-v{vcg}-{STS-1} {a,b,c,d,g}-v{TA-5:VCGs}-{TA-5:STS12c,all}	d-v2-1
STS-12c Channel (within xOC-n in Main)	{group}-{line}-{STS-1} m-{1-x,all}-{1,13,25,37,...,all}	m-1-1
STS-12c Ring Channel (within xOC-n in Main)	{group}{slot}-{line}-{STS-1} m{1,2}-{1-x,all}-{1,13,25,37,...,all}	m1-1-37
STS-12c Channel (within xOC-n in Fn or Growth)	{group}-{line}-{STS-1} {a,b,c,d,g}-{1-x,all}-{1,13,25,37,...,all}	a-1-13
STS-12c Ring Channel (within xOC-n in Fn or Growth)	{group}{slot}-{line}-{STS-1} {a,b,c,d,g}{1,2}-{1-x,all}-{1,13,25,37,...,all}	g2-1-13
STS-48c Channel (within xOC-n in Main)	{group}-{line}-{STS-1} m-{1-x,all}-{1,49,...,all}	m-1-97
STS-48c Ring Channel (within xOC-n in Main)	{group}{slot}-{line}-{STS-1} m{1,2}-{1-x,all}-{1,49,...,all}	m1-1-97
STS-48c Channel (within xOC-n in Fn or Growth)	{group}-{line}-{STS-1} {a,b,c,d,g}-{1-x,all}-{1,49,...,all}	a-1-145
STS-48c Ring Channel (within xOC-n in Fn or Growth)	{group}{slot}-{line}-{STS-1} {a,b,c,d,g}{1,2}-{1-x,all}-{1,49,...,all}	a2-1-145
VT1.5 Channel (within 28DS1 LNW6,7)	{group}-{STS-1}-{VTG}-{VT1.5} {a,b,c,d}-{1,all}-{1-7,all}-{1-4,all}	a-1-3-4
VT1.5 Channel (within 56DS1/E1 LNW8 in DS1 mode)	{group}-{STS-1}-{VTG}-{VT1.5} {a,b,c,d}-{1-2,all}-{1-7,all}-{1-4,all}	a-2-3-4
VT1.5 Channel (within xDS3/EC-1 LNW16,19)	{group}-{STS-1}-{VTG}-{VT1.5} {a,b,c,d}-{1-x,all}-{1-7,all}-{1-4,all}	a-1-3-4
VT1.5 Channel (within TMUX LNW18)	{group}-{STS-1}-{VTG}-{VT1.5} {a,b,c,d}-{1-12,all}-{1-7,all}-{1-4,all}	c-12-7-3
VT1.5 Channel (within xOC-n in Main)	{group}-{line}-{STS-1}-{VTG}-{VT1.5} m-{1-x}-{1-n,all}-{1-7,all}-{1-4,all}	m-1-9-4-4
VT1.5 Ring Channel (within xOC-n in Main)	{group}{slot}-{line}-{STS-1}-{VTG}-{VT1.5} m{1,2}-{1-x,all}-{1-n,all}-{1-7,all}-{1-4,all}	m1-1-9-4-4
VT1.5 Channel (within xOC-n in Fn or Growth)	{group}-{line}-{STS-1}-{VTG}-{VT1.5} {a,b,c,d,g}-{1-x,all}-{1-n}-{1-7,all}-{1-4,all}	g-3-3-5-2
VT1.5 Ring Channel (within xOC-n in Fn or Growth)	{group}{slot}-{line}-{STS-1}-{VTG}-{VT1.5} {a,b,c,d,g}{1,2}-{1-x,all}-{1-n}-{1-7,all}-{1-4,all}	g2-3-3-5-2
VT1.5 Channel (within Ethernet pack)	{group}-v{vcg}-vt{VT-VCG} {a,b,c,d,g}-v{TA-5:VCGs,all}-vt{TA-5:VT,all}	d-v13-vt63
VC12 Channel (all VC12s in an STS3c) (within xOC-n in Main)	{group}-{line}-{STS-1}-{TUG2} m-{1-x}-{1,4,7,...,n}-all	m-1-4-all

Table A-4: DMX Address Table Prior to R6 (Sheet 5 of 6)

Entity	Address	Example
VC12 Channel (within xOC-n in Main)	{group}-{line}-{STS-1}-{TUG2}-{VC12} m-{1-x}-{1-n,all}-{1-7}-{1-3,all}	m-1-5-7-3
VC12 Ring Channel (all VC12s in an STS3c) (within xOC-n in Main)	{group}{slot}-{line}-{STS-1}-{TUG2} m{1,2}-{1-x}-{1,4,7,...,n}-all	m1-1-7-all
VC12 Ring Channel (within xOC-n in Main)	{group}{slot}-{line}-{STS-1}-{TUG2}-{VC12} m{1,2}-{1-x,all}-{1-n,all}-{1-7}-{1-3,all}	m2-1-9-4-1
VC12 Channel (all VC12s in an STS3c) (within xOC-n in Fn or Growth)	{group}-{line}-{STS-1}-{TUG2} {a,b,c,d,g}-{1-x}-{1,4,7,...,n}-all	d-4-4-all
VC12 Channel (within xOC-n in Fn or Growth)	{group}-{line}-{STS-1}-{TUG2}-{VC12} {a,b,c,d,g}-{1-x,all}-{1-n,all}-{1-7}-{1-3,all}	d-4-3-4-3
VC12 Ring Channel (all VC12s in an STS3c) (within xOC-n in Fn or Growth)	{group}{slot}-{line}-{STS-1}-{TUG2} {a,b,c,d,g}{1,2}-{1-x}-{1,4,7,...,n}-all	a1-7-2-all
VC12 Ring Channel (within xOC-n in Fn or Growth)	{group}{slot}-{line}-{STS-1}-{TUG2}-{VC12} {a,b,c,d,g}{1,2}-{1-x,all}-{1-n,all}-{1-7}-{1-3,all}	a1-3-2-5-2
Operations Interfaces		
User Panel	{slot type} userpanel	userpanel
Fuse	{special} fuse	fuse
CIT Serial ports (front and rear, respectively)	{special}-{line} cit-{1,2,all}	cit-1
Section Data Comm. Channel (all)	{special}-{group} dcc-all	dcc-all
Section Data Comm. Channel (within xOC-n in Main)(non-1+1)	{special}-{group}{slot}-{line} dcc-m{1,2}-{1-x,all}	dcc-m1-1
Section Data Comm Channel (within xOC-n linear (1+1) exten- sions in Main)	{special}-{group}-{line} dcc-m-{1-x,all}	dcc-m-1
Section Data Comm Channel (within xOC-n in Fn or Growth)(non-1+1)	{special}-{group}{slot}-{line} dcc-{a,b,c,d,g}{1,2}-{1-x,all}	dcc-a2-1
Section Data Comm Channel (within xOC-n linear (1+1) exten- sions in Fn or Growth)	{special}-{group}-{line} dcc-{a,b,c,d,g}-{1-x,all}	dcc-a-2
Synch reference (external)	{special}-{line} ref-{1,2}	ref-2
X.25 Link	{special} x25	x25

Table A-4: DMX Address Table Prior to R6 (Sheet 6 of 6)

Entity	Address	Example
IAO LAN ports (front and rear, respectively)	{ <i>special</i> }- <i>{line}</i> lan-{1,2,all}	lan-1
shelf (used as an address)	{ <i>special</i> } shelf	shelf
Environmental Alarm Input	{ <i>special</i> }- <i>{alm/cont point}</i> env-{1-19,all}	env-1
Environmental Control Output	{ <i>special</i> }- <i>{alm/cont point}</i> cont-{1-4,all}	cont-1

Table A-5: Ethernet/DATA Pack AID Ranges^a

Pack	Growth? ^b	Sockets	LAN Ports ^c	Mode ^c	VCGs	VCG MLTPT pair ^d	VT	STS1	STS3c ^e	STS12c
LNW63	Y	see Table A-7	see Table A-7		4	none		21	7 [19]	1
LNW64	Y	see Table A-7	see Table A-7		8	none		21	7[19]	1
LNW66	N		24 10/100 T		2	odd/even		21		
LNW67	Y		2 1000 F		4	odd/even		21		
LNW68	Y		2 1000 F		4	odd/even		21		
LNW70	Y	1-4 see Table A-7 5-8 100 F	1-4 see Table A-7 5-8 100 F	STS1	1-2 3-28 29-32	pre-R6: odd/even R6: none		48 32 10		
				STS12c	1-2 3-28 29-32				16 [46] 10 [28] 3 [7]	1 1
LNW71	N		24 10/100 T	STS1	24	n, n+12		2		
				STS3c	16	n, n+8		1	1 [1]	
LNW73 ^f	Y	4 DATA	4 DATA	FC-FICON	4	N/A		48	16 [46]	1
				ESCON		N/A		6	2 [4]	1
LNW74	Y ^g	17-24 100 F	1-16 10/100 T 17-24 100 F		24	N/A	63	3	1 [1]	
LNW78	Y	1-2 see Table A-7 5-8 100 F	1-2 see Table A-7 5-8 100 F	STS1	RPR 1-2 EoS ^h 17-22	none		24		
				STS12c	RPR 1-2 EoS ^h 17-22				8 [22]	1

Table A-5: Ethernet/DATA Pack AID Ranges^a

Pack	Growth? ^b	Sockets	LAN Ports ^c	Mode ^c	VCGs	VCG MLTPT pair ^d	VT	STS1	STS3c ^e	STS12c
LNW87	Y	see Table A-7	see Table A-7		GE 4	none		21	7 [19]	1
					FE 4	none		3	1	
LNW170	Y	see Table A-7	see Table A-7	STS1	1-2 3-28 29-32	none ⁱ		48 32 10		
				STS12c	1-2 3-28 29-32				16 [46] 10 [28] 3 [7]	1 1 1

- a Ranges start at 1, unless otherwise noted. Empty entries mean not applicable.
- b Can the pack be used in the Growth group?
- c For packs which support multiple interface types/modes, a RTRV command with an 'all' AID retrieves those entities which match the modifier of the command.
- d Prior to R6.0, only the first VCG of the pair may be addressed when establishing a multipoint cross-connect; the second of the pair is also automatically connected by the same command. On the LNW70 and LNW71, the second VCG of the pair may be cross-connected when the first is not MLTPT-connected; on other packs, it may not be separately cross-connected. Beginning in Release 6.0, the other VCG of the pair must be independently cross-connected for multipoint applications. On the LNW71, the second VCG of the pair may be cross-connected when the first is not UNSWITCHED-connected. On packs with no pairing, VCGs may be independently cross-connected.
- e The STS1 numbers used for STS3c cross-connects may be {1, 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34, 37, 40, 43, 46}. The first number in the column indicates how many STS3cs total may be cross-connected, and the number in brackets indicates the largest number usable (from the list).
- f See [Table A-7 on page A-19](#) for additional mode/cross-connection restrictions.
- g When in the Growth group, only the optical ports and associated VCGs are available.
- h EoS (Ethernet over SONET) VCGs available beginning R7.0.
- i When in an equipment-protected LAG configuration (**RTRV-EQPT:prot_state=PROT**), cross-connections are associated with the side 1 pack (see [Table A-3](#)).

Table A-6: LNW73 Partial and Full Rate Support

Mode	Partial Support? ^a	Minimum Cross-Connects for Full Rate ^b		
		STS1	STS3c	STS12c
ESCON	N	STS1-4v or 6v	STS3c-2v	STS12c-1
1x Fibre Channel ASYNC	Y	STS1-19v	STS3c-6v or 7v	partial only: STS12c-1

Table A-6: LNW73 Partial and Full Rate Support

Mode	Partial Support? ^a	Minimum Cross-Connects for Full Rate ^b		
		STS1	STS3c	STS12c
2x Fibre Channel ASYNC	Y	STS1-37v or 38v	STS3c-12v or 13v	partial only: STS12c-1
1x Fibre Channel SYNC	N	STS1-19v	STS3c-6v or 7v	n/a
2x Fibre Channel SYNC	N	STS1-37v or 38v	STS3c-12v or 13v	n/a
1x FICON	N	STS1-19v	STS3c-6v or 7v	n/a
2x FICON	N	STS1-37v or 38v	STS3c-12v or 13v	n/a

- a An 'N' in this column indicates that the mode only works at full rate, and there will be no service until the minimum number of end-to-end paths are established in both directions. A 'Y' in this column indicates that the mode supports partial-rate service, and that service starts as soon as any end-to-end paths are established in both directions.
- b Two entries are sometimes given in order to support interworking with other vendors. When interworking with DMX-family nodes, the smaller number may be used. Consult other vendors' documentation to determine their minimums.

Table A-7: Ethernet Pack Pluggable Electrical/Optical Mode Provisioning

Pack	Parameter	Value	Sockets	LANs
LNW70	ED-EQPT:enetmd	GX_FX ^a	1-4 GbE Optical 5-8 FE Optical	1-4 1000 F 5-8 100 F
		FT_FX	1-4 FE Electrical 5-8 FE Optical	1-4 100 T 5-8 100 F
		GT_FX	1-4 GbE Electrical 5-8 FE Optical	1-4 1000 T 5-8 100 F
		GX_FT	1-4 GbE Optical 5-8 FE Electrical	1-4 1000 F 5-8 100 T
		GT_FT	1-4 GbE Electrical 5-8 FE Electrical	1-4 1000 T 5-8 100 T
		FT	1-8 FE Electrical	1-8 100 T

Table A-7: Ethernet Pack Pluggable Electrical/Optical Mode Provisioning

Pack	Parameter	Value	Sockets	LANs
LNW78	ED-EQPT:enetmd	GX_FX ^b	1-2 GbE Optical 5-8 FE Optical	1-2 1000 F 5-8 100 F
		GT_FX	1-2 GbE Electrical 5-8 FE Optical	1-2 1000 T 5-8 100 F
		GX_FT	1-2 GbE Optical 5-8 FE Electrical	1-2 1000 F 5-8 100 T
		GT_FT	1-2 GbE Electrical 5-8 FE Electrical	1-2 1000 T 5-8 100 T
LNW63	ED-EQPT:enetmd	GX ^b	1-4 GbE Optical	1-4 1000 F
		GT	1-4 GbE Electrical	1-4 1000 T
LNW64	ED-EQPT:enetmd	GX	1-8 GbE Optical	1-8 1000 F
		GT	1-8 GbE Electrical	1-8 1000 T
		GT_GX	1-4 GbE Electrical 5-8 GbE Optical	1-4 1000 T 5-8 1000 F
LNW87	ED-EPORT:lnrate^c	GX	1-4 GbE Optical	1-4 1000 F
		GT	1-4 GbE Electrical	1-4 1000 T
		FX	1-4 FE Optical	1-4 100 F
		FT	1-4 FE Electrical	1-4 100 T

Table A-7: Ethernet Pack Pluggable Electrical/Optical Mode Provisioning

Pack	Parameter	Value	Sockets	LANs
LNW170	RTRV - EQPT <i>prot_state=UNPROT</i>			
	ED - EQPT: <i>enetmd</i>	GX_FX	1-4 GbE Optical 5-8 FE Optical	1-4 1000 F 5-8 100 F
		FT_FX	1-4 FE Electrical 5-8 FE Optical	1-4 100 T 5-8 100 F
		GT_FX	1-4 GbE Electrical 5-8 FE Optical	1-4 1000 T 5-8 100 F
		GX_FT	1-4 GbE Optical 5-8 FE Electrical	1-4 1000 F 5-8 100 T
		GT_FT	1-4 GbE Electrical 5-8 FE Electrical	1-4 1000 T 5-8 100 T
		FT	1-8 FE Electrical	1-8 100 T
	RTRV - EQPT <i>prot_state=PROT^d</i>			
	ED - EQPT: <i>enetmd</i>	GX_FX	1-2 GbE Optical 5-6 FE Optical	1-2 1000 F 5-6 100 F
		FT_FX	1-2 FE Electrical 5-6 FE Optical	1-2 100 T 5-6 100 F
		GT_FX	1-2 GbE Electrical 5-6 FE Optical	1-2 1000 T 5-6 100 F
		GX_FT	1-2 GbE Optical 5-6 FE Electrical	1-2 1000 F 5-6 100 T
		GT_FT	1-2 GbE Electrical 5-6 FE Electrical	1-2 1000 T 5-6 100 T
		FT	1-2 FE Electrical 5-6 FE Electrical	1-2 100 T 5-6 100 T

a Prior to Release 6.0, the **enetmd** parameter does not exist, and the pack operates as if mode is GX_FX.

b This is the only valid value prior to Release 7.0

c **Inrate** is applied on a per port basis

d In this mode, sockets and LANs 3, 4, 7, and 8 are unused.

Table A-8: Link Aggregation Groups

Pack	LAGs	LAN Ports	Equipment Usage
LNW70	1-8	assigned by user	ports on same pack

Table A-8: Link Aggregation Groups

Pack	LAGs	LAN Ports	Equipment Usage
LNW170	RTRV - EQPT <i>prot_state=UNPROT</i>		
	1-8	assigned by user	ports on same pack
	RTRV - EQPT <i>prot_state=PROT</i>		
	1	1	same port on companion packs in same group
	2	2	
	3	5	
	4	6	

Table A-9: T1 TMUX Carrier Channel to VTG-VT1 Mapping^a

VTG-VT	Carrier Chan Unit #	VTG-VT	Carrier Chan Unit #	VTG-VT	Carrier Chan Unit #	VTG-VT	Carrier Chan Unit #
1-1	1	1-2	2	1-3	3	1-4	4
2-1	5	2-2	6	2-3	7	2-4	8
3-1	9	3-2	10	3-3	11	3-4	12
4-1	13	4-2	14	4-3	15	4-4	16
5-1	17	5-2	18	5-3	19	5-4	20
6-1	21	6-2	22	6-3	23	6-4	24
7-1	25	7-2	26	7-3	27	7-4	28

a Used for LNW18, and for LNW20 when PORTED CHAN, or when PORTLESS.

Table A-10: WDM Optical Channel Pack Frequency Ranges

Pack	Freq (counting by 10)
LNW785	9520-9590

Table A-11: WDM Pack AID Ranges

Pack	Transponder Module	Client Sockets	Line Sockets	Client ports	Line ports
LNW705 ^a	NA	1-8	9	1-8	9

a The line port is an OTU2 port

Table A-12: Client Port signaltype to AID Mapping

Client Port <i>signaltype</i>	AID Type for Port Management
OC48	OC-n Line
OC12	OC-n Line
OC3	OC-n Line
1GE	Ethernet LAN Port
③ VCG	Ethernet WAN Port
FC200	Data LAN Port
③ VCG	Data WAN Port
FC100	Data LAN Port
③ VCG	Data WAN Port
FICON	Data LAN Port
③ VCG	Data WAN Port
FICON_EXP	Data LAN Port
③ VCG	Data WAN Port

Appendix B

B

Overview

This section provides detailed information about performance monitoring parameters.

Monitored Parameter Types

The following table lists the subset of the monitored parameter types (*montype*). For additional *montypes* and *emontypes*, refer to **RTRV-EPM** and **RTRV-EPM-QOS**.

Table B-1: Alcatel-Lucent 1665 DMX Monitored Parameter Types

Montype	Description
BBE-ODU	Background Block Error - ODU
BBE-OTU	Background Block Error - OTU
BBE-P	Background Block Errors - Path
BPDUT	Spanning Tree Protocol -Number of occurrences of BPDU timeout
CVL	Coding Violation count - Line
CVP	Coding Violation count - Path
CVS	Coding Violation count - Section
EDFC	Dropped Frames - Congestion
EDFE	Dropped Frames - Errors
ES-ODU	Errored Seconds - ODU
ES-OTU	Errored Seconds - OTU
ESL	Errored Second count - Line
ESP	Errored Second count - Path
ESS	Errored Second count - Section

Table B-1: Alcatel-Lucent 1665 DMX Monitored Parameter Types (Contd)

Montype	Description
FC-L	Failure Counts - Line
FC-P	Failure Counts - Path
FECC	FEC Errors Corrected
INTXWD	Invalid Transmission Word
NPJC-PDet	Negative Pointer Justification Counts Detected
NPJC-PGen	Negative Pointer Justification Counts Generated
OPR	Optical Power Received
OPRH	Optical Power Received High Watermark
OPRL	Optical Power Received Low Watermark
OPTH	Optical Power Transmitted High Watermark
OPTL	Optical Power Transmitted Low Watermark
OPT	Optical Power Transmitted
PJCDIFF-P	Count of the absolute difference between generated and detected pointer justifications - Path
PPJC-PDet	Positive Pointer Justification Counts Detected
PPJC-PGen	Positive Pointer Justification Counts Generated
PSC-L	Protection Switch Count - Line
PSC-P	Protection Switch Count - Protection (BLSR only)
PSC-W	Protection Switch Count - Working (BLSR only)
PSD-L	Protection Switch Duration - Line
SAS-P	SEF/AIS defects Second count - Path
SEFS-S	Severely Errored Frame Second count - Section
SES-ODU	Severely Errored Seconds - ODU
SES-OTU	Severely Errored Seconds - OTU
SESL	Severely Errored Second count - Line
SESP	Severely Errored Second count - Path
SESS	Severely Errored Second count - Section
STPROLE	Spanning Tree Protocol - Number of times the STP port role changed
STPROOT	Spanning Tree Protocol - Number of times the bridge changed to or from being root.
STPSTATE	Spanning Tree Protocol - Number of times the STP port state changed, except to or from DISA
TOPRH	Total Optical Power Received High Watermark
TOPRL	Total Optical Power Received Low Watermark
TOPRSH	Total Optical Power Received Snapshot
UAS-ODU	Unavailable Seconds - ODU
UAS-OTU	Unavailable Seconds - OTU
UASL	Unavailable Second Count - Line
UASP	Unavailable Second Count - Path

Provisionable PM Parameters

Table B-2 describes the performance monitoring (PM) parameters provisionable via the PC-CIT. For all provisionable parameters, a value of 0 may be entered to disable TCAs for that parameter.

All parameters are provisioned and reported using the values listed in the **MONTYPE** column. Near-end measures are reported (for TCAs, and **REPT PM** and **RTRV - PM** reports) using a NULL *locn*, and are provisioned using a NULL *locn*, or *locn=NEND*. Far-end measures are provisioned and reported using *locn=FEND*.

Table B-2: Alcatel-Lucent 1665 DMX Provisionable PM Parameters (Sheet 1 of 9)

Parameter Definition		Threshold Range [Default]		Modifier
MONTYPE	Measure	15 MIN	1 DAY	
DS1 Path				
CVP	CV-P (SF)	1-16383 [72]	1-1048575 [691]	T1
CVP	CV-P, CV-PFE (ESF)	1-16383 [13296]	1-1048575 [132960]	T1
ESP	ES-P, ES-PFE	1-900 [65]	1-65535 [648]	T1
SESP	SES-P, SES-PFE	1-900 [10]	1-65535 [100]	T1
UASP	UAS-P, UAS-PFE	1-900 [10]	1-65535 [10]	T1
SAS-P	SAS-P, SEFS-PFE	1-900 [2]	1-65535 [17]	T1
Beginning in Release 7.0, T1 Egress parameters are reported for the LNW20 in PORTLESS mode using the added suffix “-EGR”, and the same AID used for T3 PORTED CHAN DS1. Threshold provisioning is common (there are no separate thresholds for the Egress parameters). These DS1 Egress parameters are reported by RTRV-PM and SCHED-PMREPT when <i>modifier</i> = T1 or ALL and <i>montype</i> is not specified. The "-EGR" parameter is also reported when <i>montype</i> specifies the equivalent non "EGR" parameter. These DS1 Egress parameters cannot be specified as an input value for <i>montype</i> in these commands. The following is the list of the DS1 Egress MONTYPES and associated Measures; these MONTYPES are used in reporting only, and may not be used in threshold provisioning.				
CVP-EGR	CV-P-EGR (SF)	1-16383 [72]	1-1048575 [691]	T1
CVP-EGR	CV-P-EGR, CV-PFE-EGR (ESF)	1-16383 [13296]	1-1048575 [132960]	T1
ESP-EGR	ES-P-EGR, ES-PFE-EGR	1-900 [65]	1-65535 [648]	T1
SESP-EGR	SES-P-EGR, SES-PFE-EGR	1-900 [10]	1-65535 [100]	T1
UASP-EGR	UAS-P-EGR, UAS-PFE-EGR	1-900 [10]	1-65535 [10]	T1

Table B-2: Alcatel-Lucent 1665 DMX Provisionable PM Parameters (Sheet 2 of 9)

Parameter Definition		Threshold Range [Default]		Modifier
MONTYPE	Measure	15 MIN	1 DAY	
SAS-P-EGR	SAS-P-EGR, SEFS-PFE-EGR	1-900 [2]	1-65535 [17]	T1
DS3 Path				
CVP (PBit)	CV-P	1-16383 [382]	1-1048575 [3820]	T3
CVP (FMBit)	CV-P	1-16383 [382]	1-1048575 [3820]	T3
CVP (CPBit)	CV-P	1-16383 [382]	1-1048575 [3820]	T3
CVP	CV-PFE	1-16383 [382]	1-1048575 [3820]	T3
ESP	ES-P, ES-PFE	1-900 [25]	1-65535 [250]	T3
SESP	SES-P, SES-PFE	1-900 [4]	1-65535 [40]	T3
UASP	UAS-P, UAS-PFE	1-900 [10]	1-65535 [10]	T3
SAS-P	SAS-P, SAS-PFE	1-900 [2]	1-65535 [8]	T3
Before Release 6.0, DS3 Egress parameters were reported with the above MONTYPE names and an STS1 Channel or Ring Channel AID. Beginning in Release 6.0, DS3 Egress parameters are reported using the above MONTYPE names plus an "-EGR" suffix and the DS3 port AID. Threshold provisioning for Ingress and Egress parameters is common. These DS3 Egress parameters are reported by RTRV - PM and SCHED - PMREPT when modifier = T3 or ALL and montype is not specified. The "-EGR" parameter is also reported when montype specifies the equivalent non "EGR" parameter. These DS3 Egress parameters cannot be specified as an input value for montype in these commands. The following is the list of the renamed Egress MONTYPES and associated Measures; these MONTYPES are used in reporting only, and may not be used in threshold provisioning.				
CVP-EGR (PBit)	CV-P-EGR	1-16383 [382]	1-1048575 [3820]	T3
CVP-EGR (FMBit)	CV-P-EGR	1-16383 [382]	1-1048575 [3820]	T3
CVP-EGR (CPBit)	CV-P-EGR	1-16383 [382]	1-1048575 [3820]	T3
CVP-EGR	CV-PFE-EGR	1-16383 [382]	1-1048575 [3820]	T3
ESP-EGR	ES-P-EGR, ES-PFR-EGR	1-900 [25]	1-65535 [250]	T3
SESP-EGR	SES-P-EGR, SES-PFE-EGR	1-900 [4]	1-65535 [40]	T3
UASP-EGR	UAS-P-EGR, UAS-PFE-EGR	1-900 [10]	1-65535 [10]	T3
SAS-P-EGR	SAS-P-EGR, SAS-PFE-EGR	1-900 [2]	1-65535 [8]	T3

Table B-2: Alcatel-Lucent 1665 DMX Provisionable PM Parameters (Sheet 3 of 9)

Parameter Definition		Threshold Range [Default]		Modifier
MONTYPE	Measure	15 MIN	1 DAY	
E1 Path				
BBE-P	BBE Path Near-End, Far-End	1-16383 [13296]	1-1048575 [132960]	E1
ESP	ES Path Near-End, Far-End	1-900 [65]	1-65535 [648]	E1
SESP	SES Path Near-End, Far-End	1-900 [10]	1-65535 [100]	E1
UASP	UAS Path Near-End, Far-End	1-900 [10]	1-65535 [10]	E1
VT1.5 Path				
CVP	CV-V, CV-VFE V5 BIP Error	1-16383 [75]	1-1048575 [750]	VT1
ESP	ES-V, ES-VFE V5 Errored Seconds (ES)	1-900 [40]	1-65535 [900]	VT1
SESP	SES-V, SES-VFE (V5 SES)	1-900 [40]	1-65535 [900]	VT1
UASP	UAS-V, UAS-VFE V5 Unavailable Seconds	1-900 [40]	1-65535 [900]	VT1
FC-P	FC-V, FC-VFE Failure Count	1-72 [10]	1-4095 [10]	VT1
VC-12 Path				
BBE-P	BBE Path Near-End, Far-End	1-16383 [75]	1-1048575 [750]	VC12
ESP	ES Path Near-End, Far-End	1-900 [40]	1-65535 [900]	VC12
SESP	SES Path Near-End, Far-End	1-900 [40]	1-65535 [900]	VC12
UASP	UAS Path Near-End, Far-End	1-900 [40]	1-65535 [900]	VC12
FC-P	FC-V, FC-VFE Failure Count	1-72 [10]	1-4095 [10]	VC12
STS-1 Path				
CVP	CV-P, CV-PFE B3 Coding Violation	1-16383 [15]	1-1048575 [125]	STS1
ESP	ES-P, ES-PFE B3 Errored Seconds	1-900 [12]	1-65535 [100]	STS1

Table B-2: Alcatel-Lucent 1665 DMX Provisionable PM Parameters (Sheet 4 of 9)

Parameter Definition		Threshold Range [Default]		Modifier
MONTYPE	Measure	15 MIN	1 DAY	
STS-3c Path				
CVP	CV-P, CV-PFE B3 Coding Violation	1-16383 [25]	1-1048575 [250]	STS3c
ESP	ES-P, ES-PFE B3 Errored Seconds	1-900 [20]	1-65535 [200]	STS3
STS-12c Path				
CVP	CV-P, CV-PFE B3 Coding Violation	1-16383 [75]	1-1048575 [750]	STS12c
ESP	ES-P, ES-PFE B3 Errored Seconds	1-900 [60]	1-65535 [600]	STS12c
STS-48c Path				
CVP	CV-P, CV-PFE B3 Coding Violation	1-16383 [300]	1-1048575 [3000]	STS48c
ESP	ES-P, ES-PFE B3 Errored Seconds	1-900 [240]	1-65535 [2400]	STS48c
STS-n Path				
SESP	SES-P, SES-PFE B3 Severely Errored Seconds	1-900 [3]	1-65535 [7]	STSn
UASP	UAS-P, UAS-PFE B3 UnAvailable Seconds	1-900 [10]	1-65535 [10]	STSn
FC-P	FC-P, FC-PFE Failure Counts	1-72 [10]	1-4095 [10]	STSn
EC-1 Line				
CVL	CV-L, CV-LFE B2CV EC-1	1-16383 [47]	1-1048575 [448]	EC1
ESL	ES-L, ES-LFE (B2)	1-900 [40]	1-65535 [900]	EC1
SESL	SES-L, SES-LFE (B2)	1-900 [30]	1-65535 [90]	EC1
UASL	UAS-L, UAS-LFE (B2)	1-900 [30]	1-65535 [90]	EC1
FC-L	FC-L, FC-LFE Failure Count	1-72 [10]	1-4095 [10]	EC1

Table B-2: Alcatel-Lucent 1665 DMX Provisionable PM Parameters (Sheet 5 of 9)

Parameter Definition		Threshold Range [Default]		Modifier
MONTYPE	Measure	15 MIN	1 DAY	
PJCDIFF-P	PJCDiff-P Pointer Justification Count Difference	1-1048575 [60]	1-16777215 [5760]	EC1
NPJC-PDET	NPJC-PDet Negative Pointer Justification Count Detected	1-1048575 [60]	1-16777215 [5760]	EC1
PPJC-PDET	PPJC-PDet Positive Pointer Justification Count Detected	1-1048575 [60]	1-16777215 [5760]	EC1
NPJC-PGEN	NPJC-PGen Negative Pointer Justification Count Generated	1-1048575 [60]	1-16777215 [5760]	EC1
PPJC-PGEN	PPJC-PGen Positive Pointer Justification Count Generated	1-1048575 [60]	1-16777215 [5760]	EC1
DS1 Line				
CVL	CV-L	1-16383 [13340]	1-1048575 [133400]	T1
ESL	ES-L, ES-LFE (Line Err Sec)	1-900 [65]	1-65535 [648]	T1
SESL	SES-L (Line Err Sec)	1-900 [10]	1-65535 [100]	T1
DS3 Line				
CVL	CV-L	1-16383 [387]	1-1048575 [3865]	T3
ESL	ES-L	1-900 [25]	1-65535 [250]	T3
SESL	SES-L	1-900 [4]	1-65535 [40]	T3
E1 Line				
ESL	ES Line Near-End	1-900 [65]	1-65535 [648]	E1
SESL	SES Line Near-End	1-900 [10]	1-65535 [100]	E1
OC-3 Line				
CVL	CV-L, CV-LFE B2CV OC-3	1-16383 [140]	1-1048575 [1344]	OC3

Table B-2: Alcatel-Lucent 1665 DMX Provisionable PM Parameters (Sheet 6 of 9)

Parameter Definition		Threshold Range [Default]		Modifier
MONTYPE	Measure	15 MIN	1 DAY	
OC-12 Line				
CVL	CV-L, CV-LFE B2CV OC-12	1-16383 [560]	1-1048575 [5376]	OC12
OC-48 Line				
CVL	CV-L, CV-LFE B2CV OC-48	1-16383 [2240]	1-1048575 [21504]	OC48
OC-192 Line				
CVL	CV-L, CV-LFE B2CV OC-192	1-16383 [8960]	1-1048575 [86016]	OC192
OC-n Line				
ESL	ES-L, ES-LFE B2 ES	1-900 [40]	1-65535 [900]	OCn
SESL	SES-L, SES-LFE B2SES	1-900 [30]	1-65535 [90]	OCn
UASL	UAS-L, UAS-LFE B2 UAS	1-900 [30]	1-65535 [90]	OCn
FC-L	FC-L, FC-LFE Failure Count	1-72 [10]	1-4095 [10]	OCn
PJCDIFF-P	PJCDiff-P Pointer Justifica- tion Count Difference	1-1048575 [60]	1-16777215 [5760]	OCn
NPJC-PDET	NPJC-PDet Negative Pointer Justification Count Detected	1-1048575 [60]	1-16777215 [5760]	OCn
PPJC-PDET	PPJC-PDet Positive Pointer Justification Count Detected	1-1048575 [60]	1-16777215 [5760]	OCn
NPJC-PGEN	NPJC-PGen Negative Pointer Justification Count Generated	1-1048575 [60]	1-16777215 [5760]	OCn
PPJC-PGEN	PPJC-PGen Positive Pointer Justification Count Generated	1-1048575 [60]	1-16777215 [5760]	OCn

Table B-2: Alcatel-Lucent 1665 DMX Provisionable PM Parameters (Sheet 7 of 9)

Parameter Definition		Threshold Range [Default]		Modifier
MONTYPE	Measure	15 MIN	1 DAY	
OC-n Line for 1+1 and 1+1_OPTM				
PSC-L	PSC-L Line Protection Switch Count	1-63 [2]	1-255 [4]	OCn
OC-n Line for BLSR				
PSC-P	LPSC-P Line Protection Switch Count -Protection	1-63 [2]	1-255 [4]	OCn
PSC-W	PSC-W Line Protection Switch Count -Working	1-63 [2]	1-255 [4]	OCn
PSD-L	PSC-L Line Protection Switch Dura- tion	No Threshold	No Threshold	OCn
OC-n Section				
SEFS-S	SEFS	1-900 [10]	1-65535 [30]	OCn
ESS	ES-S B1 EDC errors	1-900 [30]	1-65535 [90]	OCn
SESS	SES-S B1 EDC errors	1-900 [30]	1-65535 [90]	OCn
OC-3 Section				
CVS	CV-S B1 BIP-8 errors	1-16383 [140]	1-1048575 [1344]	OC3
OC-12 Section				
CVS	CV-S B1 BIP-8 errors	1-16383 [560]	1-1048575 [5376]	OC12
OC-48 Section				
CVS	CV-S B1 BIP-8 errors	1-16383 [2240]	1-1048575 [21504]	OC48
OC-192 Section				
CVS	CV-S B1 BIP-8 errors	1-16383 [8960]	1-1048575 [86016]	OC192

Table B-2: Alcatel-Lucent 1665 DMX Provisionable PM Parameters (Sheet 8 of 9)

Parameter Definition		Threshold Range [Default]		Modifier
MONTYPE	Measure	15 MIN	1 DAY	
Fast Ethernet (LAN and VCG)				
EDFE	Dropped Frames - errors	1-7,000,000 [70,000]	1-90,000,000 [900,000]	FE
EDFC*	Dropped Frames - congestion	1-7,000,000 [70,000]	1-90,000,000 [900,000]	FE
Gigabit Ethernet (LAN and VCG)				
EDFE	Dropped Frames - errors	1-70,000,000 [700,000]	1-900,000,000 [9,000,000]	1GE
EDFC	Dropped Frames - congestion	1-70,000,000 [700,000]	1-900,000,000 [9,000,000]	1GE
Data Port (LAN)				
INTXWD	Invalid Transmission Word	1-16383 [300]	1-1,048,575[3000]	DATA
Ethernet Spanning Tree Group (LAN, VCG and LAG)				
STPROLE	STP port role changes	1-9,000 [50]	1-13,000,000 [150]	STG
STPSTATE	STP port state changes	1-9,000 [50]	1-13,000,000 [150]	STG
STPROOT	Bridge changed to/from STP root	1-9,000 [50]	1-13,000,000 [150]	STG
BPDUT	BPDU timeout	1-900 [50]	1-1,300,000 [150]	STG
Optical Transmission Section (OTS) Port				
TOPRL	Total Optical Power Received Low Watermark	-510 to +510 [-260] (unit = 1/10 dB)	-510 to +510 [-260] (unit = 1/10 dB)	OTS
TOPRH	Total Optical Power Received High Watermark	-510 to +510 [+130] (unit = 1/10 dB)	-510 to +510 [+130] (unit = 1/10 dB)	OTS
Optical Channel (OCH) Port				
OPTL	Optical Power Transmitted Low Watermark	-510 to +510 [-130] (unit = 1/10 dB)	-510 to +510 [-130] (unit = 1/10 dB)	OCH
OPTH	Optical Power Transmitted High Watermark	-510 to +510 [+20] (unit = 1/10 dB)	-510 to +510 [+20] (unit = 1/10 dB)	OCH

Table B-2: Alcatel-Lucent 1665 DMX Provisionable PM Parameters (Sheet 9 of 9)

Parameter Definition		Threshold Range [Default]		Modifier
MONTYPE	Measure	15 MIN	1 DAY	
Optical Channel Transport Unit 2 (OTU2) Port				
BBE-OTU	Background Block Error	1 - 1048575 [128000]	1 - 1048575 [244000]	OTU2
ES-OTU	Errored Seconds	1 - 900 [50]	1 - 65535 [150]	OTU2
SES-OTU	Severely Errored Seconds	1 - 900 [10]	1 - 65535 [15]	OTU2
UAS-OTU	Unavailable Seconds	1 - 900 [15]	1 - 65535 [20]	OTU2
FECC	FEC Errors Corrected	1 - 4,294,967,295 (32 bit reg) [default 1x10 ⁹]	1 - 1,099,511,627,775 (40 bit reg) [default 1x10 ¹¹]	OTU2
OPTL	Optical Power Transmitted Low Watermark	-510 to +510 [-30] (unit = 1/10 dB)	-510 to +510 [-30] (unit = 1/10 dB)	OTU2
OPTH	Optical Power Transmitted High Watermark	-510 to +510 [+60] (unit = 1/10 dB)	-510 to +510 [+60] (unit = 1/10 dB)	OTU2
OPRL	Optical Power Received Low Watermark	-510 to +510 [-240] (unit = 1/10 dB)	-510 to +510 [-240] (unit = 1/10 dB)	OTU2
OPRH	Optical Power Received High Watermark	-510 to +510 [-60] (unit = 1/10 dB)	-510 to +510 [-60] (unit = 1/10 dB)	OTU2
Optical Channel Data Unit 2 (ODU2) Port				
BBE-ODU	Background Block Error	1 - 1048575 [128000]	1 - 1048575 [244000]	ODU2
ES-ODU	Errored Seconds	1 - 900 [50]	1 - 65535 [150]	ODU2
SES-ODU	Severely Errored Seconds	1 - 900 [10]	1 - 65535 [15]	ODU2
UAS-ODU	Unavailable Seconds	1 - 900 [15]	1 - 65535 [20]	ODU2

* does not apply to LNW74.

Appendix C

C

Overview

This section provides detailed information about the alarms and events.

Alarm and Status Condition Description

Refer to Alcatel-Lucent 1665 Data Multiplexer *Alarm Messages and Trouble Clearing Guide (365-372-302)* for a list of condition and alarm descriptions (*conddescr* or *almmsg*) and their likely causes.

Condition Types

The following table lists the subset of the condition types (*condtype*) that are supported.

Table 32. (C.2.0) Condition Types (Sheet 1 of 6)

Description	Meaning
AIS	AIS Detected
AIS-EGR	AIS Detected in Egress direction
ALS	Auto Link Shutdown
ANM	Auto Negotiation Mismatch
APSB	APS Byte Failure
APSC	APS Codes Inconsistent
APSCM	APS Channel Match Failure
APSM	APS Mode Mismatch
APSPROV	Improper APS Codes

Table 32. (C.2.0) Condition Types (Sheet 2 of 6)

Description	Meaning
APSPSM	APS Primary Section Mismatch
APSUC	APS Unused Codes
APSUT	APS unresolved transient codes
AUTOLOCK	Auto Lock port in spanning tree group
AUTORESET	Automatic system reset
BDI	Backward Defect Indication
BLSR-DKB	BLSR Default K-Bytes
BUFROVLD	Buffer overload
CBITMM	C-Bit Mismatch
CDEF-ER	connection deletion fail - error
CDEF-TO	connection deletion fail - timeout
CDES	connection deletion success
CDES-FRC	connection deletion success - forced
CKTAUDSNP	Circuit Audit Suspended
CKTAUDUD	Circuit Audit Suppressed
CONTR	Control processor failure (Use for controller circuit pack failures or removals, when feasible to report, including SYSCCTL control link, boot (ROM) and data base (EEPROM) nonvolatile memory failure.)
CRCMM	CRC-4 Multiframe Alignment Mismatch
CSRC	Constituent Signal Rate Change
CSUF-ER	connection setup fail - error
CSUF-TO	connection setup fail - timeout
CSUS	connection setup success
CTNEQPT	Facility/circuit interconnection equipment failure
DATAFLT	Data Integrity Fault
DEG	Degraded Signal
DMUX-LOS-P	Loss of Signal Payload in the DMUX direction
DUPL-RING	Duplicate Ring Node
ECV	Excessive Coding Violations - Ethernet
EMSD	Exceeded MTU Size Drop

Table 32. (C.2.0) Condition Types (Sheet 3 of 6)

Description	Meaning
EOC	EOC Failure (Use for Section DCC, program installation (via remote download) and communication failures, and APS channel failures.)
EOC-L	line DCC channel failed
ERP-MO	ERP - Multiple RPL Owners
ERP-WD	ERP - PDU WatchDog Timeout
EXS-RSV	RPR - Excessive Reserved Rate
EXT	External failure (Use for fan shelf failures.)
FACTERM	Facility termination equipment failure
FEPLRF	Far-end Protection Line Failure
FERF	Line RDI-L (Far End Remote Failure)
FSR	Forced Switch
GFP_RCF	Remote Client Fail
GP	A protection switch request changed (for example, from forced to signal fail), but there was no change in the switch selector (that is, the same entity is active). When a switch selector changes, the CONDTYPE is WKSWPR-x or WKSWBK.
HLDOVRSYNC	Holdover synchronization mode (Use to report manual or automatic switch to holdover synchronization mode.)
IDLE	Idle condition detected
INHAUDB	Alarm audibles inhibited (Use for ACO active.)
INHMSG	Inhibited Message (Releases prior to R3.0)
INHSWPR	Inhibited switch to protection (Use to report inhibit of automatic sync. reference switching, inhibit of automatic line protection switching, or lockout of automatic line protection.) (Use for manual lockout of service, and manual lockout of service, and automatic equipment protection switching inhibited.)
KALVTO	RPR Keep Alive Timeout
LAS	Line Automatic Switch
LCK	Lock Signal
LHI	Loss of holdover integrity (Use for excessive holdover, i.e., the system in holdover synchronization mode more than four hours.)
LOF	Loss of Frame
LOF-EGR	Loss of Frame in Egress direction

Table 32. (C.2.0) Condition Types (Sheet 4 of 6)

Description	Meaning
LOM	Loss of Multiframe
LOP	Loss of Pointer
LOS	Loss of Signal
LOS-P	Loss of Signal Payload
LPBKNETWORK	Loopback, Network (Use for all loopbacks and transmission tests.)
LPS	Lockout Switch
LSYNC	Loss of Synchronization
MAN	Manually caused abnormal condition
MISC	Miscellaneous Condition (Use to report miscellaneous discretes provisioned to be status points, i.e. non-alarmed (NA). Miscellaneous discretes provisioned to be alarm points are reported via REPT ALM ENV messages with ALMTYPE = MISC, and in response to RTRV-ALM commands.)
MISCBL	RPR Miscabling
MNCD	Member Not Collecting/Distributing
MSR	Manual Switch
MSU_L	Member Signal Unacceptable - LCAS
MUX-LOS-P	Loss of Signal Payload in the MUX direction
NID-CONFL	Node ID Conflict
NOTLCAS	Far End Not LCAS
NPAUDT	NP audit failed
NUTINXCGRN	NUT inconsistent cross connect granularity
NUTTMP-PRV	Temporarily NUT Provisioned
OCI	Open Connection Indication
OPNUT-NOTPR	Operational NUT - Working Trib is not protected
OPNUT-PROT	Operational NUT - Working Trib is protected
OPNUT-TNOTP	Operational NUT - Working Trib is temporarily not protected
OSILINKERR	OSI stack error, Data Link Layer
OVRDSW	Override Switch
PAINTGRT	Path Integrity
PAPRVERR	Path Provisioning Error
PLCF	Partner LAG Configuration Failed

Table 32. (C.2.0) Condition Types (Sheet 5 of 6)

Description	Meaning
PLL	Partial Link Loss
PRCDRERR	Procedure error
PROTNA	Protection unit not available
PWR	Power failure (Use for -48V power feeder or fuse failure.)
RAI	Remote Alarm Indication
RAI-EGR	Remote Alarm Indication in Egress Position
REMLINK	Host/Remote Subsystem Link Failure
RINGUPGRADE	Ring Upgrade Mode
RNG-DSCVY	Ring Discovery
RNG-INC	Ring Incomplete
RNG-IRPM	Inconsistent Ring Protection Mode
RNG-IVTBA	BLSR Ring - Inconsistent VT BLSR Access
RNG-PREEMPT	BLSR Extra Traffic Pre-empted
RNG-SQUELCH	Traffic Squelched on Ring
RNG-URT	Unknown Ring Type
rrTERM	Facility level rr (see MODIFIER of RTRV-rr for valid rr) termination equipment failure. (Use for terminating equip. ckt pack failures and removals, with "rr" indicating the facility level terminated.) NOTE: Beginning in Release 4, this CONDTYPE will no longer be valid.
SEGAUDTIN	Segment audit failed rr in, where rr is LAN or VCG or SLOT
SEGAUDTOUT	Segment audit failed rr out, where rr is LAN or VCG or SLOT
SIGPEER	ENNI signaling communication failure with peer
SLMF	Unequipped signal (Signal Label Mismatch Failure)
SQDATA-UNAV	Squelch Data Unavailable
SQM	Sequence Mismatch (Ethernet)
SQMAP-INCST	Squelch Map Inconsistent
SSF	Signal Server Fail
STPDSCRD	STP State Discarding
STPDSFAIL	STP State Disabled-Failure
STPFWRD	STP State Forwarding
SWFTDWN	Software Download

Table 32. (C.2.0) Condition Types (Sheet 6 of 6)

Description	Meaning
SYNC	Loss of timing on a protected synchronization reference
SYNCOOS	Loss of timing on both primary and secondary synchronization references (Use if both DS1 synchronization input references fail.)
T-BERL	Use for incoming line signal BER thresholds exceeded, i.e., Signal Fail and Signal Degrade.
T-BERP	Use for incoming ring path signal BER thresholds exceeded, i.e., Ring STS-1 and VT Path Signal Fail and Degrade.
TIM-S	Trace Identifier Mismatch, Section
TIM-S-D	Trace Identifier Mismatch, Section - Diagnostic
T-INTXWD	Invalid Transmission Word
TLL	Total Link Loss
TOPO-INCS	RPR - Topology Inconsistency
TOPO-INV	RPR - Topology Map Entry Invalid
TOPO-MAX	RPR - Topology Exceeded Max Stations
TOPO-UNST	RPR - Topology Unstable
TSTACC	Test Access
T-x	Threshold violation for MONTYPE x (Refer to Appendix B for valid values of x) (Use for PM TCA reporting.)
T-x-EGR	Threshold violation for MONTYPE x (Refer to Appendix B for valid values of x) in the Egress direction. (Use for PM TCA reporting.)
VCGFOPR	Failure of Protection, Sink
VCGFOPT	Failure of Protection, Source
VCGLOPC	Loss of Partial Capacity
WKGMEM	Working Memory Failure
WKSWBK	Switch to Working (BLSR)
WKSWPR	Switch to Protection (BLSR)
WKSWPR-x	Working facility/equipment switched to protection unit x. (x is identifier of the protection unit. X. = 1 or 2.) (Use to report manual and automatic sync. reference protection switches, and manual, forced and automatic OCn line protection switches.) (Use for manual equipment protection switching <i>to</i> and <i>from</i> protection, including forced protection switches, but not protection switches back to service due to lockout of service or protection.)
WTR	Wait to Restore
YEL	Yellow Alarm - RDI-P

Appendix D

D

Overview

This section provides detailed information about the Alcatel-Lucent 1665 Data Multiplexer (Alcatel-Lucent 1665 DMX) circuit pack and pluggable transmission module names.

Circuit Pack Description Table

Table D-1: Alcatel-Lucent 1665 DMX Circuit Pack Information (Sheet 1 of 14)

Apparatus code	Pack name	Smart Pack	Slot	Description	Rel#
LNW1	SYCTL		sysctl	System Controller Not supported starting in Release 6.0	1.0
LNW2	SYCTL		ctl-1	System Controller	6.0
LNW6	28DS1	Y	fn-{a,b,c,d}-{1,2}	28 ports per pack, OSP Hardened - discontinued availability as of 11/10/06	1.0
				Cannot be used with the VLF Main CP	7.0
LNW7	28DS1PM	Y	fn-{a,b,c,d}-{1,2}	28 ports per pack, with PM capability, OSP Hardened	1.0
				Cannot be used with the VLF Main CP	7.0

Table D-1: Alcatel-Lucent 1665 DMX Circuit Pack Information (Sheet 2 of 14)

Apparatus code	Pack name	Smart Pack	Slot	Description	Rel#
LNW8 ^a	56DS1E1	Y	fn-{a,b,c,d}-{1,2}	56 DS1/E1, with PM capability, OSP Hardened. This circuit pack is only allowed on the high capacity shelf	3.1
				• 56 DS1 capability	3.1
				• 56 E1 capability	4.0
LNW801 ^a	56DS1E1	Y	fn-{a,b,c,d}-{1,2}	56 DS1/E1, with PM capability, OSP Hardened. This circuit pack is only allowed on the high capacity shelf	8.0
LNW16	12DS3EC1	Y	fn-{a,b,c,d}-{1,2}	12 DS3/EC1 ports per circuit pack, OSP hardened	1.0
LNW18	12TMUX	Y	fn-{a,b,c,d}-{1,2}	TMUX interface, 12 DS3 ports per pack, OSP Hardened	3.0
LNW19	48DS3EC1	Y	fn-{a,b,c,d}-{1,2}	48 DS3 or EC1 ports per pack. OSP hardened. This circuit pack is only allowed on the high capacity shelf - discontinued availability as of 8/31/07.	3.1
LNW19B	48DS3EC1	Y	fn-{a,b,c,d}-{1,2}	48 DS3 or EC1 ports per pack. OSP hardened. Supports terminal loop-backs. This circuit pack is only allowed on the high capacity shelf.	5.0
LNW20	48TMUX DS3EC1	Y	ported mode: fn-{a,b,c,d}-{1,2} portless mode: fn-{a,b,c,d}-{1,2}, growth-{1,2}	48 port portless/portless DS3 transmux/EC -1	7.0.1
LNW26	OC-48		main-{1,2}	OC-48 HS 1310 nm optics with 6 STS-1 VT fabric (LR) CP DA'd - Not supported starting in Release 6.0	1.0
LNW26B	OC-48		main-{1,2}	OC-48 HS 1310 nm optics with 12 STS-1 VT fabric (LR) - discontinued availability as of 3/1/08	2.0
LNW27	OC-48		main-{1,2}	OC-48 HS 1310 nm optics with 48 STS-1 VT fabric (LR)	2.1
LNW28	OC-48		main-{1,2}	Hardened OC-48 HS 1310 nm optics with 12 STS-1 VT fabric (LR) LNW26B based, OSP Hardened - discontinued availability as of 5/17/06	2.0

Table D-1: Alcatel-Lucent 1665 DMX Circuit Pack Information (Sheet 3 of 14)

Apparatus code	Pack name	Smart Pack	Slot	Description	Rel#
LNW29	OC-48		main-{1,2}	OC-48 HS 1550 nm optics with 48 STS-1 VT fabric (ELR) LNW27-based	2.1
LNW31	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 LS 1310 nm optics with 12 STS-1 VT fabric (IR), OSP Hardened	2.0
LNW32	OC-48		main-{1,2}	1 OC-48 HS, Long Reach port per pack (based on the LNW27B), OSP Hardened with VT granularity of 48 STS-1s	4.0
LNW36	4OC-3		fn-{a,b,c,d}-{1,2}, growth-{1,2}	Quad OC-3 LS 1310 nm optics (LR), VT granularity of 12 STS-1s, OSP Hardened - discontinued availability as of 12/31/07	1.1
LNW37	4OC-3		fn-{a,b,c,d}-{1,2}, growth-{1,2}	Quad OC-3 LS, based on LNW36, SFP based. Supports facility loopbacks. OSP hardened.	4.0
LNW45	8OC-3		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-3 LS tributary pack (8 ports per pack) with 48 STS-1 VT fabric, SFP based. Supports facility loopbacks. OSP hardened.	5.0
LNW46	2OC-12		fn-{a,b,c,d}-{1,2}, growth-{1,2}	Dual OC-12 LS 1310 nm optics (LR), OSP Hardened - discontinued availability as of 12/31/07	1.1
LNW48	OC-12		main-{1,2}	OC-12 HS, 1310nm optics, Intermediate Reach port per pack, OSP Hardened with VT granularity of 12 STS 1s	3.1
LNW49	4OC-12		fn-{a,b,c,d}-{1,2}, growth-{1,2}	Quad OC-12 LS ports per pack with VT granularity of 48 STS-1s, SFP based. OSP hardened.	4.0
LNW50	OC-12		main-{1,2}	OC-12 High Speed, 1310nm optics, Long Reach port per pack, OSP Hardened with VT granularity of 12 STS-1s	3.1
LNW54	OC-12		main-{1,2}	OC -12 High Speed, Long Reach 1550nm port per pack with VT granularity of 12 STS -1s	5.1
LNW55	OC3/OC12/ OC48	Y	fn-{a,b,c,d}-{1,2}, growth-{1,2}	12OC-3/12OC-12/4OC-48 Multirate LS, SFP based pack for VLF Main CPs, OSP Hardened. Supports facility loopbacks.	7.1

Table D-1: Alcatel-Lucent 1665 DMX Circuit Pack Information (Sheet 4 of 14)

Apparatus code	Pack name	Smart Pack	Slot	Description	Rel#
LNW56	OC-192		main-{1,2}	OC-192 HS 1550 nm optics with 48 STS-1 VT fabric (IR 40km)	2.1
LNW57	OC-192		main-{1,2}	OC-192 HS, 1550 nm optics (based on the LNW56) with VT granularity of 48 STS-1s - equipped with Tone Circuitry	4.0
LNW58	OC-192		main-{1,2}	OC-192 HS 1310 nm optics with 48 STS-1 VT fabric (SR) LNW56-based	2.1
LNW59	OC-192	Y	main-{1,2}	OC192 HS, 2 XFP ports per pack with a 40G VT Enhanced Fabric. This is a VLF Main CP.	7.0
LNW60	OC-192		main-{1,2}	1 OC192 HS, LR port per pack (based on the LNW57) with VT granularity of 48 STS-1's - equipped with optical amplifier	5.1
LNW62	4OC-48	Y	fn-{a,b,c,d}-{1,2}, growth-{1,2}	4 OC48 LS, SFP ports per pack w/o switch fabric. This CP may be used only with VLF Main CPs.	7.0
LNW63	GBE PL	Y	fn-{a,b,c,d}-1, growth-1 starting in R7.0: fn-{a,b,c,d}-{1,2}, growth-{1,2} ^b	GbE 4 port SFP based private line w/o switch fabric, OSP Hardened.	6.0
LNW64	GBE PL	Y	fn-{a,b,c,d}-{1,2}, growth-{1,2}	8 Ethernet LAN ports GbE Private Line, OSP hardened Circuit Pack (SFP based) This CP may be used only with VLF Main CPs.	7.0
LNW66	10/100-FE	Y	fn-{a,b,c,d}-1	10/100 Mb/s LAN (24 ports)	1.1
LNW67	1GbE-SX	Y	fn-{a,b,c,d}-1, growth-1 starting in R7.0: fn-{a,b,c,d}-{1,2}, growth-{1,2}	1 Gbps LAN 850 nm optics (SX, 2 ports) - discontinued availability as of 3/1/08.	1.1

Table D-1: Alcatel-Lucent 1665 DMX Circuit Pack Information (Sheet 5 of 14)

Apparatus code	Pack name	Smart Pack	Slot	Description	Rel#
LNW68	1GbE-LX	Y	fn-{a,b,c,d}-1, growth-1 starting in R7.0: fn-{a,b,c,d}-{1,2}, growth-{1,2}	1 Gbps LAN 1310 nm optics (LX, 2 ports) - discontinued availability as of 3/1/08.	1.1
LNW70	100/1G FXS	Y	fn-{a,b,c,d}-1, growth-1 starting in R7.0: fn-{a,b,c,d}-{1,2}, growth-{1,2}b	8 Ethernet LAN ports w/SFP optics (four optical or electrical GbE or electrical FE and four optical FE), 32 VCGs, aggregate packet processing capacity of 9 Gbps- for Ethernet QoS enhancements Supports true 0x1 operation starting with series S1:3.	5.1
LNW71	10/100-PL	Y	fn-{a,b,c,d}-1	Fast Ethernet (24-port) Private Line - discontinued availability as of 3/1/08	3.1
LNW73	FC	Y	fn-{a,b,c,d}-1, growth-1 starting in R7.0: fn-{a,b,c,d}-{1,2}, growth-{1,2}b	SAN private line transport (Fibre Channel/FICON/ESCON) over SONET, w/4 client-side ports using SFP optics.	5.1
LNW73C	FC	Y	fn-{a,b,c,d}-1, growth-1 starting in R7.0: fn-{a,b,c,d}-{1,2}, growth-{1,2}b	SAN private line transport (Fibre Channel/FICON/ESCON) over SONET, with data compression capabilities and with 4 client-side ports using SFP optics.	7.0
LNW74	10/100T/F	Y	fn-{a,b,c,d}-1, growth-1 starting in R7.0: fn-{a,b,c,d}-{1,2}, growth-{1,2}	8 100BASE-FX LAN ports w/SFP optics and 16 10BASE-T/100BASE-TX LAN ports w/24 100 Mb/s WAN ports - for enhanced private line services including low order (VT1.5) virtual concatenation and LCAS; OSP Hardened Note: only the optical ports are available in growth slot. Supports true 0x1 operation starting with series S1:2.	5.0
LNW76	OC-48		main-{1,2}	OC-48 HS 1310 nm optics with 48 STS-1 VT fabric (SR) LNW27-based	2.1

Table D-1: Alcatel-Lucent 1665 DMX Circuit Pack Information (Sheet 6 of 14)

Apparatus code	Pack name	Smart Pack	Slot	Description	Rel#
LNW77	OC-48		main-{1,2}	OC-48 HS 1310 nm optics with 12 STS-1 VT fabric (IR) LNW26B based	2.0
LNW78	100/1G FSR	Y	fn-{a,b,c,d}-1, growth-1 starting in R7.0: fn-{a,b,c,d}-{1,2}, growth-{1,2} ^b	Switched Ethernet pack based on the LNW70 - for RPR application, 8 SFP ports (6 usable- 2GbE/4FE) per pack.	6.0
LNW80 ^c	96SWITCH		main-{1,2}	Switch Fabric Pack with no HS optical Interface. Based on the LNW27.	4.0
LNW82	OC3/OC12/OC48	Y	main-{1,2}	(M)ulti (P)ort (M)ulti (R)ate (MPMR) Main - 8 SFP ports, 8 SFP sockets for 8OC-3, 8OC-12 or 2OC-48, at least 7.5G VT capacity, OSP, VLF Main. Supports facility loopbacks.	7.1
LNW87	FE/GBE PL	Y	fn-{a,b,c,d}-{1,2}, growth-{1,2}	4 Ethernet LAN ports GbE/FE Private Line, OSP hardened Circuit Pack (SFP based) This CP may be used with VLF and non-VLF Main CPs.	9.0
LNW93	TESTPK		fn-{a,b,c,d}-{1,2}	Test Pack for DS1, DS3, & Ethernet Cabling (used for upgrades to higher density packs)	3.1
LNW94	TESTPK		fn-{a,b,c,d}-{1,2}, growth-{1,2}	Non-detectable Test Pack for DS1, DS3, & Ethernet Cabling	3.1
LNW97	BLANK		main-{1,2}	Detectable filler plate used in unpopulated slot	3.1
LNW98	BLANK		fn-{a,b,c,d}-{1,2}, growth-{1,2}	Detectable filler plate used in unpopulated slot	3.1
LNW121	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0
LNW123	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0

Table D-1: Alcatel-Lucent 1665 DMX Circuit Pack Information (Sheet 7 of 14)

Apparatus code	Pack name	Smart Pack	Slot	Description	Rel#
LNW125	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0
LNW127	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0
LNW131	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0
LNW133	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0
LNW135	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0
LNW137	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0
LNW143	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0

Table D-1: Alcatel-Lucent 1665 DMX Circuit Pack Information (Sheet 8 of 14)

Apparatus code	Pack name	Smart Pack	Slot	Description	Rel#
LNW145	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0
LNW147	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0
LNW149	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0
LNW153	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0
LNW155	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0
LNW157	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0
LNW159	OC-48		main-{1,2}	OC-48 PWDM HS with 6 STS-1 VT fabric. This pack is in LNW26 mode always CP DA'd - Not supported starting in Release 6.0	2.0

Table D-1: Alcatel-Lucent 1665 DMX Circuit Pack Information (Sheet 9 of 14)

Apparatus code	Pack name	Smart Pack	Slot	Description	Rel#
LNW121B	OC-48		main-{1,2}	OC-48 PWDH HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 3/23/05	2.0
LNW123B	OC-48		main-{1,2}	OC-48 PWDH HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 11/16/04	2.0
LNW125B	OC-48		main-{1,2}	OC-48 PWDH HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 9/30/07	2.0
LNW127B	OC-48		main-{1,2}	OC-48 PWDH HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 9/30/07	2.0
LNW131B	OC-48		main-{1,2}	OC-48 PWDH HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 11/16/04	2.0
LNW133B	OC-48		main-{1,2}	OC-48 PWDH HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 11/16/04	2.0
LNW135B	OC-48		main-{1,2}	OC-48 PWDH HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 11/16/04	2.0
LNW137B	OC-48		main-{1,2}	OC-48 PWDH HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 11/16/04	2.0
LNW143B	OC-48		main-{1,2}	OC-48 PWDH HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 11/16/04	2.0
LNW145B	OC-48		main-{1,2}	OC-48 PWDH HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 11/16/04	2.0
LNW147B	OC-48		main-{1,2}	OC-48 PWDH HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 11/16/04	2.0

Table D-1: Alcatel-Lucent 1665 DMX Circuit Pack Information (Sheet 10 of 14)

Apparatus code	Pack name	Smart Pack	Slot	Description	Rel#
LNW149B	OC-48		main-{1,2}	OC-48 PWDM HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 3/23/05	2.0
LNW153B	OC-48		main-{1,2}	OC-48 PWDM HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 9/30/07	2.0
LNW155B	OC-48		main-{1,2}	OC-48 PWDM HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 9/30/07	2.0
LNW157B	OC-48		main-{1,2}	OC-48 PWDM HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 3/23/05	2.0
LNW159B	OC-48		main-{1,2}	OC-48 PWDM HS with 12 STS-1 VT fabric, LNW26B based CP DA'd as of 3/23/05	2.0
LNW170	100/1G FXS	Y	fn-{a,b,c,d}-{1,2}, growth-{1,2}b	8 Ethernet LAN ports w/SFP optics (four optical or electrical GbE or electrical FE and four optical FE), 32 VCGs, aggregate packet processing capacity of 9 Gbps- for Ethernet QoS enhancements. Supports true 0x1 operation. Based on the LNW70 with the addition of link aggregation among ports on adjacent cards	7.1
LNW202	OC-48		main-{1,2}	OC-48 HS, SFP based DWDM pack with VT granularity of 48 STS-1s	7.1
LNW203	OC-12		main-{1,2}	OC-12 HS, 1310nm optics, Intermediate Reach port per pack, OSP Hardened with VT granularity of 12 STS 1s	9.0
LNW221	OC-48		main-{1,2}	OC-48 PWDM HS with 48 STS-1 VT fabric, LNW27-based CP DA'd as of 3/25/05	2.1
LNW223	OC-48		main-{1,2}	OC-48 PWDM HS with 48 STS-1 VT fabric, LNW27-based	2.1

Table D-1: Alcatel-Lucent 1665 DMX Circuit Pack Information (Sheet 11 of 14)

Apparatus code	Pack name	Smart Pack	Slot	Description	Rel#
LNW225	OC-48		main-{1,2}	OC-48 PWDH HS with 48 STS-1 VT fabric, LNW27-based CP to be DA'd as of 12/31/08	2.1
LNW227	OC-48		main-{1,2}	OC-48 PWDH HS with 48 STS-1 VT fabric, LNW27-based	2.1
LNW231	OC-48		main-{1,2}	OC-48 PWDH HS with 48 STS-1 VT fabric, LNW27-based	2.1
LNW233	OC-48		main-{1,2}	OC-48 PWDH HS with 48 STS-1 VT fabric, LNW27-based CP to be DA'd as of 12/31/08	2.1
LNW235	OC-48		main-{1,2}	OC-48 PWDH HS with 48 STS-1 VT fabric, LNW27-based	2.1
LNW237	OC-48		main-{1,2}	OC-48 PWDH HS with 48 STS-1 VT fabric, LNW27-based CP to be DA'd as of 12/31/08	2.1
LNW243	OC-48		main-{1,2}	OC-48 PWDH HS with 48 STS-1 VT fabric, LNW27-based CP DA'd as of 3/25/05	2.1
LNW245	OC-48		main-{1,2}	OC-48 PWDH HS with 48 STS-1 VT fabric, LNW27-based	2.1
LNW247	OC-48		main-{1,2}	OC-48 PWDH HS with 48 STS-1 VT fabric, LNW27-based	2.1
LNW249	OC-48		main-{1,2}	OC-48 PWDH HS with 48 STS-1 VT fabric, LNW27-based	2.1
LNW253	OC-48		main-{1,2}	OC-48 PWDH HS with 48 STS-1 VT fabric, LNW27-based	2.1
LNW255	OC-48		main-{1,2}	OC-48 PWDH HS with 48 STS-1 VT fabric, LNW27-based	2.1
LNW257	OC-48		main-{1,2}	OC-48 PWDH HS with 48 STS-1 VT fabric, LNW27-based CP DA'd as of 3/25/05	2.1
LNW259	OC-48		main-{1,2}	OC-48 PWDH HS with 48 STS-1 VT fabric, LNW27-based	2.1
LNW402	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 SFP based LS with 12 STS-1 VT fabric	8.0

Table D-1: Alcatel-Lucent 1665 DMX Circuit Pack Information (Sheet 12 of 14)

Apparatus code	Pack name	Smart Pack	Slot	Description	Rel#
LNW421	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based CP DA'd as of 5/23/05	3.0
LNW423	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based CP DA'd as of 8/31/04	3.0
LNW425	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based	3.0
LNW427	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based	3.0
LNW431	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based CP DA'd as of 8/31/04	3.0
LNW433	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based CP DA'd as of 8/31/04	3.0
LNW435	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based CP DA'd as of 8/21/04	3.0
LNW437	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based CP DA'd as of 8/21/04	3.0
LNW443	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based CP DA'd as of 8/21/04	3.0
LNW445	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based CP DA'd as of 8/21/04	3.0
LNW447	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based	3.0
LNW449	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based	3.0
LNW453	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based	3.0

Table D-1: Alcatel-Lucent 1665 DMX Circuit Pack Information (Sheet 13 of 14)

Apparatus code	Pack name	Smart Pack	Slot	Description	Rel#
LNW455	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based	3.0
LNW457	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based CP DA'd as of 8/21/04	3.0
LNW459	OC-48		fn-{a,b,c,d}-{1,2}, growth-{1,2}	OC-48 PWDMS LS with 12 STS-1 VT fabric, LNW31 based	3.0
LNW502	OC-192		main-{1,2}	OC-192 HS, XFP based DWDM pack with VT granularity of 48 STS-1s	7.1
LNW504	OC-48/OC-192		main-{1,2}	4xOC192 XFP + 4xOC-48 SFP HS pack with a 40G VT Enhanced Fabric. This is a VLF Main CP	9.0
LNW523 ^d	OC-192		main-{1,2}	1 OC-192 HS, WDM port per pack (4 lambdas tunable per pack based on LNW56 pack) with VT granularity of 48 STS-1s - discontinued availability as of 6/30/07	4.0
LNW527	OC-192		main-{1,2}	1 OC-192 HS, WDM port per pack (4 lambdas tunable per pack based on LNW56 pack) with VT granularity of 48 STS-1s	4.0
LNW554 ^d	OC-192		main-{1,2}	1 OC-192 HS, WDM port per pack (4 lambdas tunable per pack based on LNW56 pack) with VT granularity of 48 STS-1s - discontinued availability as of 2/28/07	4.0
LNW555 ^d	OC-192		main-{1,2}	OC-192 PWDMS HS 1550 nm optics with 48 STS-1 VT fabric (LR 80km) LNW56 based	3.1
LNW603	OC-48/OC-192	Y	main-{1,2}	One OC-192 XFP based Tributary pack for VLF Main CPs.	9.0
LNW705	XM10G/8	Y	fn-{a,b,c,d}-{1,2}, growth-{1,2}	8:1 10G Muxponder - 1 XFP and 8 SFP based (not OSP)	7.1.1
LNW785	OMD5/8	Y	fn-{a,b,c,d}-{1,2}, growth-{1,2}	8 channel low-loss DWDM Mux/Demux, with integrated VOAs, hw-ready for OSC, not OSP, channels 195.20 - 195.90 THz (CH52-CH59)	7.1
LNWUPG	OC-48		main-{1,2}	Upgrade 48>192	2.1.3

Table D-1: Alcatel-Lucent 1665 DMX Circuit Pack Information (Sheet 14 of 14)

Apparatus code	Pack name	Smart Pack	Slot	Description	Rel#
177D	Blank		fn-{a,b,c,d}-{1,2}, growth-{1,2}	Filler plate used in unpopulated slot	1.0
177E	Blank		main-2	Filler plate used in unpopulated slot	1.0

- a While the LNW8 and LNW801 circuit packs have common functionality they are not directly interchangeable. Thus, an LNW8 and an LNW801 cannot occupy companion slots at the same time.
- b This circuit pack supports same CP true 0x1 operation. In releases supporting true 0x1 operation, for systems equipped with non-VLF Main CPs, all Ethernet/Data CPs are allowed in either but not both slots of a LS group. In systems equipped with VLF Main CPs, e.g., LNW59, those Ethernet/Data CPs, for which same CP true 0x1 operation is supported, will be allowed in both slots of the same LS group.
- c The LNW80 is based on the LNW27 with the optical transceivers removed, and uses the same byte definitions as appropriate.
- d The LNW555 will be DA'd on 5/10/07, the LNW523 will be DA'd on 5/31/07 and the LNW554 will be DA'd on 2/28/07. These CPs will continue to be supported by current and future software releases.

Pluggable Transmission Module Description Table

The "Name" and "Qual" are the Pluggable Transmission Module name and qualifier values reported by **RTRV-EQPT**.

Table D-2: Alcatel-Lucent 1665 DMX Pluggable Transmission Module Information (Sheet 1 of 13)

Module Code	Description	Name	Qual	Rel#	CP Use
1000BASE-ZX-I1	SFP, GbE 1550 nm SM 1000BASE-ZX (XT), industrial temperature range	OM1G	1000BASE-ZX	7.1	LNW170
				6.0	LNW63
				7.0	LNW64
				6.0	LNW70
				6.0	LNW78
				9.0	LNW87
100BASE-FX-I1	SFP, Fast Ethernet 100 Mb/s (XT). 1310nm MM, industrial temperature range	OMFE	100BASE-FX	9.0	LNW70
				9.0	LNW74
				9.0	LNW78
				9.0	LNW87
				9.0	LNW170

Table D-2: Alcatel-Lucent 1665 DMX Pluggable Transmission Module Information (Sheet 2 of 13)

Module Code	Description	Name	Qual	Rel#	CP Use
100BASE-LX-I1	SFP, Fast Ethernet 100 Mb/s (XT), industrial temperature range	OMFE	100BASE-FX-SM ^a 100BASE-LX-SM	5.1	LNW70
				5.0	LNW74
				6.0	LNW78
				9.0	LNW87
				7.1	LNW170
100BASE-ZX-I1	SFP, Fast Ethernet 100 Mb/s (XT), 1550nm SM, industrial temperature range	OMFE	100BASE-ZX	9.0	LNW74
				9.0	LNW87
				9.0	LNW170
BASE-T-C1	SFP, 10 Mb/s, 100 Mb/s and GbE Copper, commercial temperature range: Fast Ethernet 100Mbps : Gigabit Ethernet 1.25Gbits	EM1G//EM FE	1000BASE-T//100 BASE-T	7.0	LNW63
				7.0	LNW64
				6.0	LNW70
				7.0	LNW78
				9.0	LNW87
ESCON-MM-I1	SFP, ESCON 1310 nm MM, industrial temperature range	OMESCON	MMF	5.1	LNW73
				7.0	LNW73C
GE-1X2XFC-LX-C1	SFP, 1X Fibre Channel or 2X Fibre Channel or GbE (1.0625, 2.125, 1.25 Gb/sec), 10km min for all three data rates, using 9/125um SMF, 1310 nm, SM, commercial temperature range	OM1G//OM FC	1000BASE-LX//100/200-SM-LL-L-I	7.0	LNW64
				5.1	LNW70
				5.1	LNW73
				7.0	LNW73C
				6.0	LNW78
				9.0	LNW87
GE-1X2XFC-LX-I1	SFP, 1X Fibre Channel or 2X Fibre Channel or GbE (1.0625, 2.125, 1.25 Gb/sec), 10km min for all three data rates, using 9/125um SMF, 1310 nm, SM, industrial temperature range	OM1G//OM FC	1000BASE-LX//100/200-SM-LL-L-I	7.1	LNW170
				6.0	LNW63
				7.0	LNW64
				7.1.1	LNW705
				6.0	LNW70
				6.0	LNW73
				7.0	LNW73C
				6.0	LNW78
				9.0	LNW87
				7.1	LNW170

Table D-2: Alcatel-Lucent 1665 DMX Pluggable Transmission Module Information (Sheet 3 of 13)

Module Code	Description	Name	Qual	Rel#	CP Use
GE-1X2XFC-SX-C1	SFP, GbE 850 nm MM 1XFC/2XFC 1000BASE-SX, commercial temperature range	OM1G//OM FC	1000BASE-SX//100/200-M5/M6-SN-S	7.0	LNW64
				5.1	LNW70
				5.1	LNW73
				7.0	LNW73C
				6.0	LNW78
				9.0	LNW87
				7.1	LNW170
GE-1X2XFC-SX-I1	SFP, 1X Fibre Channel or 2X Fibre Channel or GbE, 550m at 1xFC and GbE and 300m at 2xFC using 50/125um MMF, 300m at 1xFC and GbE and 150m at 2xFC using 62.5/125um MMF, 850nm, MM, industrial temperature range	OM1G//OM FC	1000BASE-SX//100/200-M5/M6-SN-S	6.0	LNW63
				7.0	LNW64
				7.1.1	LNW705
				6.0	LNW70
				6.0	LNW73
				7.0	LNW73C
				6.0	LNW78
				9.0	LNW87
OC12IR1-I1	SFP, OC12 IR1, 1310nm, SM, 15 km, industrial temperature range	OM622	1.3IR1	4.0	LNW49
				7.1.1	LNW705
				7.1	LNW55
				7.1	LNW82
				9.0	LNW203
OC12LR1-I1	SFP, OC12 LR1, 1310nm, SM, 40 km, industrial temperature range	OM622	1.3LR1	4.0	LNW49
				7.1	LNW55
				7.1	LNW82
				7.1.1	LNW705
				9.0	LNW203
OC12LR2-I1	SFP, OC12 LR2, SM, 1550nm, 80 km, industrial temperature range	OM622	1.5LR2	7.0	LNW49
				7.1	LNW55
				7.1	LNW82
				7.1.1	LNW705
				9.0	LNW203

Table D-2: Alcatel-Lucent 1665 DMX Pluggable Transmission Module Information (Sheet 4 of 13)

Module Code	Description	Name	Qual	Rel#	CP Use
OC192IR2-C1	XFP, OC192 IR2, SM, 1550nm, 40 km, commercial temperature range, maximum verified rate 10.7 Gb/s	OM10G	1.5IR2(S-64.2b)	7.0	LNW59
				7.1	LNW502
				9.0	LNW603
				8.0	LNW705
				9.0	LNW504
				9.0	LNW603
OC192IR2-I1	XFP, OC192 IR2, SM, 1550nm, 40 km, industrial temperature range, maximum verified rate 10.7 Gb/s	OM10G	1.5IR2(S-64.2b)	7.0	LNW59
				8.0	LNW705
				9.0	LNW504
				9.0	LNW603
OC192LR2-C1	XFP, OC192 LR2, SM, 1550nm, 80 km, commercial temperature range, maximum verified rate 10.7 Gb/s	OM10G	1.5LR2(P1L1-2D2)	7.0	LNW59
				7.1	LNW502
				9.0	LNW603
				8.0	LNW705
				9.0	LNW504
				9.0	LNW603
OC192SR1-C1	XFP, OC192 SR1, SM, 1310, 2 km, commercial temperature range, maximum verified rate 10.7 Gb/s	OM10G	1.3SR1(I-64.1)	7.0	LNW59
				7.1	LNW502
				9.0	LNW603
				8.0	LNW705
				9.0	LNW504
				9.0	LNW603
OC3IR1-I1	SFP, OC3 IR1, SM, 1310nm, 15 km, industrial temperature range	OM155	1.3IR1	4.0	LNW37
				5.0	LNW45
				7.1.1	LNW705
				7.1	LNW55
				7.1	LNW82
OC3LR1-I1	SFP, OC3 LR1, SM, 1310nm, 40 km, industrial temperature range	OM155	1.3LR1	4.0	LNW37
				5.0	LNW45
				7.1.1	LNW705
				7.1	LNW55
				7.1	LNW82

Table D-2: Alcatel-Lucent 1665 DMX Pluggable Transmission Module Information (Sheet 5 of 13)

Module Code	Description	Name	Qual	Rel#	CP Use
OC48LR1-I1	SFP, OC48 LR1, SM, 1310nm, 40 km, industrial temperature range	OM2.5G	1.3LR1	7.1	LNW202
				7.1	LNW55
				7.1	LNW82
				7.0	LNW62
				8.0	LNW402
				7.1.1	LNW705
				9.0	LNW504
OC48LR2-I1	SFP, OC48 LR2, SM, 1550nm, 80 km, industrial temperature range	OM2.5G	1.5LR2	7.1	LNW202
				7.1	LNW55
				7.1	LNW82
				7.0	LNW62
				8.0	LNW402
				7.1.1	LNW705
				9.0	LNW504
OC48SR1-I1	SFP, OC48 SR1, SM, 1310nm, 2 km, industrial temperature range	OM2.5G	1.3SR1	7.1	LNW202
				7.1	LNW55
				7.1	LNW82
				7.0	LNW62
				8.0	LNW402
				7.1.1	LNW705
				9.0	LNW504
OC3X12X48-IR1-I1	SFP, OC3/STM1/OC12/STM4/OC48/STM16, 1310nm, 15km	OM155//OM622//2.5G	1.3IR1//1.3IR1/1.3IR1	9.0	LNW55
				9.0	LNW82
OC3X12X48-LR1-I1	SFP, OC3/STM1/OC12/STM4/OC48/STM16, 1310nm, 40km	OM155//OM622//2.5G	1.3LR1//1.3LR1/1.3LR1	9.0	LNW55
				9.0	LNW82
S155I2	SFP, OC-3 SR-1/STM-1, SM, 1310nm, 2 km, industrial temperature range	OM155	1.3SR1	7.0	LNW37
				7.0	LNW45
				7.1	LNW55
				7.1	LNW82
				7.1.1	LNW705

Table D-2: Alcatel-Lucent 1665 DMX Pluggable Transmission Module Information (Sheet 6 of 13)

Module Code	Description	Name	Qual	Rel#	CP Use
S2D23C6	SFP, OC-48 /STM-16/OTU1 DWDM, 192.3 THz, 1558.983 nm, (Data rate: up to to 2.67 Gb/s), commercial temperature range	OM2.5G	1.5LR2	7.1	LNW202
				7.1	LNW82
				8.0	LNW55
				8.0	LNW62
				8.0	LNW402
				9.0	LNW504
S2D25C6	SFP, OC-48 /STM-16/OTU1 DWDM, 192.5 THz, 1557.363 nm, (Data rate: up to to 2.67 Gb/s), commercial temperature range	OM2.5G	1.5LR2	7.1	LNW62
				7.1	LNW55
				7.1	LNW202
				7.1	LNW82
				8.0	LNW402
				9.0	LNW504
S2D27C6	SFP, OC-48 /STM-16/OTU1 DWDM, 192.7 THz, 1555.747 nm, (Data rate: up to to 2.67 Gb/s), commercial temperature range	OM2.5G	1.5LR2	7.1	LNW62
				7.1	LNW55
				7.1	LNW202
				7.1	LNW82
				8.0	LNW402
				9.0	LNW504
S2D31C6	SFP, OC-48 /STM-16/OTU1 DWDM, 193.1 THz, 1552.524 nm, (Data rate: up to to 2.67 Gb/s), commercial temperature range	OM2.5G	1.5LR2	7.1	LNW202
				7.1	LNW82
				8.0	LNW55
				8.0	LNW62
				8.0	LNW402
				9.0	LNW504
S2D33C6	SFP, OC-48 /STM-16/OTU1 DWDM, 193.3 THz, 1550.918 nm, (Data rate: up to to 2.67 Gb/s), commercial temperature range	OM2.5G	1.5LR2	7.1	LNW202
				7.1	LNW82
				8.0	LNW55
				8.0	LNW62
				8.0	LNW402
				9.0	LNW504
S2D35C6	SFP, OC-48 /STM-16/OTU1 DWDM, 193.5 THz, 1549.315 nm, (Data rate: up to to 2.67 Gb/s), commercial temperature range	OM2.5G	1.5LR2	7.1	LNW202
				7.1	LNW82
				8.0	LNW55
				8.0	LNW62
				8.0	LNW402
				9.0	LNW504

Table D-2: Alcatel-Lucent 1665 DMX Pluggable Transmission Module Information (Sheet 7 of 13)

Module Code	Description	Name	Qual	Rel#	CP Use
S2D37C6	SFP, OC-48 /STM-16/OTU1 DWDM, 193.7 THz, 1547.715 nm, (Data rate: up to to 2.67 Gb/s), commercial temperature range	OM2.5G	1.5LR2	7.1	LNW202
				7.1	LNW82
				8.0	LNW55
				8.0	LNW62
				8.0	LNW402
				9.0	LNW504
S2D45C6	SFP, OC-48 /STM-16/OTU1 DWDM, 194.5 THz, 1541.349 nm, (Data rate: up to to 2.67 Gb/s), commercial temperature range	OM2.5G	1.5LR2	7.1	LNW202
				7.1	LNW82
				8.0	LNW55
				8.0	LNW62
				8.0	LNW402
				9.0	LNW504
S2D47C6	SFP, OC-48 /STM-16/OTU1 DWDM, 194.7 THz, 1539.766 nm, (Data rate: up to to 2.67 Gb/s), commercial temperature range	OM2.5G	1.5LR2	7.1	LNW62
				7.1	LNW55
				7.1	LNW202
				7.1	LNW82
				8.0	LNW402
				9.0	LNW504
S2D49C6	SFP, OC-48 /STM-16/OTU1 DWDM, 194.9 THz, 1538.186 nm, (Data rate: up to to 2.67 Gb/s), commercial temperature range	OM2.5G	1.5LR2	7.1	LNW202
				7.1	LNW82
				8.0	LNW55
				8.0	LNW62
				8.0	LNW402
				9.0	LNW504
S2D53C6	SFP, OC-48 /STM-16/OTU1 DWDM, 195.3 THz, 1535.036 nm, (Data rate: up to to 2.67 Gb/s), commercial temperature range	OM2.5G	1.5LR2	7.1	LNW62
				7.1	LNW55
				7.1	LNW202
				7.1	LNW82
				8.0	LNW402
				9.0	LNW504
S2D55C6	SFP, OC-48 /STM-16/OTU1 DWDM, 195.5 THz, 1533.465 nm, (Data rate: up to to 2.67 Gb/s), commercial temperature range	OM2.5G	1.5LR2	7.1	LNW62
				7.1	LNW55
				7.1	LNW202
				7.1	LNW82
				8.0	LNW402
				9.0	LNW504

Table D-2: Alcatel-Lucent 1665 DMX Pluggable Transmission Module Information (Sheet 8 of 13)

Module Code	Description	Name	Qual	Rel#	CP Use
S2D59C6	SFP, OC-48 /STM-16/OTU1 DWDM, 195.9 THz, 1530.334 nm, (Data rate: up to 2.67 Gb/s), commercial temperature range	OM2.5G	1.5LR2	7.1	LNW62
				7.1	LNW55
				7.1	LNW202
				7.1	LNW82
				8.0	LNW402
				9.0	LNW504
S2G7C47LI	SFP, OC3/STM1/OC12/STM4/OC 48/STM16 CWDM 1471 nm, -40 to +85	OM155//O M622//OM 2.5G	SFL-1.2//SFL-4.2// SFL-16.2	9.0	LNW55
				9.0	LNW62
				9.0	LNW82
				9.0	LNW202
				9.0	LNW402
				9.0	LNW504
S2G7C49LI	SFP, OC3/STM1/OC12/STM4/OC 48/STM16 CWDM 1491 nm, -40 to +85	OM155//O M622//OM 2.5G	SFL-1.2//SFL-4.2// SFL-16.2	9.0	LNW55
				9.0	LNW62
				9.0	LNW82
				9.0	LNW202
				9.0	LNW402
				9.0	LNW504
S2G7C51LI	SFP, OC3/STM1/OC12/STM4/OC 48/STM16 CWDM 1511 nm, -40 to +85	OM155//O M622//OM 2.5G	SFL-1.2//SFL-4.2// SFL-16.2	9.0	LNW55
				9.0	LNW62
				9.0	LNW82
				9.0	LNW202
				9.0	LNW402
				9.0	LNW504
S2G7C53LI	SFP, OC3/STM1/OC12/STM4/OC 48/STM16 CWDM 1531 nm, -40 to +85	OM155//O M622//OM 2.5G	SFL-1.2//SFL-4.2// SFL-16.2	9.0	LNW55
				9.0	LNW62
				9.0	LNW82
				9.0	LNW202
				9.0	LNW402
				9.0	LNW504
S2G7C55LI	SFP, OC3/STM1/OC12/STM4/OC 48/STM16 CWDM 1551 nm, -40 to +85	OM155//O M622//OM 2.5G	SFL-1.2//SFL-4.2// SFL-16.2	9.0	LNW55
				9.0	LNW62
				9.0	LNW82
				9.0	LNW202
				9.0	LNW402
				9.0	LNW504

Table D-2: Alcatel-Lucent 1665 DMX Pluggable Transmission Module Information (Sheet 9 of 13)

Module Code	Description	Name	Qual	Rel#	CP Use
S2G7C57LI	SFP, OC3/STM1/OC12/STM4/OC 48/STM16 CWDM 1571 nm, -40 to +85	OM155//O M622//OM 2.5G	SFL-1.2//SFL-4.2// SFL-16.2	9.0	LNW55
				9.0	LNW62
				9.0	LNW82
				9.0	LNW202
				9.0	LNW402
				9.0	LNW504
S2G7C59LI	SFP, OC3/STM1/OC12/STM4/OC 48/STM16 CWDM 1591 nm, -40 to +85	OM155//O M622//OM 2.5G	SFL-1.2//SFL-4.2// SFL-16.2	9.0	LNW55
				9.0	LNW62
				9.0	LNW82
				9.0	LNW202
				9.0	LNW402
				9.0	LNW504
S2G7C61LI	SFP, OC3/STM1/OC12/STM4/OC 48/STM16 CWDM 1611 nm, -40 to +85	OM155//O M622//OM 2.5G	SFL-1.2//SFL-4.2// SFL-16.2	9.0	LNW55
				9.0	LNW62
				9.0	LNW82
				9.0	LNW202
				9.0	LNW402
				9.0	LNW504
S622C47EL	SFP, OC-3/STM-1/OC-12/STM-4 SFP CWDM, 1471 nm, -5 to +85	OM/155//O M622	CWDM-LR	8.0	LNW37
				8.0	LNW45
				8.0	LNW49
				8.0	LNW55
				8.0	LNW82
				8.0	LNW705
S622C49EL	SFP, OC-3/STM-1/OC-12/STM-4 SFP CWDM, 1491 nm, -5 to +85	OM/155//O M622	CWDM-LR	8.0	LNW37
				8.0	LNW45
				8.0	LNW49
				8.0	LNW55
				8.0	LNW82
				8.0	LNW705
S622C51EL	SFP, OC-3/STM-1/OC-12/STM-4 SFP CWDM, 1511 nm, -5 to +85	OM/155//O M622	CWDM-LR	8.0	LNW37
				8.0	LNW45
				8.0	LNW49
				8.0	LNW55
				8.0	LNW82
				8.0	LNW705

Table D-2: Alcatel-Lucent 1665 DMX Pluggable Transmission Module Information (Sheet 10 of 13)

Module Code	Description	Name	Qual	Rel#	CP Use
S622C53EL	SFP, OC-3/STM-1/OC-12/STM-4 SFP CWDM, 1531 nm, -5 to +85	OM/155//O M622	CWDM-LR	8.0	LNW37
				8.0	LNW45
				8.0	LNW49
				8.0	LNW55
				8.0	LNW82
				8.0	LNW705
S622C55EL	SFP, OC-3/STM-1/OC-12/STM-4 SFP CWDM, 1551 nm, -5 to +85	OM/155//O M622	CWDM-LR	8.0	LNW37
				8.0	LNW45
				8.0	LNW49
				8.0	LNW55
				8.0	LNW82
				8.0	LNW705
S622C57EL	SFP, OC-3/STM-1/OC-12/STM-4 SFP CWDM, 1571 nm, -5 to +85	OM/155//O M622	CWDM-LR	8.0	LNW37
				8.0	LNW45
				8.0	LNW49
				8.0	LNW55
				8.0	LNW82
				8.0	LNW705
S622C59EL	SFP, OC-3/STM-1/OC-12/STM-4 SFP CWDM, 1591 nm, -5 to +85	OM/155//O M622	CWDM-LR	8.0	LNW37
				8.0	LNW45
				8.0	LNW49
				8.0	LNW55
				8.0	LNW82
				8.0	LNW705
S622C61EL	SFP, OC-3/STM-1/OC-12/STM-4 SFP CWDM, 1611 nm, -5 to +85	OM/155//O M622	CWDM-LR	8.0	LNW37
				8.0	LNW45
				8.0	LNW49
				8.0	LNW55
				8.0	LNW82
				8.0	LNW705
X10G21C5	XFP, OC-192/STM-64/OTU2 DWDM, 192.1 THz, 1560.606 nm, commercial temperature range, maxi- mum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2Ax(C(F)))	7.1.1	LNW59
				7.1.1	LNW502
				9.0	LNW603
				9.0	LNW705

Table D-2: Alcatel-Lucent 1665 DMX Pluggable Transmission Module Information (Sheet 11 of 13)

Module Code	Description	Name	Qual	Rel#	CP Use
X10G22C5	XFP, OC-192/STM-64/OTU2 DWDM, 192.2 THz, 1559.794 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	7.1.1	LNW59
				7.1.1	LNW502
				9.0	LNW603
				9.0	LNW705
X10G23C5	XFP, OC-192/STM-64/OTU2 DWDM, 192.3 THz, 1558.983 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	7.1.1	LNW59
				7.1.1	LNW502
				9.0	LNW603
				9.0	LNW705
X10G24C5	XFP, OC-192/STM-64/OTU2 DWDM, 192.4 THz, 1558.173 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	7.1.1	LNW59
				7.1.1	LNW502
				9.0	LNW603
				9.0	LNW705
X10G25C5	XFP, OC-192/STM-64/OTU2 DWDM, 192.5 THz, 1557.363 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	7.1.1	LNW59
				7.1.1	LNW502
				9.0	LNW603
				9.0	LNW705
X10G26C5	XFP, OC-192/STM-64/OTU2 DWDM, 192.6 THz, 1556.555 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	7.1.1	LNW59
				7.1.1	LNW502
				9.0	LNW603
				9.0	LNW705
X10G27C5	XFP, OC-192/STM-64/OTU2 DWDM, 192.7 THz, 1555.747 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	7.1.1	LNW59
				7.1.1	LNW502
				9.0	LNW603
				9.0	LNW705
X10G28C5	XFP, OC-192/STM-64/OTU2 DWDM, 192.8 THz, 1554.940 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	7.1.1	LNW59
				7.1.1	LNW502
				9.0	LNW603
				9.0	LNW705

Table D-2: Alcatel-Lucent 1665 DMX Pluggable Transmission Module Information (Sheet 12 of 13)

Module Code	Description	Name	Qual	Rel#	CP Use
X10G31C5	XFP, OC-192/STM-64/OTU2 DWDM, 193.1 THz, 1552.524 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	9.0	LNW59
				9.0	LNW502
				9.0	LNW504
				9.0	LNW603
				9.0	LNW705
X10G33C5	XFP, OC-192/STM-64/OTU2 DWDM, 193.3 THz, 1550.918 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	9.0	LNW59
				9.0	LNW502
				9.0	LNW504
				9.0	LNW603
				9.0	LNW705
X10G35C5	XFP, OC-192/STM-64/OTU2 DWDM, 193.5 THz, 1549.315 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	9.0	LNW59
				9.0	LNW502
				9.0	LNW504
				9.0	LNW603
				9.0	LNW705
X10G37C5	XFP, OC-192/STM-64/OTU2 DWDM, 193.7 THz, 1547.715 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	9.0	LNW59
				9.0	LNW502
				9.0	LNW504
				9.0	LNW603
				9.0	LNW705
X10G45C5	XFP, OC-192/STM-64/OTU2 DWDM, 194.5 THz, 1541.349 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	9.0	LNW59
				9.0	LNW502
				9.0	LNW504
				9.0	LNW603
				9.0	LNW705
X10G47C5	XFP, OC-192/STM-64/OTU2 DWDM, 194.7 THz, 1539.766 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	9.0	LNW59
				9.0	LNW502
				9.0	LNW504
				9.0	LNW603
				9.0	LNW705
X10G49C5	XFP, OC-192/STM-64/OTU2 DWDM, 194.9 THz, 1538.186 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	9.0	LNW59
				9.0	LNW502
				9.0	LNW504
				9.0	LNW603
				9.0	LNW705

Table D-2: Alcatel-Lucent 1665 DMX Pluggable Transmission Module Information (Sheet 13 of 13)

Module Code	Description	Name	Qual	Rel#	CP Use
X10G52C5	XFP, OC-192/STM-64/OTU2 DWDM, 195.2 THz, 1535.822 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	7.1.1	LNW59
				7.1.1	LNW502
				9.0	LNW603
				7.1.1	LNW705
X10G53C5	XFP, OC-192/STM-64/OTU2 DWDM, 195.3 THz, 1535.036 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	7.1.1	LNW59
				7.1.1	LNW502
				9.0	LNW603
				7.1.1	LNW705
X10G54C5	XFP, OC-192/STM-64/OTU2 DWDM, 195.4 THz, 1534.250 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	7.1.1	LNW59
				7.1.1	LNW502
				9.0	LNW603
				7.1.1	LNW705
X10G55C5	XFP, OC-192/STM-64/OTU2 DWDM, 195.5 THz, 1533.465 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	7.1.1	LNW59
				7.1.1	LNW502
				9.0	LNW603
				7.1.1	LNW705
X10G56C5	XFP, OC-192/STM-64/OTU2 DWDM, 195.6 THz, 1532.681 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	9.0	LNW59
				9.0	LNW502
				9.0	LNW603
				7.1.1	LNW705
X10G57C5	XFP, OC-192/STM-64/OTU2 DWDM, 195.7 THz, 1531.898 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	9.0	LNW59
				9.0	LNW502
				9.0	LNW603
				7.1.1	LNW705
X10G58C5	XFP, OC-192/STM-64/OTU2 DWDM, 195.8 THz, 1531.116 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	9.0	LNW59
				9.0	LNW502
				9.0	LNW603
				7.1.1	LNW705
X10G59C5	XFP, OC-192/STM-64/OTU2 DWDM, 195.9 THz, 1530.334 nm, commercial temperature range, maximum expected rate 11.1 Gb/s	OM10G	DWDM-LR(DW100 U-2AxC(F))	9.0	LNW59
				9.0	LNW502
				9.0	LNW603
				7.1.1	LNW705

- a The qual value for 100BASE-LX-I1 was incorrectly coded as 100BASE-FX-SM in DMX R5.0/Xtend R3.0. It is corrected as 100BASE-LX-SM in DMX R5.1 and Xtend R3.1.

Appendix E

E

Overview

This appendix provides a detailed listing of supported cross-connections. Notes for all tables begin on page E-34.

Cross-connections Supported Beginning in Release 6.0

This section lists cross-connections supported beginning in Release 6.0.

Table E-1: OC-N VLF Main & OC-192 Main Add/Drop to Ethernet/Data/Electrical

[illegible]

Table E-2: OC-N VLF Main & OC-192 Main Add/Drop to OCn

[illegible]

Table E-3: OC-N VLF Main & OC-192 Main to Main

LOTS	S601 Interface Type and Config.	Interface Type & Configuration ↓ New Release → Connect New code Type' & Rate ↓	OC-12	OC-48	OC-48	OC-48	OC-48	Main	OC-192	OC-192	OC-312	OC-312	OC-312	OC-312	OC-48/192	MAIN	
			UPSR	UPSR	UPSR	BLSR (N)	BLSR (N)	BLSR (N)	UPSR	BLSR (N)	BLSR (N)	48/192 VLF	48/192 VLF	48/192 VLF	48/192 VLF	BLSR (N)	SWITCH
			1+1		1+1					1+1		0x1	1+1	1+1		R7.1	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW59 LNW60 LNW52 LNW53 LNW57 LNW523 LNW527	LNW80 LNW59 LNW52 LNW53 LNW57 LNW523 LNW527	
			LNW48 R3.1 LNW54	LNW26B LNW28 LNW77 LNW121B: 19B8	LNW27 LNW29 LNW76 LNW221: 259 R2.0 LNW54	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LNW555 R2.1	LNW56 LNW58 R2.1 LN								

Table E-4: OC-48/OC-12 Main Add/Drop to Ethernet/Data/Electrical

[illegible]

Table E-5: OC-48/OC-12 Main Add/Drop to OC-n

[illegible]

Table E-6: OC-48/OC-12 Main to Main

SBL	Interface Type and Config.	Main																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
		OC-12 UPSR	OC-12 1+1	OC-48 UPSR	OC-48 1+1	OC-48 BLSR (N)	OC-48 BLSR (N)	OC-192 UPSR	OC-192 1+1	OC-192 BLSR (N)	OC-312/48/192 VLF UPSR	OC-312/48/192 VLF 1+1	OC-48/192 VLF BLSR (N)	MAN SWITCH																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
LOS	Interface Type & Configuration ↓ Cross-App. code Type® & Rate ↓	NW Release & Connect	NW48 R3.1	NW28 R3.1	NW121B R4.0	NW202 R7.1	NW26B R2.0	NW27 R2.1	NW28 R2.1	NW29 R2.1	NW56 R2.1	NW57 R2.1	NW58 R2.1	NW59 R2.1	NW60 R2.1	NW61 R2.1	NW62 R2.1	NW63 R2.1	NW64 R2.1	NW65 R2.1	NW66 R2.1	NW67 R2.1	NW68 R2.1	NW69 R2.1	NW70 R2.1	NW71 R2.1	NW72 R2.1	NW73 R2.1	NW74 R2.1	NW75 R2.1	NW76 R2.1	NW77 R2.1	NW78 R2.1	NW79 R2.1	NW80 R2.1	NW81 R2.1	NW82 R2.1	NW83 R2.1	NW84 R2.1	NW85 R2.1	NW86 R2.1	NW87 R2.1	NW88 R2.1	NW89 R2.1	NW90 R2.1	NW91 R2.1	NW92 R2.1	NW93 R2.1	NW94 R2.1	NW95 R2.1	NW96 R2.1	NW97 R2.1	NW98 R2.1	NW99 R2.1	NW100 R2.1	NW101 R2.1	NW102 R2.1	NW103 R2.1	NW104 R2.1	NW105 R2.1	NW106 R2.1	NW107 R2.1	NW108 R2.1	NW109 R2.1	NW110 R2.1	NW111 R2.1	NW112 R2.1	NW113 R2.1	NW114 R2.1	NW115 R2.1	NW116 R2.1	NW117 R2.1	NW118 R2.1	NW119 R2.1	NW120 R2.1	NW121 R2.1	NW122 R2.1	NW123 R2.1	NW124 R2.1	NW125 R2.1	NW126 R2.1	NW127 R2.1	NW128 R2.1	NW129 R2.1	NW130 R2.1	NW131 R2.1	NW132 R2.1	NW133 R2.1	NW134 R2.1	NW135 R2.1	NW136 R2.1	NW137 R2.1	NW138 R2.1	NW139 R2.1	NW140 R2.1	NW141 R2.1	NW142 R2.1	NW143 R2.1	NW144 R2.1	NW145 R2.1	NW146 R2.1	NW147 R2.1	NW148 R2.1	NW149 R2.1	NW150 R2.1	NW151 R2.1	NW152 R2.1	NW153 R2.1	NW154 R2.1	NW155 R2.1	NW156 R2.1	NW157 R2.1	NW158 R2.1	NW159 R2.1	NW160 R2.1	NW161 R2.1	NW162 R2.1	NW163 R2.1	NW164 R2.1	NW165 R2.1	NW166 R2.1	NW167 R2.1	NW168 R2.1	NW169 R2.1	NW170 R2.1	NW171 R2.1	NW172 R2.1	NW173 R2.1	NW174 R2.1	NW175 R2.1	NW176 R2.1	NW177 R2.1	NW178 R2.1	NW179 R2.1	NW180 R2.1	NW181 R2.1	NW182 R2.1	NW183 R2.1	NW184 R2.1	NW185 R2.1	NW186 R2.1	NW187 R2.1	NW188 R2.1	NW189 R2.1	NW190 R2.1	NW191 R2.1	NW192 R2.1	NW193 R2.1	NW194 R2.1	NW195 R2.1	NW196 R2.1	NW197 R2.1	NW198 R2.1	NW199 R2.1	NW200 R2.1	NW201 R2.1	NW202 R2.1	NW203 R2.1	NW204 R2.1	NW205 R2.1	NW206 R2.1	NW207 R2.1	NW208 R2.1	NW209 R2.1	NW210 R2.1	NW211 R2.1	NW212 R2.1	NW213 R2.1	NW214 R2.1	NW215 R2.1	NW216 R2.1	NW217 R2.1	NW218 R2.1	NW219 R2.1	NW220 R2.1	NW221 R2.1	NW222 R2.1	NW223 R2.1	NW224 R2.1	NW225 R2.1	NW226 R2.1	NW227 R2.1	NW228 R2.1	NW229 R2.1	NW230 R2.1	NW231 R2.1	NW232 R2.1	NW233 R2.1	NW234 R2.1	NW235 R2.1	NW236 R2.1	NW237 R2.1	NW238 R2.1	NW239 R2.1	NW240 R2.1	NW241 R2.1	NW242 R2.1	NW243 R2.1	NW244 R2.1	NW245 R2.1	NW246 R2.1	NW247 R2.1	NW248 R2.1	NW249 R2.1	NW250 R2.1	NW251 R2.1	NW252 R2.1	NW253 R2.1	NW254 R2.1	NW255 R2.1	NW256 R2.1	NW257 R2.1	NW258 R2.1	NW259 R2.1	NW260 R2.1	NW261 R2.1	NW262 R2.1	NW263 R2.1	NW264 R2.1	NW265 R2.1	NW266 R2.1	NW267 R2.1	NW268 R2.1	NW269 R2.1	NW270 R2.1	NW271 R2.1	NW272 R2.1	NW273 R2.1	NW274 R2.1	NW275 R2.1	NW276 R2.1	NW277 R2.1	NW278 R2.1	NW279 R2.1	NW280 R2.1	NW281 R2.1	NW282 R2.1	NW283 R2.1	NW284 R2.1	NW285 R2.1	NW286 R2.1	NW287 R2.1	NW288 R2.1	NW289 R2.1	NW290 R2.1	NW291 R2.1	NW292 R2.1	NW293 R2.1	NW294 R2.1	NW295 R2.1	NW296 R2.1	NW297 R2.1	NW298 R2.1	NW299 R2.1	NW300 R2.1	NW301 R2.1	NW302 R2.1	NW303 R2.1	NW304 R2.1	NW305 R2.1	NW306 R2.1	NW307 R2.1	NW308 R2.1	NW309 R2.1	NW310 R2.1	NW311 R2.1	NW312 R2.1	NW313 R2.1	NW314 R2.1	NW315 R2.1	NW316 R2.1	NW317 R2.1	NW318 R2.1	NW319 R2.1	NW320 R2.1	NW321 R2.1	NW322 R2.1	NW323 R2.1	NW324 R2.1	NW325 R2.1	NW326 R2.1	NW327 R2.1	NW328 R2.1	NW329 R2.1	NW330 R2.1	NW331 R2.1	NW332 R2.1	NW333 R2.1	NW334 R2.1	NW335 R2.1	NW336 R2.1	NW337 R2.1	NW338 R2.1	NW339 R2.1	NW340 R2.1	NW341 R2.1	NW342 R2.1	NW343 R2.1	NW344 R2.1	NW345 R2.1	NW346 R2.1	NW347 R2.1	NW348 R2.1	NW349 R2.1	NW350 R2.1	NW351 R2.1	NW352 R2.1	NW353 R2.1	NW354 R2.1	NW355 R2.1	NW356 R2.1	NW357 R2.1	NW358 R2.1	NW359 R2.1	NW360 R2.1	NW361 R2.1	NW362 R2.1	NW363 R2.1	NW364 R2.1	NW365 R2.1	NW366 R2.1	NW367 R2.1	NW368 R2.1	NW369 R2.1	NW370 R2.1	NW371 R2.1	NW372 R2.1	NW373 R2.1	NW374 R2.1	NW375 R2.1	NW376 R2.1	NW377 R2.1	NW378 R2.1	NW379 R2.1	NW380 R2.1	NW381 R2.1	NW382 R2.1	NW383 R2.1	NW384 R2.1	NW385 R2.1	NW386 R2.1	NW387 R2.1	NW388 R2.1	NW389 R2.1	NW390 R2.1	NW391 R2.1	NW392 R2.1	NW393 R2.1	NW394 R2.1	NW395 R2.1	NW396 R2.1	NW397 R2.1	NW398 R2.1	NW399 R2.1	NW400 R2.1	NW401 R2.1	NW402 R2.1	NW403 R2.1	NW404 R2.1	NW405 R2.1	NW406 R2.1	NW407 R2.1	NW408 R2.1	NW409 R2.1	NW410 R2.1	NW411 R2.1	NW412 R2.1	NW413 R2.1	NW414 R2.1	NW415 R2.1	NW416 R2.1	NW417 R2.1	NW418 R2.1	NW419 R2.1	NW420 R2.1	NW421 R2.1	NW422 R2.1	NW423 R2.1	NW424 R2.1	NW425 R2.1	NW426 R2.1	NW427 R2.1	NW428 R2.1	NW429 R2.1	NW430 R2.1	NW431 R2.1	NW432 R2.1	NW433 R2.1	NW434 R2.1	NW435 R2.1	NW436 R2.1	NW437 R2.1	NW438 R2.1	NW439 R2.1	NW440 R2.1	NW441 R2.1	NW442 R2.1	NW443 R2.1	NW444 R2.1	NW445 R2.1	NW446 R2.1	NW447 R2.1	NW448 R2.1	NW449 R2.1	NW450 R2.1	NW451 R2.1	NW452 R2.1	NW453 R2.1	NW454 R2.1	NW455 R2.1	NW456 R2.1	NW457 R2.1	NW458 R2.1	NW459 R2.1	NW460 R2.1	NW461 R2.1	NW462 R2.1	NW463 R2.1	NW464 R2.1	NW465 R2.1	NW466 R2.1	NW467 R2.1	NW468 R2.1	NW469 R2.1	NW470 R2.1	NW471 R2.1	NW472 R2.1	NW473 R2.1	NW474 R2.1	NW475 R2.1	NW476 R2.1	NW477 R2.1	NW478 R2.1	NW479 R2.1	NW480 R2.1	NW481 R2.1	NW482 R2.1	NW483 R2.1	NW484 R2.1	NW485 R2.1	NW486 R2.1	NW487 R2.1	NW488 R2.1	NW489 R2.1	NW490 R2.1	NW491 R2.1	NW492 R2.1	NW493 R2.1	NW494 R2.1	NW495 R2.1	NW496 R2.1	NW497 R2.1	NW498 R2.1	NW499 R2.1	NW500 R2.1	NW501 R2.1	NW502 R2.1	NW503 R2.1	NW504 R2.1	NW505 R2.1	NW506 R2.1	NW507 R2.1	NW508 R2.1	NW509 R2.1	NW510 R2.1	NW511 R2.1	NW512 R2.1	NW513 R2.1	NW514 R2.1	NW515 R2.1	NW516 R2.1	NW517 R2.1	NW518 R2.1	NW519 R2.1	NW520 R2.1	NW521 R2.1	NW522 R2.1	NW523 R2.1	NW524 R2.1	NW525 R2.1	NW526 R2.1	NW527 R2.1	NW528 R2.1	NW529 R2.1	NW530 R2.1	NW531 R2.1	NW532 R2.1	NW533 R2.1	NW534 R2.1	NW535 R2.1	NW536 R2.1	NW537 R2.1	NW538 R2.1	NW539 R2.1	NW540 R2.1	NW541 R2.1	NW542 R2.1	NW543 R2.1	NW544 R2.1	NW545 R2.1	NW546 R2.1	NW547 R2.1	NW548 R2.1	NW549 R2.1	NW550 R2.1	NW551 R2.1	NW552 R2.1	NW553 R2.1	NW554 R2.1	NW555 R2.1	NW556 R2.1	NW557 R2.1	NW558 R2.1	NW559 R2.1	NW560 R2.1	NW561 R2.1	NW562 R2.1	NW563 R2.1	NW564 R2.1	NW565 R2.1	NW566 R2.1	NW567 R2.1	NW568 R2.1	NW569 R2.1	NW570 R2.1	NW571 R2.1	NW572 R2.1	NW573 R2.1	NW574 R2.1	NW575 R2.1	NW576 R2.1	NW577 R2.1	NW578 R2.1	NW579 R2.1	NW580 R2.1	NW581 R2.1	NW582 R2.1	NW583 R2.1	NW584 R2.1	NW585 R2.1	NW586 R2.1	NW587 R2.1	NW588 R2.1	NW589 R2.1	NW590 R2.1	NW591 R2.1	NW592 R2.1	NW593 R2.1	NW594 R2.1	NW595 R2.1	NW596 R2.1	NW597 R2.1	NW598 R2.1	NW599 R2.1	NW600 R2.1	NW601 R2.1	NW602 R2.1	NW603 R2.1	NW604 R2.1	NW605 R2.1	NW606 R2.1	NW607 R2.1	NW608 R2.1	NW609 R2.1	NW610 R2.1	NW611 R2.1	NW612 R2.1	NW613 R2.1	NW614 R2.1	NW615 R2.1	NW616 R2.1	NW617 R2.1	NW618 R2.1	NW619 R2.1	NW620 R2.1	NW621 R2.1	NW622 R2.1	NW623 R2.1	NW624 R2.1	NW625 R2.1	NW626 R2.1	NW627 R2.1	NW628 R2.1	NW629 R2.1	NW630 R2.1	NW631 R2.1	NW632 R2.1	NW633 R2.1	NW634 R2.1	NW635 R2.1	NW636 R2.1	NW637 R2.1	NW638 R2.1	NW639 R2.1	NW640 R2.1	NW641 R2.1	NW642 R2.1	NW643 R2.1	NW644 R2.1	NW645 R2.1	NW646 R2.1	NW647 R2.1	NW648 R2.1	NW649 R2.1	NW650 R2.1	NW651 R2.1	NW652 R2.1	NW653 R2.1	NW654 R2.1	NW655 R2.1	NW656 R2.1	NW657 R2.1	NW658 R2.1	NW659 R2.1	NW660 R2.1	NW661 R2.1	NW662 R2.1	NW663 R2.1	NW664 R2.1	NW665 R2.1	NW666 R2.1	NW667 R2.1	NW668 R2.1	NW669 R2.1	NW670 R2.1	NW671 R2.1	NW672 R2.1	NW673 R2.1	NW674 R2.1	NW675 R2.1	NW676 R2.1	NW677 R2.1	NW678 R2.1	NW679 R2.1	NW680 R2.1	NW681 R2.1	NW682 R2.1	NW683 R2.1	NW684 R2.1	NW685 R2.1	NW686 R2.1

Table E-7: OC-192 Hairpins to Ethernet/Data/Electrical

LOS	Interface Type & Configuration ↓	Sb1 Interface Type and Config. ↓ H/W Release -> Connect Type* & Rate ↓	A-D Sigs				A-G Sigs				FIBRE CHAN	100-TFX (FE-EPL)				
			E1	DS1	DS3	THUX (T)	THUX	EC-1	100-TX	100-EPL			1000-X /100-X	1000-X /100-FX /100-FX	1000-SX/LX	
A-G	OC-192 0x1 LNW603	1way STSn	9.0(q)	-	9.0	9.0	9.0	9.0	9.0	9.0(k)	9.0(A)	9.0(J)	9.0	9.0(A)	9.0(B)	
		1way VT1	-	-	9.0	-	-	-	-	-	-	-	-	-	9.0	
		1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-	-	
		1waypr VT1	-	-	-	-	-	-	-	-	-	-	-	-	-	
		1way STSn	9.0(q)	-	9.0	9.0	9.0	9.0	9.0	9.0(k)	9.0(A)	9.0(J)	9.0	9.0(A)	9.0(B)	
		1way VT1	-	-	9.0	-	-	-	-	-	-	-	-	-	9.0	
		1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-	-	
		1waypr VT1	-	-	-	-	-	-	-	-	-	-	-	-	-	
		1way STSn	9.0(q)	-	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0(A)	9.0(J)	9.0	9.0(A)	9.0(B)
		1way VT1	-	-	9.0	-	-	-	-	-	-	-	-	-	-	9.0
A-G	OC-192 UPSR LNW603	1way STSn	9.0(q)	-	9.0	9.0	9.0	9.0	9.0	9.0(k)	9.0(A)	9.0(J)	9.0	9.0(A)	9.0(B)	
		1way VT1	-	-	9.0	-	-	-	-	-	-	-	-	-	-	9.0
		1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1waypr VT1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1way STSn	9.0(q)	-	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0(A)	9.0(J)	9.0	9.0(A)	9.0(B)
		1way VT1	-	-	9.0	-	-	-	-	-	-	-	-	-	-	9.0
		1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1waypr VT1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1way STSn	9.0(q)	-	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0(A)	9.0(J)	9.0	9.0(A)	9.0(B)
		1way VT1	-	-	9.0	-	-	-	-	-	-	-	-	-	-	9.0
A-G	OC-192 BLSR (N) LNW603	1way STSn	9.0(q)	-	9.0	9.0	9.0	9.0	9.0	9.0(k)	9.0(A)	9.0(J)	9.0	9.0(A)	9.0(B)	
		1way VT1	-	-	9.0	-	-	-	-	-	-	-	-	-	-	9.0
		1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1waypr VT1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1way STSn	9.0(q)	-	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0(A)	9.0(J)	9.0	9.0(A)	9.0(B)
		1way VT1	-	-	9.0	-	-	-	-	-	-	-	-	-	-	9.0
		1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1waypr VT1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		1way STSn	9.0(q)	-	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0(A)	9.0(J)	9.0	9.0(A)	9.0(B)
		1way VT1	-	-	9.0	-	-	-	-	-	-	-	-	-	-	9.0

Table E-8: OC-192 Hairpins to OC-n

[illegible]

Table E-9: OC-48 Hairpins to Ethernet/Data/Electrical

SLOT	Sb1	Interface Type and Config.	A-D Slots					E-G Slots					100-TFX (FE-EPL)		
			E1	DS1	DS1	DS3	THUX (T)	THUX	EC-1	100-TX	100-EPL	1000-X		1000-X /100-X	1000-X /100-FX /100-FX
A-G	OC-48 0x1	Interface Type & Configuration ↓ HW Release > Cross-App code Connect Type & Rate ↓	LNW8 R3.1 LNW801 R8.0	LNW6/7 R1.0	LNW8 R3.1 LNW801 R8.0	LNW16 R1.0 LNW19 LNW19B R5.0 LNW19B	LNW18 R3.0 LNW20 R7.0	LNW20 R7.0	LNW66 R1.1	LNW71 R3.1	LNW63 R6.0 LNW64(V) R7.0	LNW70 R5.1 LNW70 R7.1	LNW6768 R1.1	LNW73 R5.1 LNW73C 6.0	
			7.0(q)	-	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0(A)	7.0(J)	7.0	7.0(A)
			1way STSn	-	7.0	-	7.0	7.0	-	-	-	-	-	-	-
			1way VT1	-	7.0	-	7.0	7.0	-	-	-	-	-	-	-
			1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-
			1waypr VT1	-	-	-	-	-	-	-	-	-	-	-	-
			1way STSn	7.0(q)	7.0	7.0	7.0	7.0	7.0	7.0	7.0(K)	7.0(A)	7.0(J)	7.0	7.0(A)
			1way VT1	-	7.0	-	7.0	7.0	-	-	-	-	-	-	7.0
			1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-
			1waypr VT1	-	-	-	-	-	-	-	-	-	-	-	-
A-G	OC-48 1+1	Interface Type & Configuration ↓ HW Release > Cross-App code Connect Type & Rate ↓	LNW8 R3.1 LNW801 R8.0	LNW6/7 R1.0	LNW8 R3.1 LNW801 R8.0	LNW16 R1.0 LNW19 LNW19B R5.0 LNW19B	LNW18 R3.0 LNW20 R7.0	LNW20 R7.0	LNW66 R1.1	LNW71 R3.1	LNW63 R6.0 LNW64(V) R7.0	LNW70 R5.1 LNW70 R7.1	LNW6768 R1.1	LNW73 R5.1 LNW73C 6.0	
			7.0(q)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0(K)	6.0(A)	6.0(J)	6.0	6.0(B)
			1way STSn	-	6.0	-	6.0	6.0	-	-	-	-	-	-	-
			1way VT1	-	6.0	-	6.0	6.0	-	-	-	-	-	-	6.0
			1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-
			1waypr VT1	-	-	-	-	-	-	-	-	-	-	-	-
			1way STSn	7.0(V)R6.0(q)	6.0(V)	6.0(V)	6.0(V)	7.0(V)R6.0	7.0(V)R6.0	7.0(V)R6.0	7.0(V)R6.0	7.0(V)R6.0	7.0(V)R6.0	7.0(V)R6.0	7.0(V)R6.0
			1way VT1	-	6.0(V)	6.0(V)	-	7.0(V)R6.0	7.0(V)R6.0	-	-	-	-	-	7.0(V)R6.0
			1way unswitched STSn	-	-	-	-	-	-	6.0	6.0(K)	6.0(A)	6.0(J)	6.0	-
			1way unswitched VT1	-	-	-	-	-	-	-	-	9.0(A)	7.0(J)R 7.0(J)R	-	-
A-G	OC-48 BLSR (N)	Interface Type & Configuration ↓ HW Release > Cross-App code Connect Type & Rate ↓	LNW8 R3.1 LNW801 R8.0	LNW6/7 R1.0	LNW8 R3.1 LNW801 R8.0	LNW16 R1.0 LNW19 LNW19B R5.0 LNW19B	LNW18 R3.0 LNW20 R7.0	LNW20 R7.0	LNW66 R1.1	LNW71 R3.1	LNW63 R6.0 LNW64(V) R7.0	LNW70 R5.1 LNW70 R7.1	LNW6768 R1.1	LNW73 R5.1 LNW73C 6.0	
			7.0(q)	-	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0(A)	7.0(J)	7.0	7.0(A)
			1way STSn	-	7.0	-	7.0	7.0	-	-	-	-	-	-	-
			1way VT1	-	7.0	-	7.0	7.0	-	-	-	-	-	-	-
			1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-
			1waypr VT1	-	-	-	-	-	-	-	-	-	-	-	-
			1way STSn	6.0(q)	6.0	6.0	6.0	6.0	6.0	6.0	6.0(K)	6.0(A)	6.0(J)	6.0	6.0(B)
			1way VT1	-	6.0	-	6.0	6.0	-	-	-	-	-	-	6.0
			1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-
			1waypr VT1	-	-	-	-	-	-	-	-	-	-	-	-

Table E-10: OC-48 Hairpins to OC-n

101S	Interface Type & Configuration ↓	Sbit Interface Type and Config. ↓ HW Release1→ Cross- Connect Type* & Rate ↓	A-G Sbits													
			OC-312 UPSR	OC-312 1+1	OC-312 0x1Sn	OC-312 0x1 (V)	OC-48 BLSR(N)	OC-48 UPSR	OC-48 1+1	OC-48 0x1Sn	OC-48 0x1 (V)	OC-192 BLSR(N)	OC-192 UPSR	OC-192 1+1	OC-192 0x1	
			LNNW36 LNNW46 R1.1 LNNW37 LNNW47 R1.1 LNNW38 LNNW48 R1.1 LNNW39 LNNW49 R1.1 LNNW40 LNNW50 R1.1 LNNW41 LNNW51 R1.1 LNNW42 LNNW52 R1.1 LNNW43 LNNW53 R1.1 LNNW44 LNNW54 R1.1 LNNW45 LNNW55 R1.1 LNNW46 LNNW55 (V) R1.1	LNNW36 LNNW46 R1.1 LNNW37 LNNW47 R1.1 LNNW38 LNNW48 R1.1 LNNW39 LNNW49 R1.1 LNNW40 LNNW50 R1.1 LNNW41 LNNW51 R1.1 LNNW42 LNNW52 R1.1 LNNW43 LNNW53 R1.1 LNNW44 LNNW54 R1.1 LNNW45 LNNW55 R1.1 LNNW46 LNNW55 (V) R1.1	LNNW31 R2 LNNW42- LNNW43- LNNW45- LNNW46- LNNW47- LNNW48- LNNW49- LNNW50- LNNW51- LNNW52- LNNW53- LNNW54- LNNW55- LNNW56- LNNW57- LNNW58- LNNW59- LNNW60- LNNW61- LNNW62- LNNW63- LNNW64- LNNW65- LNNW66- LNNW67- LNNW68- LNNW69- LNNW70- LNNW71- LNNW72- LNNW73- LNNW74- LNNW75- LNNW76- LNNW77- LNNW78- LNNW79- LNNW80- LNNW81- LNNW82- LNNW83- LNNW84- LNNW85- LNNW86- LNNW87- LNNW88- LNNW89- LNNW90- LNNW91- LNNW92- LNNW93- LNNW94- LNNW95- LNNW96- LNNW97- LNNW98- LNNW99- LNNW100- LNNW101- LNNW102- LNNW103- LNNW104- LNNW105- LNNW106- LNNW107- LNNW108- LNNW109- LNNW110- LNNW111- LNNW112- LNNW113- LNNW114- LNNW115- LNNW116- LNNW117- LNNW118- LNNW119- LNNW120- LNNW121- LNNW122- LNNW123- LNNW124- LNNW125- LNNW126- LNNW127- LNNW128- LNNW129- LNNW130- LNNW131- LNNW132- LNNW133- LNNW134- LNNW135- LNNW136- LNNW137- LNNW138- LNNW139- LNNW140- LNNW141- LNNW142- LNNW143- LNNW144- LNNW145- LNNW146- LNNW147- LNNW148- LNNW149- LNNW150- LNNW151- LNNW152- LNNW153- LNNW154- LNNW155- LNNW156- LNNW157- LNNW158- LNNW159- LNNW160- LNNW161- LNNW162- LNNW163- LNNW164- LNNW165- LNNW166- LNNW167- LNNW168- LNNW169- LNNW170- LNNW171- LNNW172- LNNW173- LNNW174- LNNW175- LNNW176- LNNW177- LNNW178- LNNW179- LNNW180- LNNW181- LNNW182- LNNW183- LNNW184- LNNW185- LNNW186- LNNW187- LNNW188- LNNW189- LNNW190- LNNW191- LNNW192- LNNW193- LNNW194- LNNW195- LNNW196- LNNW197- LNNW198- LNNW199- LNNW200- LNNW201- LNNW202- LNNW203- LNNW204- LNNW205- LNNW206- LNNW207- LNNW208- LNNW209- LNNW210- LNNW211- LNNW212- LNNW213- LNNW214- LNNW215- LNNW216- LNNW217- LNNW218- LNNW219- LNNW220- LNNW221- LNNW222- LNNW223- LNNW224- LNNW225- LNNW226- LNNW227- LNNW228- LNNW229- LNNW230- LNNW231- LNNW232- LNNW233- LNNW234- LNNW235- LNNW236- LNNW237- LNNW238- LNNW239- LNNW240- LNNW241- LNNW242- LNNW243- LNNW244- LNNW245- LNNW246- LNNW247- LNNW248- LNNW249- LNNW250- LNNW251- LNNW252- LNNW253- LNNW254- LNNW255- LNNW256- LNNW257- LNNW258- LNNW259- LNNW260- LNNW261- LNNW262- LNNW263- LNNW264- LNNW265- LNNW266- LNNW267- LNNW268- LNNW269- LNNW270- LNNW271- LNNW272- LNNW273- LNNW274- LNNW275- LNNW276- LNNW277- LNNW278- LNNW279- LNNW280- LNNW281- LNNW282- LNNW283- LNNW284- LNNW285- LNNW286- LNNW287- LNNW288- LNNW289- LNNW290- LNNW291- LNNW292- LNNW293- LNNW294- LNNW295- LNNW296- LNNW297- LNNW298- LNNW299- LNNW300- LNNW301- LNNW302- LNNW303- LNNW304- LNNW305- LNNW306- LNNW307- LNNW308- LNNW309- LNNW310- LNNW311- LNNW312- LNNW313- LNNW314- LNNW315- LNNW316- LNNW317- LNNW318- LNNW319- LNNW320- LNNW321- LNNW322- LNNW323- LNNW324- LNNW325- LNNW326- LNNW327- LNNW328- LNNW329- LNNW330- LNNW331- LNNW332- LNNW333- LNNW334- LNNW335- LNNW336- LNNW337- LNNW338- LNNW339- LNNW340- LNNW341- LNNW342- LNNW343- LNNW344- LNNW345- LNNW346- LNNW347- LNNW348- LNNW349- LNNW350- LNNW351- LNNW352- LNNW353- LNNW354- LNNW355- LNNW356- LNNW357- LNNW358- LNNW359- LNNW360- LNNW361- LNNW362- LNNW363- LNNW364- LNNW365- LNNW366- LNNW367- LNNW368- LNNW369- LNNW370- LNNW371- LNNW372- LNNW373- LNNW374- LNNW375- LNNW376- LNNW377- LNNW378- LNNW379- LNNW380- LNNW381- LNNW382- LNNW383- LNNW384- LNNW385- LNNW386- LNNW387- LNNW388- LNNW389- LNNW390- LNNW391- LNNW392- LNNW393- LNNW394- LNNW395- LNNW396- LNNW397- LNNW398- LNNW399- LNNW400- LNNW401- LNNW402- LNNW403- LNNW404- LNNW405- LNNW406- LNNW407- LNNW408- LNNW409- LNNW410- LNNW411- LNNW412- LNNW413- LNNW414- LNNW415- LNNW416- LNNW417- LNNW418- LNNW419- LNNW420- LNNW421- LNNW422- LNNW423- LNNW424- LNNW425- LNNW426- LNNW427- LNNW428- LNNW429- LNNW430- LNNW431- LNNW432- LNNW433- LNNW434- LNNW435- LNNW436- LNNW437- LNNW438- LNNW439- LNNW440- LNNW441- LNNW442- LNNW443- LNNW444- LNNW445- LNNW446- LNNW447- LNNW448- LNNW449- LNNW450- LNNW451- LNNW452- LNNW453- LNNW454- LNNW455- LNNW456- LNNW457- LNNW458- LNNW459- LNNW460- LNNW461- LNNW462- LNNW463- LNNW464- LNNW465- LNNW466- LNNW467- LNNW468- LNNW469- LNNW470- LNNW471- LNNW472- LNNW473- LNNW474- LNNW475- LNNW476- LNNW477- LNNW478- LNNW479- LNNW480- LNNW481- LNNW482- LNNW483- LNNW484- LNNW485- LNNW486- LNNW487- LNNW488- LNNW489- LNNW490- LNNW491- LNNW492- LNNW493- LNNW494- LNNW495- LNNW496- LNNW497- LNNW498- LNNW499- LNNW500- LNNW501- LNNW502- LNNW503- LNNW504- LNNW505- LNNW506- LNNW507- LNNW508- LNNW509- LNNW510- LNNW511- LNNW512- LNNW513- LNNW514- LNNW515- LNNW516- LNNW517- LNNW518- LNNW519- LNNW520- LNNW521- LNNW522- LNNW523- LNNW524- LNNW525- LNNW526- LNNW527- LNNW528- LNNW529- LNNW530- LNNW531- LNNW532- LNNW533- LNNW534- LNNW535- LNNW536- LNNW537- LNNW538- LNNW539- LNNW540- LNNW541- LNNW542- LNNW543- LNNW544- LNNW545- LNNW546- LNNW547- LNNW548- LNNW549- LNNW550- LNNW551- LNNW552- LNNW553- LNNW554- LNNW555- LNNW556- LNNW557- LNNW558- LNNW559- LNNW560- LNNW561- LNNW562- LNNW563- LNNW564- LNNW565- LNNW566- LNNW567- LNNW568- LNNW569- LNNW570- LNNW571- LNNW572- LNNW573- LNNW574- LNNW575- LNNW576- LNNW577- LNNW578- LNNW579- LNNW580- LNNW581- LNNW582- LNNW583- LNNW584- LNNW585- LNNW586- LNNW587- LNNW588- LNNW589- LNNW590- LNNW591- LNNW592- LNNW593- LNNW594- LNNW595- LNNW596- LNNW597- LNNW598- LNNW599- LNNW600- LNNW601- LNNW602- LNNW603- LNNW604- LNNW605- LNNW606- LNNW607- LNNW608- LNNW609- LNNW610- LNNW611- LNNW612- LNNW613- LNNW614- LNNW615- LNNW616- LNNW617- LNNW618- LNNW619- LNNW620- LNNW621- LNNW622- LNNW623- LNNW624- LNNW625- LNNW626- LNNW627- LNNW628- LNNW629- LNNW630- LNNW631- LNNW632- LNNW633- LNNW634- LNNW635- LNNW636- LNNW637- LNNW638- LNNW639- LNNW640- LNNW641- LNNW642- LNNW643- LNNW644- LNNW645- LNNW646- LNNW647- LNNW648- LNNW649- LNNW650- LNNW651- LNNW652- LNNW653- LNNW654- LNNW655- LNNW656- LNNW657- LNNW658- LNNW659- LNNW660- LNNW661- LNNW662- LNNW663- LNNW664- LNNW665- LNNW666- LNNW667- LNNW668- LNNW669- LNNW670- LNNW671- LNNW672- LNNW673- LNNW674- LNNW675- LNNW676- LNNW677- LNNW678- LNNW679- LNNW680- LNNW681- LNNW682- LNNW683- LNNW684- LNNW685- LNNW686- LNNW687- LNNW688- LNNW689- LNNW690- LNNW691- LNNW692- LNNW693- LNNW694- LNNW695- LNNW696- LNNW697- LNNW698- LNNW699- LNNW700- LNNW701- LNNW702- LNNW703- LNNW704- LNNW705- LNNW706- LNNW707- LNNW708- LNNW709- LNNW710- LNNW711- LNNW712- LNNW713- LNNW714- LNNW715- LNNW716- LNNW717- LNNW718- LNNW719- LNNW720- LNNW721- LNNW722- LNNW723- LNNW724- LNNW725- LNNW726- LNNW727- LNNW728- LNNW729- LNNW730- LNNW731- LNNW732- LNNW733- LNNW734- LNNW735- LNNW736- LNNW737- LNNW738- LNNW739- LNNW740- LNNW741- LNNW742- LNNW743- LNNW744- LNNW745- LNNW746- LNNW747- LNNW748- LNNW749- LNNW750- LNNW751- LNNW752- LNNW753- LNNW754- LNNW755- LNNW756- LNNW757- LNNW758- LNNW759- LNNW760- LNNW761- LNNW762- LNNW763- LNNW764- LNNW765- LNNW766- LNNW767- LNNW768- LNNW769- LNNW770- LNNW771- LNNW772- LNNW773- LNNW774- LNNW775- LNNW776- 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LNNW888- LNNW889- LNNW890- LNNW891- LNNW892- LNNW893- LNNW894- LNNW895- LNNW896- LNNW897- LNNW898- LNNW899- LNNW900- LNNW901- LNNW902- LNNW903- LNNW904- LNNW905- LNNW906- LNNW907- LNNW908- LNNW909- LNNW910- LNNW911- LNNW912- LNNW913- LNNW914- LNNW915- LNNW916- LNNW917- LNNW918- LNNW919- LNNW920- LNNW921- LNNW922- LNNW923- LNNW924- LNNW925- LNNW926- LNNW927- LNNW928- LNNW929- LNNW930- LNNW931- LNNW932- LNNW933- LNNW934- LNNW935- LNNW936- LNNW937- LNNW938- LNNW939- LNNW940- LNNW941- LNNW942- LNNW943- LNNW944- LNNW945- LNNW946- LNNW947- LNNW948- LNNW949- LNNW950- LNNW951- LNNW952- LNNW953- LNNW954- LNNW955- LNNW956- LNNW957- LNNW958- LNNW959- LNNW960- LNNW961- LNNW962- LNNW963- LNNW964- LNNW965- LNNW966- LNNW967- LNNW968- LNNW969- LNNW970- LNNW971- LNNW972- LNNW973- LNNW974- LNNW975- LNNW976- LNNW977- LNNW978- LNNW979- LNNW980- LNNW981- LNNW982- LNNW983- LNNW984- LNNW985- LNNW986- LNNW987- LNNW988- LNNW989- LNNW990- LNNW991- LNNW992- LNNW993- LNNW994- LNNW995- LNNW996- LNNW997- LNNW998- LNNW999- LNNW1000- LNNW1001- LNNW1002- LNNW1003- LNNW1004- LNNW1005- LNNW1006- LNNW1007- LNNW1008- LNNW1009- LNNW1010- LNNW1011- LNNW1012- LNNW1013- LNNW1014- LNNW1015- LNNW1016- LNNW1017- LNNW1018- LNNW1019- LNNW1020- LNNW1021- LNNW1022- LNNW1023- LNNW1024- LNNW1025- LNNW1026- LNNW1027- LNNW1028- LNNW1029- LNNW1030- LNNW1031- LNNW1032- LNNW1033- LNNW1034- LNNW1035- LNNW1036- LNNW1037- LNNW1038- LNNW1039- LNNW1040- LNNW1041- LNNW1042- LNNW1043- LNNW1044- LNNW1045- LNNW1046- LNNW1047- LNNW1048- LNNW1049- LNNW1050- LNNW1051- LNNW1052- LNNW1053- LNNW1054- LNNW1055- LNNW1056- LNNW1057- LNNW1058- LNNW1059- LNNW1060- LNNW1061- LNNW1062- LNNW1063- LNNW1064- LNNW1065- LNNW1066- LNNW1067- LNNW1068- LNNW1069- LNNW1070- LNNW1071- LNNW1072- LNNW1073- LNNW1074- LNNW1075- LNNW1076- LNNW1077- LNNW1078- LNNW1079- LNNW1080- LNNW1081- LNNW1082- LNNW1083- LNNW1084- LNNW1085- LNNW1086- LNNW1087- LNNW1088- LNNW1089- LNNW1090- LNNW1091- LNNW1092- LNNW1093- LNNW1094- LNNW1095- LNNW1096- LNNW1097- LNNW1098- LNNW1099- LNNW1100- LNNW1101- LNNW1102- LNNW1103- LNNW1104- LNNW1105- LNNW1106- LNNW1107- LNNW1108- LNNW1109- LNNW1110- LNNW1111- LNNW1112- LNNW1113- LNNW1114- LNNW1115- LNNW1116- LNNW1117- LNNW1118- LNNW1119- LNNW1120- LNNW1121- LNNW1122- LNNW1123- LNNW1124- LNNW1125- LNNW1126- LNNW1127- LNNW1128- LNNW1129- LNNW1130- LNNW1131- LNNW1132- LNNW1133- LNNW1134- LNNW1135- LNNW1136- LNNW1137- LNNW1138- LNNW1139- LNNW1140- LNNW1141- LNNW1142- LNNW1143- LNNW1144- LNNW1145- LNNW1146- LNNW1147- LNNW1148- LNNW1149- LNNW1150- LNNW1151- LNNW1152- LNNW1153- LNNW1154- LNNW1155- LNNW1156- LNNW1157- LNNW1158- LNNW1159- LNNW1160- LNNW1161- LNNW1162- LNNW1163- LNNW1164- LNNW1165- LNNW1166- LNNW1167- LNNW1168- LNNW1169- LNNW1170- LNNW1171- LNNW1172- LNNW1173- LNNW1174- LNNW1175- LNNW1176- LNNW1177- LNNW1178- LNNW1179- LNNW1180- LNNW1181- LNNW1182- LNNW1183- LNNW1184- LNNW1185- LNNW1186- LNNW1187- LNNW1188- LNNW1189- LNNW1190- LNNW1191- L											

Table E-11: OC-3/12 Hairpins to Ethernet/Data/Electrical

LOS	Interface Type & Configuration ↓	Sbt Interface Type and Config. ↓	A-D Sigs				A-G Sigs										
			ET	DS1	DS3	TMUX (T)	TMUX	EC-1	100-TX	100-FE/L	1000-X	1000-X /100-X	1000-X /100-FX	1000-X /100-FX	1000-SX/LX	FIBRE CHAN	100-TFX (FE-EPL)
A-G	OC-3/12 0x1Sn	1way STSn	7.0(q)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0(A)	7.0(A)	7.0(J)	7.0	7.0(A)	7.0	7.0
		1way VT1	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
		1waypr STSn	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
		1waypr VT1	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
A-G	OC-3/12 0x1Sn	1way STSn	7.0(q)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0(A)	7.0(A)	7.0(J)	7.0	7.0(A)	7.0	7.0
		1way VT1	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
		1waypr STSn	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
		1waypr VT1	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
A-G	OC-3/12 1+1	1way STSn	6.0(q)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0(A)	6.0(A)	6.0(J)	6.0	6.0(A)	6.0(B)	6.0
		1way VT1	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
		1waypr STSn	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
		1waypr VT1	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
A-G	OC-3/12 UPSR	1way STSn	7.0(q)/6.0(q)	6.0(y)	6.0(y)	7.0(V)/6.0	7.0(V)/7.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/7.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0
		1way VT1	6.0(y)	6.0(y)	6.0(y)	7.0(V)/6.0	7.0(V)/7.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/7.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0
		1waypr STSn	6.0(y)	6.0(y)	6.0(y)	7.0(V)/6.0	7.0(V)/7.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/7.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0
		1waypr VT1	6.0(y)	6.0(y)	6.0(y)	7.0(V)/6.0	7.0(V)/7.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/7.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0	7.0(V)/6.0
A-G	OC-3/12 0x1Sn	1way STSn	6.0(q)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0(A)	6.0(A)	6.0(J)	6.0	6.0(A)	6.0(B)	6.0
		1way VT1	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
		1waypr STSn	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
		1waypr VT1	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0

Table E-12: OC-3/12 Hairpins to OC-n

[illegible]

[illegible]

Table E-14: Ethernet/Data/Electrical Hairpins to Ethernet/Data/Electrical (2 of 2)

Slot	Interface Type Configuration ↓	Slot Interface Type and Config. ↕ HW Release → Cross- Connect Type & Rate ↓	A-G Slots				
			1000-X	1000-X /100-FX	1000-X /100-FX	1000- SX/LX	100-TFX (FE-EPL)
SLOT	A-G 100-TFX (FEPL)	1way STSn	LNW63 R6.0 LNW64(V) R7.0	LNW78 R6.0	LNW70 R5.1 LNW170 R7.1	LNW67/68 R1.1	LNW74 R5.0
	LNW74	1way VT1	6.0(B)	7.0(B,J,K)	6.0(B)	—	—
	—	1way unswitched STSn (s)	—	—	—	—	—
	A-G FIBRE CHAN	1way STSn	—	—	—	—	—
	LNW73, LNW73C	1way unswitched STSn (s)	—	—	—	—	—
	A-G 1000-SX/LX	1way STSn	6.0	7.0(J,K)	6.0	6.0(e) 7.0(a,V)	—
	LNW67/LNW68	1way unswitched STS1	—	—	—	—	—
	A-G 1000-X/100-FX	1way STSn	6.0(J)	7.0(J,K)	6.0(e,J) 7.0(a,V)	—	—
	LNW70, LNW170	1way unswitched STSn (s)	—	—	—	—	—
	A-G 1000-X/100-FX	1way STSn	7.0(J,K)	7.0(e,J,K) 7.0(a,V,J,K) 6.0(e,J,R) 7.0(a,V,J,R)	—	—	—
	LNW78	1way unswitched STSn (s)	—	—	—	—	—
	A-G 1000-X	1way STSn	6.0(eA) 7.0(a,V)	—	—	—	—
	LNW63, LNW64	1way unswitched STSn (s)	—	—	—	—	—
	A-D 100-FEPL	1way STSn	—	—	—	—	—
	LNW71	1way unswitched STSn (s)	—	—	—	—	—
	A-D 100-TX	1way STS1	—	—	—	—	—
	LNW66	1way unswitched STS1	—	—	—	—	—
A-D EC-1	—	1way STS1	—	—	—	—	—
LNW16, LNW19, LNW19B, LNW20	—	1way VT1	—	—	—	—	—
A-D DS3 TMUX	—	1way STS1	—	—	—	—	—
LNW20	—	1way VT1	—	—	—	—	—
A-D DS3 TMUX	—	1way STS1	—	—	—	—	—
LNW18	—	1way VT1	—	—	—	—	—
A-D DS3	—	1way STS1	—	—	—	—	—
LNW16, LNW19, LNW19B, LNW20	—	1way STS1	—	—	—	—	—
A-D DS1	—	1way VT1	—	—	—	—	—
LNW8	—	1way STS1	—	—	—	—	—
A-D DS1	—	1way STS1	—	—	—	—	—
LNW6/LNW7	—	1way VT1	—	—	—	—	—
A-D E1	—	1way STSn	—	—	—	—	—
LNW8	—	1way VT1	—	—	—	—	—

Table E-15: WDMX Cross-connections

Interface Type	Alien ¹	DWDM ² PTM OC-48	DWDM ² XR OC-48	DWDM ² PTM OC-192	DWDM ² XR OC-192	Non-DWDM OC-192	OT ³ Line (OTU2)	OT ³ Client ⁷ Port	OMDA - OCH
Hardware Release		LNW62 R7.1 ⁴ LNW55 LNW257 LNW258 LNW202 R7.1 LNW402 R8.0 LNW504 PS.0	LNW62 R2.0 LNW253 LNW255 LNW257 LNW258 R2.0 LNW433 LNW457 LNW455 LNW459 R3.0	LNW69 R7.0 LNW502 R7.1 LNW504 LNW603 R3.0	LNW555 R3.1 LNW557 LNW554 4.0 LNW60 5.1				
	OMDA - OCH ⁴ LNW785 LNW786 LNW705	F	F	7.1	7.1	8.0	7.1.1	-	7.1
	OT Line (OTU2) LNW705	-	-	-	-	-	-	-	-
	Non-DWDM OC-192 LNW56, LNW58	-	-	-	-	-	-	-	-
	DWDM OC-192 XR LNW54, LNW55	-	-	-	-	-	-	-	-
	DWDM OC-192 PTM LNW59, LNW502	-	-	-	-	-	-	-	-
	DWDM OC-48 XR LNW1593, LNW1598, LNW257, LNW259, LNW453, LNW455, LNW457, LNW459	-	-	-	-	-	-	-	-
	DWDM OC-48 PTM LNW55, LNW62, LNW63, LNW64, LNW65, LNW504	-	-	-	-	-	-	-	-
	Alien	-	-	-	-	-	-	-	-

1. Alien: A port identified with a remote ad (REMAID).

2. DWDM: A SONET OC-n port equipped with DWDM compatible optics. The optics may be a pluggable transmission module (DWDM PTM) or a fixed transceiver/transponder (DWDM XR).

3. OT: A multiplexer or transponder pack.

4. ENT-CRS-OC: For a cross-connection to a specific (non-Alien) ports, the expected frequency (elreq) of that port must be the same as the OCH frequency.

5. ENT-CRS-LNW: For a cross-connection to a specific (non-Alien) ports, the expected frequency (elreq) of that port must be the same as the OCH frequency.

6. ENT-CRS-FC: For a cross-connection to a specific (non-Alien) ports, the expected frequency (elreq) of that port must be the same as the OCH frequency.

7. An OT client is any OTU2, OC-n, GBE, FE or FC interfaces that is a supported client of an OT pack. For a cross-connection to/from a specific (non-Alien) client, ENT-CRS-OC requires that signal type (signaltype) of the client be the same as the port to which it is cross-connected.

Cross-connections Supported Prior to Release 6.0

This section lists cross-connections supported prior to Release 6.0.

Table E-16: OC-192 Main Add/Drop to Ethernet/Data/Electrical

[illegible]

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SLOT	Interface Type ↑ Configuration	Slot Interface Type and Config. HW Release1 → Cross-App code Connect Type & Rate ↓	A-G														OC-48 UPSR	OC-48 BLSR (N)	OC-312 0x1Sn	OC-312 UNSWITCHED	OC-48 1+1	OC-48 UPSR	OC-48 BLSR (N)	OC-312 0x1Sn	OC-48 UNSWITCHED	OC-48 (0x1)* UNSWITCHED	OC-48 0x1Sn																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
			Main Switch (Headless Main)																									Add/Drop to OC-n																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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Table E-18: OC-192 Main to Main

SLOT	Interface Type & Config. ↓ Interface Type & Config. Code Type & Rate ↓	Slot	Main Slots												
			OC-12 UPSR UNSWITCHED*	OC-12 1+1	OC-48 UPSR UNSWITCHED*	OC-48 UPSR	OC-48 1+1	OC-48 BLSR (N)	OC-48 BLSR (N)	OC-192 UPSR UNSWITCHED*	OC-192 UPSR	OC-192 1+1	OC-192 BLSR (N)	MAIN SWITCH	
			OC-12 UPSR UNSWITCHED*	OC-12 1+1	OC-48 UPSR UNSWITCHED*	OC-48 UPSR	OC-48 1+1	OC-48 BLSR (N)	OC-48 BLSR (N)	OC-192 UPSR UNSWITCHED*	OC-192 UPSR	OC-192 1+1	OC-192 BLSR (N)		
M	MAIN SWITCH LNW60	See Note (2)	-	-	-	-	-	-	-	-	-	-	-	-	-
M	OC-192 BLSR (N) LNW56, LNW58 LNW555 LNW57, LNW523 LNW527, LNW554 LNW60	2waypr STSn 2waypr VTI mbpr STSn (e) 1waypr STSn 1waypr VTI 1waypr STSn 1waypr VTI	-	-	-	-	-	-	-	-	-	-	-	-	-
M	OC-192 1+1 LNW56, LNW58 LNW555 LNW57, LNW523 LNW527, LNW554	2waypr STSn 2waypr VTI 1waypr STSn 1waypr VTI 1waypr STSn 1waypr VTI	-	-	-	-	-	-	-	-	-	-	-	-	-
M	OC-192 UPSR LNW56, LNW58 LNW555 LNW57, LNW523 LNW527, LNW554	2waypr STSn 2waypr VTI (c) mbpr STSn 1waypr STSn 1waypr VTI	-	-	-	-	-	-	-	-	-	-	-	-	-
M	UNSWITCHED* LNW56, LNW58 LNW555 LNW57, LNW523 LNW527, LNW554	2waypr VTI (c) mbpr STSn 1waypr STSn 1waypr VTI 1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-	-

Table E-19: OC-48 Add/Drop to Ethernet/Data/Electrical

[illegible]

Table E-20: OC-48 Add/Drop to OC-n[illegible]

Table E-21: OC-48 Main to Main

[illegible]

Table E-22: OC-12 Add/Drop to Ethernet/Data/Electrical

[illegible]

Table E-23: OC-12 Add/Drop to OC-n

LOS	Interface Type & Configuration†	SbU Interface Type and Config. ↓ HW Release† → Cross-Connect Type* & Rate ↓	A.G.									
			OC-312 UPSR	OC-312 1+1	OC-312 (0x1) UPSR	OC-312 (0x1) UNSWITCHED	OC-312 (0x1) 0x1Sn	OC-48 BLSR (N)	OC-48 UPSR	OC-48 1+1	OC-48 (0x1)* UPSR	OC-48 0x1Sn
			LNW36 LNW46 LNW48 LNW37 LNW49 4.0 LNW45 R5.0	LNW36 LNW46 LNW48 LNW37 LNW49 4.0 LNW45 R5.0	LNW36 LNW46 LNW48 LNW37 LNW49 4.0 LNW45 R5.0	LNW36 LNW46 LNW48 LNW37 LNW49 4.0 LNW45 R5.0	LNW36 LNW46 LNW48 LNW37 LNW49 4.0 LNW45 R5.0	LNW31 R2	LNW31 R2	LNW31 R2	LNW31 R2	LNW31 R2
OC-12 Main Add-Drop to OC-n												
M	OC-12 1+1	2wagpr STSn	3.1	3.1	-	5.0	3.1	3.1	3.1	3.1	-	5.0
	LNW48	2wagpr VT1	3.1	3.1	-	5.0	F	3.1	3.1	3.1	-	5.0
	LNW50	1wagpr STSn	3.1(b,d)	-	-	-	-	3.1(b,d)	-	-	-	-
	LNW54	1wagpr VT1	3.1(b)	-	-	-	-	3.1(b)	-	-	-	-
		2wagpr STSn	3.1(b,F)	3.1(b)	-	5.0(b)	3.1(b)	3.1(b)	3.1(b)	3.1(b)	-	5.0(b)
		2wagpr VT1	3.1(b)	3.1(b)	-	5.0(b)	F	3.1(b)	3.1(b)	3.1(b)	-	5.0(b)
M	OC-12 UPSR	2wagpr STSn	3.1	3.1	-	5.0	3.1	3.1	3.1	3.1	3.1	5.0
	LNW48	2wagpr VT1	3.1	3.1	-	5.0(G)	F	3.1	3.1	3.1	3.1	5.0(G)
	LNW50	mldp STSn	-	-	-	5.0(G)	-	-	-	-	-	5.0(G)
	LNW54	1wagpr STSn	3.1(b,d)	3.1(b,d)	-	5.0(b,d)	3.1(b)	3.1(b,d)	3.1(b)	3.1(b)	-	5.0(b,d)
		1wagpr VT1	3.1(b)	3.1(b)	-	5.0(b)	F	3.1(b)	3.1(b)	3.1(b)	-	5.0(b)
		1wagpr STSn	F/F	F/3.1(d)	-	5.0(G,d)	F/3.1(d)	F/F	F/3.1(d)	F/3.1(d)	-	5.0(G,d)
		1wagpr VT1	F/F	F/F	-	5.0(G)	F/F	F/F	F/F	F/F	-	5.0(G)
M	OC-12 UPSR	2wagpr STSn	-	-	3.1	-	3.1(h)	-	-	-	3.1	-
	LNW48	2wagpr VT1	-	-	3.1	-	F	-	-	-	3.1	-
	LNW50	mldp STSn	-	-	3.1(b)	-	3.1(b,n)	-	-	-	3.1(b)	-
	LNW54	1wagpr STSn	-	-	3.1(b)	-	F	-	-	-	3.1(b)	-
		1wagpr VT1	-	-	3.1(b)	-	-	-	-	-	-	-
		1wagpr STSn	-	-	-	-	-	-	-	-	-	-

Table E-24: OC-12 Main to Main[illegible]

Table E-25: OC-48 Hairpins to Ethernet/Data/Electrical

SLOT	Slot	Interface Type and Config.	A-D Slots										FIBRE CHAN	100-TFX (FE-EPL)
			E1	DS1	DS1	DS3	TMUX	EC-1	100-TX	100-FEPL	100-X/100-1000- FX	100-X/100-1000- SCLX		
A-G	OC-48 DS1Sn													
	LNW31	2waypr STSn	F(q)	F	F	F	F	F	F	F(q)	F	F	F(A)	F(B)
	LNW31	2waypr VT1	-	F	F	-	F	F	-	-	-	-	-	F
	(Svtpie)	1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-
		1waypr STSn	F(b,q)	F(b)	F(b)	F(b)	F(b)	F(b)	F(b)	F(b,k)	F(b)	F(b)	F(b,A)	F(b,B)
		1way VT1	-	F(b)	F(b)	-	F(b)	F(b)	-	-	-	-	-	F(b)
		2waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-
	OC-48 (0x1)	2waypr VT1	-	-	-	-	-	-	-	-	-	-	-	-
	UPSR	mbpr STSn (l)	-	-	-	-	-	-	2.1	3.1(k)	5.1(j)	2.0	-	-
	UNSWITCHED*	1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-
A-G	OC-48 1+1													
	LNW31	2waypr STSn	4.0(q)	2.0	2.0	2.0	3.0	2.0	2.1	3.1(k)	5.1(j)	2.0	5.1(A)	5.0(B)
	LNW31	2waypr VT1	-	2.0	2.0	-	3.0	2.0	-	-	-	-	-	5.0
	(Svtpie)	1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-
		1way STSn	4.0(b,d)	3.1(b)	3.1(b)	3.1(b)	3.1(b)	3.1(b)	3.1(b)	3.1(b,k)	5.1(b,j)	3.1(b)	5.1(b,A)	5.0(b,B)
		1way VT1	-	3.1(b)	3.1(b)	-	3.1(b)	3.1(b)	-	-	-	-	-	5.0(b)
	OC-48 UPSR	2waypr STSn	4.0(q)	2.0	2.0	2.0	3.0	2.0	2.0	3.1(k)	5.1(j)	2.0	5.1(A)	5.0(B)
	LNW31	2waypr VT1	-	2.0	2.0	4.0(y)	3.0	2.0	-	-	-	-	-	5.0
	(Svtpie)	mbpr STSn	-	4.0(y)	4.0(y)	-	-	-	3.0	3.1(k)	5.1(j)	3.0	-	-
		1waypr STSn	4.0(b,d)	3.1(b)	3.1(b)	3.1(b)	3.1(b)	3.1(b,d)	3.1(b)	3.1(b,k)	5.1(b,j)	3.1(b)	5.1(b,A)	5.0(b,B)
A-G	OC-48 BL SR (N)													
	LNW31	2waypr STSn	F	4.0(y)	4.0(y)	4.0(y)	F,F	F,F	F,F	F,F	F,F	F,F	F,F	F,F
	LNW31	2waypr VT1	-	3.0	3.0	3.0	3.0	3.0	3.0	3.1(k)	5.1(j)	3.0	5.1(A)	5.0(B)
	(Svtpie)	1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-
		1way STSn	-	F	F	-	F	F	-	-	-	-	-	F
		1way VT1	-	F(n)/-	F(n)/-	F(n)/-	F(n)/-	F(n)/-	3.0(m)	3.1(k)	5.1(j)	3.0(m)	-	-
	OC-48 BL SR (N)	2waypr STSn	4.0(q)	3.1(b)	3.1(b)	3.1(b)	3.1(b)	3.1(b)	3.1(b)	3.1(k,b)	5.1(b,j)	3.1(b)	5.1(b,A)	5.0(b,B)
	LNW31	2waypr VT1	-	-	-	-	-	-	-	-	-	-	-	-
	(Svtpie)	1waypr STSn	-	-	-	-	-	-	-	-	-	-	-	-
		1way VT1	-	-	-	-	-	-	-	-	-	-	-	-

Table E-26: OC-48 Hairpins to OC-n

SLOT	Interface Type & Configuration	Slot	Interface Type and Config.	OC-3/12 UPSR 1+1	OC-3/12 (0x1) ¹ UPSR UNSWITCHED	OC-3/12 (0x1) ¹ BLSR (N)	OC-48 UPSR	OC-48 1+1	OC-48 (0x1) ¹ UNSWITCHED	OC-48 (0x1) ¹ BLSR
			Rel. Release → Cross-App. code Connect Type & Rate ↓							
A-G	OC-48 0x1Sn	2wapr STSn		5.0	5.0	5.0	5.0	5.0	5.0	F
		2wapr VT1		5.0	5.0	F	5.0	5.0	5.0	F
		1wapr STSn		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr VT1		5.0	5.0	-	5.0	5.0	5.0	-
		1wapr STSn		5.0	5.0	F	5.0	5.0	5.0	F
		1wapr VT1		5.0	5.0	F	5.0	5.0	5.0	F
		2wapr STSn		5.0	5.0	-	5.0	5.0	5.0	F
		2wapr VT1		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr STSn (I)		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr STSn		5.0	5.0	-	5.0	5.0	5.0	F
A-G	OC-48 1+1	2wapr STSn		5.0	5.0	5.0	5.0	5.0	5.0	F
		2wapr VT1		5.0	5.0	5.0	5.0	5.0	5.0	F
		1wapr STSn		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr VT1		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr STSn		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr VT1		5.0	5.0	-	5.0	5.0	5.0	F
		2wapr STSn		5.0	5.0	5.0	5.0	5.0	5.0	F
		2wapr VT1		5.0	5.0	5.0	5.0	5.0	5.0	F
		1wapr STSn		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr VT1		5.0	5.0	-	5.0	5.0	5.0	F
A-G	OC-48 UPSR	2wapr STSn		5.0	5.0	5.0	5.0	5.0	5.0	F
		2wapr VT1		5.0	5.0	5.0	5.0	5.0	5.0	F
		1wapr STSn		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr VT1		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr STSn		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr VT1		5.0	5.0	-	5.0	5.0	5.0	F
		2wapr STSn		5.0	5.0	5.0	5.0	5.0	5.0	F
		2wapr VT1		5.0	5.0	5.0	5.0	5.0	5.0	F
		1wapr STSn		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr VT1		5.0	5.0	-	5.0	5.0	5.0	F
A-G	OC-48 BLSR (N)	2wapr STSn		5.0	5.0	5.0	5.0	5.0	5.0	F
		2wapr VT1		5.0	5.0	5.0	5.0	5.0	5.0	F
		1wapr STSn		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr VT1		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr STSn		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr VT1		5.0	5.0	-	5.0	5.0	5.0	F
		2wapr STSn		5.0	5.0	5.0	5.0	5.0	5.0	F
		2wapr VT1		5.0	5.0	5.0	5.0	5.0	5.0	F
		1wapr STSn		5.0	5.0	-	5.0	5.0	5.0	F
		1wapr VT1		5.0	5.0	-	5.0	5.0	5.0	F

Table E-27: OC-3/12 Hairpins to Ethernet/Data/Electrical

[illegible]

Table E-28: OC-13/12 Hairpins to OC-n

[illegible]

Table E-29: Ethernet/Data/Electrical Hairpins to Ethernet/Data/Electrical

LOIS	Interface Type & Configuration ↓	SW Interface Type and Config.	A/D Stubs EI	DS1	DS3	TMUX	EC-1	100-TX	100-FEPL	1000-X/100/1000- FX	SX/LX	FIBRE CHAN	100-T FX (FE-EPL)
A-G	100-T FX (FEPL) LNW6	2wgrpt STSn	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt VT1	-	-	-	-	-	-	-	-	-	-	-
		mldp STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgrpt STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgrpt VT1	-	-	-	-	-	-	-	-	-	-	-
		1wgr STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr VT1	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt STSn	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt VT1	-	-	-	-	-	-	-	-	-	-	-
		mldp STSn	-	-	-	-	-	-	-	-	-	-	-
A-G	FIBRE CHAN LNW73	2wgrpt STSn	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt VT1	-	-	-	-	-	-	-	-	-	-	-
		mldp STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr VT1	-	-	-	-	-	-	-	-	-	-	-
		1wgr STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr VT1	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt STSn	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt VT1	-	-	-	-	-	-	-	-	-	-	-
		mldp STSn	-	-	-	-	-	-	-	-	-	-	-
A-G	1000-SX/LX LNW67/LNW68	2wgrpt STSn	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt VT1	-	-	-	-	-	-	-	-	-	-	-
		mldp STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr VT1	-	-	-	-	-	-	-	-	-	-	-
		1wgr STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr VT1	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt STSn	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt VT1	-	-	-	-	-	-	-	-	-	-	-
		mldp STSn	-	-	-	-	-	-	-	-	-	-	-
A-G	1000-X/100-FX LNW70	2wgrpt STSn	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt VT1	-	-	-	-	-	-	-	-	-	-	-
		mldp STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr VT1	-	-	-	-	-	-	-	-	-	-	-
		1wgr STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr VT1	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt STSn	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt VT1	-	-	-	-	-	-	-	-	-	-	-
		mldp STSn	-	-	-	-	-	-	-	-	-	-	-
A-D	100-FEPL LNW71	2wgrpt STSn	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt VT1	-	-	-	-	-	-	-	-	-	-	-
		mldp STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr VT1	-	-	-	-	-	-	-	-	-	-	-
		1wgr STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr VT1	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt STSn	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt VT1	-	-	-	-	-	-	-	-	-	-	-
		mldp STSn	-	-	-	-	-	-	-	-	-	-	-
A-D	100-TX LNW66	2wgrpt STSn	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt VT1	-	-	-	-	-	-	-	-	-	-	-
		mldp STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr VT1	-	-	-	-	-	-	-	-	-	-	-
		1wgr STSn	-	-	-	-	-	-	-	-	-	-	-
		1wgr VT1	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt STSn	-	-	-	-	-	-	-	-	-	-	-
		2wgrpt VT1	-	-	-	-	-	-	-	-	-	-	-
		mldp STSn	-	-	-	-	-	-	-	-	-	-	-

Table E-30: Electrical Hairpins to Electrical

SLOT	Interface Type Configuration ↓	Slot Interface Type and Config. ↓	AD Slots EI	DS1	DS1	DS3	TMUX	EC-1	100-TX	100-FEPL	1000-X/100-1000- FX	1000-SGLX	FIBRE CHAN	100-TFX (FE-EPL)
A-D	EC-1	2wvpr STS1	F	3.1	3.1	3.1	F	3.0(e)	2.1(f)					
	LNW16	2wvpr VT1	-	3.1	3.1	-	-	3.0(e)	2.0(e)					
	LNW19	1wvpr STS1	-	-	-	-	-	-	3.1(a,m)					
	LNW18	1wvpr STS1	-	-	-	-	-	-	-					
	LNW18	1wvpr VT1	-	F	F	F	F	F	F					
A-D	DS3 TMUX	2wvpr STS1	-	3.1	3.1	F	3.0(e)	3.1(a,f)						
	LNW18	2wvpr VT1	-	3.1	3.1	-	-	3.0(e)	3.1(a,m)					
	LNW18	1wvpr STS1	-	-	-	-	-	-	-					
	LNW18	1wvpr VT1	-	-	-	-	-	-	-					
	LNW18	1wvpr STS1	-	-	-	-	-	-	-					
A-D	DS3	2wvpr STS1	-	-	-	-	-	-	-					
	LNW16	2wvpr VT1	-	-	-	-	-	-	-					
	LNW16	1wvpr STS1	-	-	-	-	-	-	-					
	LNW16	1wvpr VT1	-	-	-	-	-	-	-					
	LNW18	1wvpr STS1	-	-	-	-	-	-	-					
A-D	DS1	2wvpr STS1	-	-	-	-	-	-	-					
	LNW6	2wvpr VT1	-	3.1	3.1(a,e)	-	-	-	-					
	LNW6	1wvpr STS1	-	3.1	3.1(a,e)	-	-	-	-					
	LNW6	1wvpr VT1	-	-	-	-	-	-	-					
	LNW6	1wvpr STS1	-	-	-	-	-	-	-					
A-D	DS1	2wvpr STS1	-	-	-	-	-	-	-					
	LNW6/LNW7	2wvpr VT1	-	3.1(a,e,f)	-	-	-	-	-					
	LNW6/LNW7	1wvpr STS1	-	3.1(a,e,f)	-	-	-	-	-					
	LNW6/LNW7	1wvpr VT1	-	-	-	-	-	-	-					
	LNW6/LNW7	1wvpr STS1	-	-	-	-	-	-	-					
A-D	EI	2wvpr STS1	-	-	-	-	-	-	-					
	LNW6	2wvpr VT1	-	-	-	-	-	-	-					
	LNW6	1wvpr STS1	-	-	-	-	-	-	-					
	LNW6	1wvpr VT1	-	-	-	-	-	-	-					
	LNW6	1wvpr STS1	-	-	-	-	-	-	-					

Notes (1 of 2)

Key/Notes (page 1 of 2):	
General Notes	
†	This row indicates the first software release in which the hardware is available and can be used in the configuration specified for the associated column.
-	Not supported
number	supported/planned for release "number". For 1-way cross-connections where the entries are of the form x/y, x indicates the release for the row to column connection and y indicates the release for the column to row connection. For 1-way cross-connections with a single entry, both directions are supported in the specified release.
F	Possible future release. This connection not tested but may be supported by the system.
	Beginning in R7.0, in shelves equipped with VLF mains, all allowed hairpins are also allowed between accepted unprotected packs in the same group.
Specific Notes (cell annotations)	
(a)	intra-Group: the 2 ends of the connection are on different ports/VCGs on the same Group. In R7.0, with VLF mains, in LS groups with prot_state=UNPROT, hairpins are allowed between 2 packs in the same group. In 0x1 applications, cross-connections are allowed between ports in the same pack. With the exception of the LNW78, cross-connections between VCGs on the same pack are not supported.
(b)	bridge and roll.
(c)	any 48 of 192 STS-1s can be VT-structured
(d)	dual ring interworking
(e)	inter-FN: the 2 ends of the connection are on ports/VCGs on different FN
(f)	not supported when main slots are equipped with OLIU with small VT fabric (e.g. LNW26)
(g)	requires identical 0x1 configurations (0x1 in slot 1, or 0x1 in slot 2, or dual 0x1) at both ends of the connection
(h)	the 2waypr cross-connect type is used for all 2-way cross-connections other than multipoint xcs. Whether or not the connection is path protected is a function of the provisioned application of the optical ports.
(i)	STS48c rate
(k)	Either STS1 or STS1 and STS3c xcs are supported as a function of the equipment mode provisioning. See eccmode in RTRV-EQPT.
(l)	all xcs to the same VCG must be at the same STS-1 or STS-3c rate. Different VCGs may be cross-connected at different rates.
(m)	Intra-port cross-connections - cross-connections between different channels on the same port/port pair are supported. For supported VT cross-connections on SONET interfaces, this includes cross-connections between different VTs in the same STS-1. VT1 intra-port cross-connections are supported only if the mains are equipped with an LNW27 type OC-48 packs or an LNW56 type OC-192 packs. Beginning in release 7.0 intra-port cross-connections are supported with VLF mains.
(n)	supported only on BLSR tributaries provisioned for NUT
(p)	direct pass-through; particular timeslot on one side of ring to/from the same timeslot on other side of the same ring
(q)	Only STS-3c cross-connections are supported.
(s)	unless otherwise noted all STSn multipoint cross-connections are at the STS1 rate.
(t)	chappl=UNSWITCHED is not required mlpt cross-connections, but is supported as a potential simplification for OS's.
(u)	Transmission of pre-existing cross-connections is supported during upgrades from one type of main OLIU to another. Provisioning of these cross-connection during the upgrade may not be supported. In R7.1, non-VLF (56-family) OC-192 to VLF OC-192 is supported.

Notes (2 of 2)

Key/Notes (page 2 of 2):**Specific Notes** (cell annotations) (continued)

- (v) W/ LNW26 in MAIN, any 12 of 48 STS-1s can be VT structured; w/ LNW27 in MAIN, all 48 STS-1s can be VT structured.
- (x) Beginning in release 3.0 the NE will no longer support the LS 0x1 port application. The equivalent functionality is achieved by setting the port application to UPSR and setting chappl=UNSWITCHED in the ENT-CRS-command. chappl=UNSWITCHED is also applicable to cross-connections to UPSR mains. Replace F with - on all non-multipoint xcs to unswitched UPSR.
- (y) Locked cross-connections. The cross-connection is provisioned using a ring channel AID on the UPSR interface. Transmission is locked to the ring side specified by the aid.
- (z) Main Switch (Headless Main): No add/drop xcs are supported. No impact on hairpin xcs. Hairpin xcs are supported in the specified release. For PTM-based packs, pack is headless when all sockets report name=UNEQ.
- (A) STS1, STS3C, STS12C cross-connections
- (B) STS1, STS3C cross-connections
- (D) STS1, STS3C cross-connections between a single VCG and companion ring channels.
- (E) On selected LS packs, LS VT grooming is supported. This includes efficient packing of VTs to the mains and connecting intra-fn VT hairpins using only VT fabric in the FN packs. As a result of this intra-fn xc implementation, there are no restrictions on these cross-connections due to the type of main equipped in the system. In R5.0, LS grooming is supported on the LNW45 (8xOC-3) and LNW49 (4xOC-12) packs. In Release 7.0, LS grooming is not supported in systems equipped with LNW59-type mains.
- (G) cross-connections between UPSR ring channels and 0x1Sn interfaces are supported for the dual homed arc applications. Applies pre-7.0.
- (J) Either STS1 or STS3C and STS12C cross-connections are supported as a function of the equipment mode provisioning. See eccmode in RTRV-EQPT.
- (K) Cross-connections supported to the EoS VCGs. LNW78 to LNW78 hairpins must be EoS to EoS, or RPR to RPR (no EoS to RPR)
- (N) Unless explicitly noted for NUT only (note n), cross-connection is valid for both NUT and non-NUT
- (R) Cross-connections supported to the RPR VCGs. Beginning in R7.0, LNW78 to LNW78 hairpins must be RPR to RPR, or EoS to EoS
- (T) The LNW20 is supported in FNG but only for portless operation.
- (V) Supported in systems equipped with VLF mains only.

