

Lucent Technologies
Bell Labs Innovations



Lucent Gateway Platform System Release Notes

Part Number 255-400-006R3.11.1.1.SP.2
Issue 2, September 28, 2005
Software Version 3.11.1.1.SP.2

Copyright © 2005 Lucent Technologies
All Rights Reserved



This material is protected by the copyright and trade secret laws of the United States and other countries. It may not be reproduced, distributed, or altered in any fashion by any entity (either internal or external to Lucent Technologies), except in accordance with applicable agreements, contracts or licensing, without the express written consent of Lucent Technologies and the business management owner of the material.

Information Products & Training (IP&T):

Notice

Every effort has been made to ensure that the information in this document was complete and accurate at the time of printing. However, information is subject to change.

Mandatory customer information

Trademarks

All trademarks and service marks specified herein are owned by their respective companies.

Ordering information

The order number of this document is 255-400-006R3.11.1.1.SP.2.

Support

Technical support

Please contact your Lucent Technologies Local Customer Support Team (LCS) for technical questions about the information in this document.

Information product support

To comment on this information product online, go to <http://www.lucent-info.com/comments> or email your comments to comments@lucent.com.

Table of Contents

1. Scope.....	4
2. Upgrade Files.....	4
3. Upgrade Notes.....	4
3.1 EMS/Billing/Traffic Server Qualification.....	4
4. New Features and Product Improvements.....	5
4.1 ISUP-OLI SIP-URI.....	5
4.2 87-1042-A DS1 I/O Module Kits.....	5
4.3 Meridian PBX Support.....	6
5. TL1 Commands.....	6
5.1 New Commands.....	6
5.2 Modified Commands.....	7
5.3 Removed Commands.....	7
6. Error Defects.....	7
6.1 Resolved Error Defects.....	7
6.2 Unresolved Error Defects.....	7
7. Supported Hardware Modules.....	8
8. Hardware Installation and Provisioning Considerations.....	9
9. Software Installation and Provisioning Considerations.....	11
9.1 Equipment Management Issues.....	11
9.1.1 DS3 IOMs.....	12
9.1.2 STS-1 IOMs.....	12
9.2 Primary Rate ISDN.....	12
9.3 SS7 and ISDN Signaling.....	12
9.4 SS7 and BICC Limitation.....	13
9.5 Bearer Independent Call Control.....	13
9.6 CAS Signaling.....	13
9.7 GR-303 Signaling.....	13
9.8 Session Initiation Protocol.....	13
9.9 Intelligent Networks.....	14
9.10 Call Processing.....	14
9.11 Billing/Statistics.....	14
9.12 Integrated VoIP.....	15
9.13 CLASS Services.....	16
9.14 Voice Mail.....	17
9.15 System Software.....	17
10. TL1 Restrictions and Security Errata.....	17
10.1 TL1 Restrictions.....	17
10.2 IP Security Considerations.....	18

1. Scope

This document provides information regarding the Lucent Compact Switch system software version 3.11.1.1.SP.2 release for the System Processor (SP) and Input/Output Modules (IOMs). Topics covered are:

- ## Upgrade files and information
- ## Product improvements
- ## TL1 Changes
- ## Resolved and Unresolved Error Defects
- ## Supported Hardware Modules
- ## Hardware and software installation and provisioning considerations
- ## TL1 restrictions and security errata

Detailed descriptions of all hardware supported by release 3.11.1.1 is available by CLEI code and part number in the Part Information section in the *Lucent Gateway Platform Planning and Engineering Guide*.

2. Upgrade Files

The following files and objects are required to upgrade to version 3.11.1.1.SP.2:

- ## 3.11.1.1.SP.2_cpu.tar.gz
- ## 3.11.1.1.P2_ds1.tar.gz
- ## 3.11.1.1.P2_ds1_2.tar.gz
- ## 3.11.1.1.P2_ds3.tar.gz
- ## 3.11.1.1.P2_ena.tar.gz
- ## 3.11.1.1.P2_octds3.tar.gz
- ## 3.11.1.1.P2_octds3_2.tar.gz
- ## 3.11.1.1.P2_octds3_3.tar.gz
- ## 3.11.1.1.P2_trids3.tar.gz
- ## 3.11.1.1.P2_trids3_3.tar.gz
- ## 3.11.1.1.P2_voip.tar.gz
- ## 3.11.1.1.P2_voip6.tar.gz

3. Upgrade Notes

An in-service upgrade is not supported in the Beta version of this release.

3.1 EMS/Billing/Traffic Server Qualification

- ## Element Management System (EMS) version 9.7.0.0 or higher is required.
- ## TelicaPlexusDc (BTS) version 3.11.1.1.1 or higher is required.
- ## Traffic Collection Application (TCA) version 2.0.0.77 or higher is required.

4. New Features and Product Improvements

Software version 3.11.1 combines the 3.11 features with the following new features and enhancements. This version supports both Class 5 features and Class 4 routing.

4.1 ISUP-OLI SIP-URI

This feature allows the Compact Switch to generate an isup-oli SIPURI parameter in the outgoing SIP INVITE using the ANSI ISUP OLI parameter from the incoming call that was received over an ISUP trunk group. The isup-oli is a proprietary SIPURI parameter defined by Sonus/BroadSoft, which appears in the From Header of the INVITE message.

The parameter values correspond to the ANI II Digit values, as defined by the Telcordia Local Exchange Routing Guide, and are a two digit number, ranging from 00-99. The OLI parameter is always included in the outgoing IAM, if the isup-oli parameter was present in the incoming SIP INVITE. The isup-oli parameter is always included in the outgoing INVITE message if ANI digits were received in the incoming IAM OLI parameter (a router digitmod can be used to strip the OLI parameter from the IAM, before it is passed to the outgoing SIP trunk group, if inclusion of the isup-oli parameter is not desired).

Example:

```
INVITE sip:5081234567@biloxi.com SIP/2.0
To: <sip:5081234567@biloxi.com>
From: <sip:6175554141@x.com;isup-oli=70>;tag=19283017+(
```

4.2 87-1042-A DS1 I/O Module Kits

The 87-1042-A DS1 I/O Module (IOM) Kit, which consists of an 89-0414-A front card and a 89-0415-A rear card, simultaneously supports the processing of SS7 A-link, GR-303, and PRI signaling messages and Channel Associated Signaling (CAS). It also provides higher performance than the previous generation 87-1002-A DS1 IOM Kit (which consists of a 89-0360-A front card and a 89-0362-B rear card). The 89-0415 rear card provides 28 DS-1 ports on two 64-pin Amp connectors. Within a DS1, the DS0s that are not carrying A-link traffic can be used for bearer traffic. Each IOM Kit can support up to four A-links, assuming that the total MTP-2 message rate does not exceed 768 messages/second (assumes 80% IOM CPU utilization).

They can also provide system timing (recovered line timing) when installed as pairs in slots I/O-1 and I/O-2 or I/O-8 and I/O-10.

Up to 16 working and one protection IOM Kits, as indicated in the table below, are supported.

Kit Part Number	Comcode	Part Description	Comments
87-1042-A	300723574	28XDS1 IOM WITH TONE DETECT KIT	Cannot be protected by the previous generation 87-1003-A DS1 IOM Protect Kit (made up of a 89-0360-A and a 89-0368-A). Can be used to replace previously provisioned, previous generation 87-1002-A DS1 IOM Kits.
87-1043-A	300723632	28XDS1 PROTECT IOM KIT	Consists of a 89-0414-A front card and a 89-0368-A rear protect card. Can be used to protect the previous generation 87-1002-A DS1 IOM.
Notes: The 87-1042-A and 87-1043-A IOM Kits require either a Midplane II or Midplane III chassis.			

4.3 Meridian PBX Support

The following changes were made to the DMS100 ISDN variant to enable interoperability with the Meridian PBX:

- ⚡ The Meridian PBX does not accept B-channel Service messages, so instead of using Service messages to bring up the B-channels, Restart/Restart Ack messages are now used.
- ⚡ The last byte in the Channel Identification IE now uses a zero as its extension bit, instead of a one.

These changes are enabled using the TL1 ED / ENT -ISDN-IF commands by setting:

- ⚡ CUSTVAR1 to Meridian_PBX
- ⚡ ISDNVARIANT to DMS100
- ⚡ RSTOPT to BCHANONLY

5. TL1 Commands

5.1 New Commands

No new TL1 commands were added in version 3.11.1.

5.2 Modified Commands

TL1 ED / ENT -ISDN-IF commands have been modified to accept a CUSTVAR1 value of Meridian_PBX when the ISDNVARIANT is set to DMS100.

5.3 Removed Commands

No TL1 commands were removed in 3.11.1.

6. Error Defects

6.1 Resolved Error Defects

Tracking Number	Symptom
38736	DMS100 ISDN interoperability with Meridian PBX.
39211	Authorization Code does not show up in the AMA record for an Originating Tandem call.

6.2 Unresolved Error Defects

Tracking Number	Symptom
40120	40% of calls on one trunk group are not completing after dialing 1.
40131	SP faulted twice while synching with relay channel 19 error.
40323	MGCP line with privacy (*65) routes to reorder.
40352	Call to Primary DN is getting CW tone instead of busy treatment when there is an active call on the Alternate DN.
40363	ACB camp-on to busy Alternate DN does not ring back.
40506	MGCP line cannot change speed call assignments.
40544	Both SPs boot when doing rmv-eqpt::iom
40584	AMA record has incorrect elapsed time for incoming CAS trunk
40616	CFV courtesy call triggers CIDCW and call waited MGCP line gets 4 alerts
40667	Call to a busy line via an authcode trunk does not receive busy tone.
40669	Channel 1 of ISDN trunk on a 89-0410 card does not go IS.
40670	BLV voice path lost when controller hangs up before completing TWC call.
40719	TEST-TRANS does not accept an AUTHCODE greater than 8 digits.
40819	MGCP line routes to reorder after dialing cancel call waiting (*70).
40829	BTS 3.11.1.1 is not backward compatible.

Supported Hardware Modules

The following hardware modules are supported in this version.

Note: The hardware modules in gray background are supported but are manufacturing discontinued.

Commcode	Part number	Part description
300729803	85-3000-A	Plexus 9000 Chassis
#N/A	85-3001-A	Plexus 9000 Fan Tray
#N/A	85-3003-A	Plexus 9000 Chassis (existing hardware, Midplane II)
300729811	85-3004-A	Plexus 9000 Chassis (new hardware, Midplane II)
300729829	85-3005-B	Plexus 9000 Fan Tray (high speed fans)
#N/A	85-3007-A	Plexus 9000 Chassis Midplane III
300723814	85-3008-A	Plexus 9000 Chassis 14U High
300723830	85-3009-A	Plexus 9000 Fan Tray (high speed fans)
300729860	89-0360-A	DS1 I/O Front Module
300729878	89-0361-A	DS3 I/O Rear Module
300729886	89-0362-A	DS1 I/O Rear Module
300729894	89-0362-B	DS1 I/O Rear Module
300729936	89-0363-D	Switch Fabric Module
300729944	89-0364-A	Switch Fabric A Rear Module
300729977	89-0365-C	DS3 I/O Module
300730017	89-0367-C	SP/TMG Rear Module
300730025	89-0368-A	DS1 I/O Rear Protection Module
300730041	89-0375-A	Switch Fabric B Rear Module
300730058	89-0382-B	Octal DS3 I/O Module
300730066	89-0383-A	Octal DS3 I/O Rear Module
300730074	89-0384-A	ATM Voice Server Module (VSM I)
300730082	89-0386-A	Octal DS3 Rear Protection Module
300730116	89-0389-B	SP/TMG Module Dual
300730124	89-0390-A	10/100/1000 Ethernet Network Access Module
300746906	89-0390-B	10/100/1000 Ethernet Network Access Module w/RAM
300730132	89-0391-A	Quad 1000 Base T Ethernet Rear Module
300730157	89-0395-B	Voice Server Module 2688 Channel
300730165	89-0397-A	Triple DS3 STS-1 I/O Module
300730173	89-0398-A	Octal DS3-STs-1 I/O Module
300730199	89-0399-B	Quad 1000Base-LX Rear
300730207	89-0406-A	System Processor Timing Module (SP3): Dual

Commcode	Part number	Part description
300730280	89-0406-B	System Processor Timing Module (SP3): Dual
300783933	89-0406-C	System Processor Timing Module (SP3): Dual
300796588	89-0406-D	System Processor Timing Module (SP3): Dual
300730215	89-0410-A	Triple DS3 STS-1 I/O with Tone Detect
300730223	89-0411-A	Octal DS3 STS-1 I/O with Tone Detect
300746922	89-0414-A	DS1/E1/J1 I/O Termination Module
300730231	89-0415-A	DS1/E1/J1 I/O Rear Card
300730249	89-0417-A	System Processor III/Timing Module Rear (SP3): Dual
300730256	89-0421-A	Quad 1000Base-SX Rear
300730264	89-0424-A	Triple DS3 I/O Module With Tone Detect
300730272	89-0425-A	Octal DS3 I/O Module With Tone Detect

Detailed information for all hardware supported by release 3.11 is listed by CLEI code and part number in the Part Information section in the *R3.11 Planning and Engineering Guide*.

7. Hardware Installation and Provisioning Considerations

- ⚡ A front SP-3 module, 89-406, requires a rear SP-3 module, 89-0417, front switch fabric card (89-0363-D), and Midplane III (chassis 85-3007 or 85-3008).
Note: The OS port is above the SIGA port on the rear SP-3 module, whereas the OS port is below the SIG port on the rear SP module.
- ⚡ The high performance Triple and Octal DS-3 Front IOMs, 89-0424 and 89-0425, require a Rear Octal DS-3 module, 89-0383, and a rear Octal Protection module, 89-0386. They are only supported in a chassis with Midplane II (85-3004) and Midplane III (85-3007 and 85-3008).
- ⚡ The high performance Triple and Octal DS-3 Front IOMs, 89-0424 and 89-0425 can be protected by corresponding 89-0424/0425 IOMs as well as by 89-0410/0411 IOMs.
Notes:
 - ∅ They cannot be used to protect corresponding Triple and Octal DS-3/STS-1 IOMs, part numbers 89-0397/ 0398/ 0410/0411, since they do not support STS-1.
 - ∅ They cannot be used to replace previously provisioned Triple and Octal DS-3/STS-1 IOMs, part numbers 89-0397/ 0398/ 0410/ 0411, since they do not support STS-1.ISDN, MTP2, CAS and GR-303 peak signaling rates must be taken into account when using a 89-0410/0411 to protect a 89-0424/0425, since they support higher signaling rates than the 89-0410/0411 IOMs (25%, or greater, depending on the signaling).

- ## A Mid Plane II (85-3004) chassis or Midplane III (85-3007 and 85-3008) chassis requires an Octal rear-protection IOM on DS3 IOMs regardless of whether the front IOMs are Octal or Triple DS3 IOMs (rear-working IOMs can be Triples, but the protection IOM must always be Octal).
- ## An Octal rev. A can be backed up with either an Octal rev. A or an Octal rev. B; however, an Octal rev. B can only be backed up with an Octal rev. B. IOM failover will not work if Octal rev. B tries to fail over to an Octal rev. A.
- ## A Switch Fabric (SF) module must be inserted before its associated SP module.
- ## SP and SF Rev. B or later are required for operation with Octal DS3 IOMs.
- ## Chassis Part Number 85-3000, CLEI Code BAM9LJ0GRA, does not support Octal IOMs.
- ## Modules with the following CLEI codes are not supported in this software version:
 - Ø Quad OC12c Network Adapter Interface Module, CLEI code BAA91Z0GAA
 - Ø Quad OC3/OC12c Network Adapter Interface Module, CLEI code BAA91Z0GAB
 - Ø Quad OC12c Packet Interface Module, CLEI code BA1AAA0AAA
 - Ø E1 IO Front Module, CLEI code BA2AV30GAA
- ## GR-303 is supported on the DS1 module, part number 89-0414GR-303. It is not supported on the DS1 module, part number 89-0360. GR-303 is supported on the Triple DS3, part number 89-0397 and higher, and the Octal DS3, part number 89-0398 and higher. It is not supported on the Triple DS3, part number 89-0365.
- ## CAS is supported on Octal, part number 89-0398 and higher and triple DS3, part number 89-0397 and higher.
- ## When using the `ENT-EQPT` command, redundancy can be set equal to SEC (redundancy=sec) only if the IOM AID specified is in a protection slot. Attempting to provision an unsupported slot as a SEC redundancy returns a DENY message.
- ## ENA IOMs can only be provisioned in slot 8 and will only fail over to slot 10. VPS can be provisioned in any slot, but will only fail over to slot 17.
- ## The ENA IOM does not support complete ARP functionality. It relies on an IP Router to route the IP packets, even when the source and destination are on the same subnet (i.e., packets could be switched by a layer 2 device). Currently, the ENA will ONLY ARP the IP address used as the default gateway. Lucent Technologies, Inc. recommends that your default gateway be a router.
- ## You cannot provision slot 11 (IOM slot 9) if the ENA port 4 is provisioned, nor can you provision the ENA port 4 if slot 11 (IOM slot 9) contains a provisioned card. This is because there is a bandwidth limitation on the SF card.
- ## Some limitations exist for three-way calling (TWC) and Add-On Transfer Call (AOTC) on the Octal DS3/STS-1 Front Module (part number 89-0398-A, CLEI code BAA9UVYGAA) and the Triple DS3/STS-1 Front Module with Tone Detect (part number 89-0410-A, CLEI code BA4A60ZFAA).

- ⚠ If an SP module is manually removed and then reinserted, it will not automatically be restored to service. You must enter the TL1 command, `RST-EQPT::SP-{A|B}`, to initialize and synchronize the previously removed SP.

8. Software Installation and Provisioning Considerations

8.1 Equipment Management Issues

- ⚠ IP addresses for OS, signaling and craft Ethernet ports cannot be configured on the same subnet.
- ⚠ The absence of carrier on the signaling or management ports on the protection SP does NOT prevent the `SW-TOPROTN-EQPT::SP-x` TL1 command from being executed. It will result in an SP failover, even if the signaling or management ports do not have carrier (an Ethernet cable has been pulled). **Note:** It is recommended that you check for alarms before issuing any equipment commands that force failovers.
- ⚠ The IP addresses must be correct and unique on both SPs before bringing the switches into service.
- ⚠ If the signaling interfaces are not configured with IP addresses, an alarm from each SP, stating “lost link on signaling Ethernet,” will be generated.
- ⚠ When switching from SS7 to ISDN signaling or vice-versa, the signaling link and interface must be deleted and the Octal DS3/DS1/DS3 IOMs must be rebooted before provisioning can occur.
- ⚠ If you pull an SP, thus taking it out of service, you must wait 10 seconds before reinserting the SP.
- ⚠ Using the `ED-DAT` TL1 command to change the time is not required or recommended when the NTP is provisioned. If the new date differs by more than 1000 seconds, then the NTP daemon may shut down. If this happens, you should reset the NTP server to 0.0.0.0 then back to the correct server IP address.
- ⚠ A single IOM cannot support signaling links of both 56K and 64K. The link speed must be the same for all links on a single IOM. This restriction does not apply to Triple DS3 IOMs, part numbers 89-0397 and higher, and Octal DS3 IOMs, part numbers 89-0398 and higher, as a mix in the link speed creates no problems.
- ⚠ Currently, Authorization Codes are only supported on CAS and ISDN lines.
- ⚠ Line timing must be configured as a protected pair. I/O 1 slots and 2 are paired, as are I/O slots 8 and 10. You cannot have just one IOM in a paired slot. Any Triple or Octal DS3 IOM can be used as well as the 89-0414/0415 DS1 IOM.
Note: Line timing is not supported with Midplane I (85-3000 chassis) or SP-1.
- ⚠ CALEA CDC is not supported when the SP is running in dual processor mode. The default mode is dual processor mode enabled. If CALEA CDC is required, please contact Lucent Technical Services at 1-866-582-3688 (Option 5).

8.1.1 DS3 IOMs

⚠ Operating a FEND loopback on a channel already in a near-end (NEND) loopback cannot be done because of DS3 interface chip limitations. If a NEND loopback command was followed by a FEND loopback command, the DS3 interface chip will only execute the NEND loopback, but will remember the FEND request. If the NEND loopback is released, the FEND request is remembered but will not execute. Issuing a FEND loopback will not work because the DS3 interface chip thinks a loopback is in progress. The FEND must also be released. To insure a T3 is put into a FEND loopback, first send a RLS-LPBK-T3::<lpbk_id>::FEND command followed by a OPR-LPBK-T3::<lpbk_id>::FEND.

Note: However, you cannot issue a NEND loopback followed by a FEND loopback from the EMS without issuing a RLS in between.

8.1.2 STS-1 IOMs

⚠ GR-253 (R6-372) states that there must be a method provided to detect and report the actual contents of the Received STS Path Trace message. The RTRV-STs1 command presently only supports the expected Rx Trace message and the Tx Trace message.

⚠ The system reports an STS Trace ID Mismatch when the J1 byte is inaccessible. GR-253 (R6-382) states that STS Path Trace monitoring should be suspended if the J1 byte in the Path Overhead cannot be accessed (for example, LOS, LOF, LOP-P and AIS-P). This means that the system should not report an STS Trace ID Mismatch just before it declares any of the above mentioned alarm conditions, or after they clear.

⚠ STS reports Trace ID Mismatch events.

8.2 Primary Rate ISDN

⚠ The LCS supports National ISDN-2, 4ESS, 5ESS, and DMS-100 variants for one-way calls leaving the LCS.

⚠ Two-way Primary Rate ISDN lines on the LCS should be provisioned as National ISDN-2, 4ESS or DMS-100.

8.3 SS7 and ISDN Signaling

⚠ When editing a T1 out of service the mode (OMODE) must be set to AIS in order to bring MTP2 and LAPD down.

⚠ Currently, the signaling point code restart procedure is not supported.

⚠ Alarms for ISUP timer expiry are disabled.

⚠ Alarms are not generated if the initial condition for a remote Point Code is down.

⚠ A maximum of 250 destination point codes total can be configured.

⚠ A signaling link set must contain at least one signaling link with a link priority set to 0. Any additional links, in the link set, must have contiguous priorities.

⚠ LCS currently does not support T-321 timers.

⚠ Trunk Group IDs must be unique in the system.

- ⚠ There can be no more than 100,000 interfaces formed by TRKGRPS+ISDNIF+CASIF+GR-303 in the router. The breakdown of each consists of the following: a maximum of 3808 configurable ISDN interfaces and TRKGRPS each; a maximum of 56 GR-303-IF interfaces; and a maximum of 91392 CAS-IF interfaces (currently, however, it is recommended that you not configure more than 64,000 CAS-IFs).

8.4 SS7 and BICC Limitation

- ⚠ BICC and ISUP trunk groups should not be configured to a common destination point code.

8.5 Bearer Independent Call Control

- ⚠ BICC trunk groups must only be configured to either accept incoming calls only (CICINCOMING) or originate outgoing calls only (CICOUTGOING). If BICC is being used for both incoming and outgoing calls, then two different trunk groups need to be configured.
- ⚠ BICC trunking supports a maximum of 16383 BICC trunks per Destination Point Code.
- ⚠ If you are unable to change BICC trunk group configuration settings, you must delete the BICC trunks and the BICC trunk group and then provision the BICC trunk group and trunks with the required modifications.

8.6 CAS Signaling

- ⚠ The maximum CAS ports (T1s) that can be provisioned for one Octal (89-0398, 89-0411, 89-0425) is 150 T1 ports (3600 T0s).
- ⚠ Parameters in the CAS-IF command cannot be edited after changing the ALLOC parameter equal to CIRCULAR for one CAS-IF entry.

8.7 GR-303 Signaling

- ⚠ If you are using Lucent RDT's, the EOC and TMC channels should NOT be switched to protection at the same time (by using a value of BOTH for the channel value) when issuing the TL1 SW-TOPROTN-GR303 command. The EOC and TMC channels should be individually switched to protection.

8.8 Session Initiation Protocol

- ⚠ Changing media streams in SIP 18x responses and subsequent 200 OK responses is not supported since it is contrary to RFC 3261. A SIP CANCEL message is not sent out after Invite Timer (T1) expiry which is consistent with RFC 3261 but inconsistent with RFC 3398.
- ⚠ Enabling the SIP session timer can cause some performance degradation at high call rates if a large number of session refresh messages are sent at the same time or after a failover. The recommended value for this timer when enabled is 1800 (30 minutes) - that way, session refresh messages will not occur in most cases.

- ⚡ When a 200 OK message is sent and no ACK message is received, the BYE message is not transmitted immediately after the seventh expiry of the T1 timer.

8.9 Intelligent Networks

- ⚡ Notification and/or termination messages from the SCP are currently not supported.
- ⚡ Queries are not sent to the backup SCP. This will not effect routing if Global Title is used.

8.10 Call Processing

- ⚡ The SS7 signaling links are not protected during an IOM hardware failover.
- ⚡ Retrieval of Calling Area entries requires knowing the Calling Area ID entered.
- ⚡ When an IOM is in protection mode, attempting to add, modify or delete ISDN or signaling links from the protected IOM will return DENY messages.
- ⚡ Calling Areas cannot be removed if they are associated with a subscriber.
- ⚡ All Local Calling Areas must contain 555 to generate call type 33. Specifically, 555 must be a HOME-NXX on your switch, and 555 must also be in your Local Calling Area. If either of these conditions is not satisfied, then the call is treated as an InterLATA call and call type 110 is generated. The most efficient way to provision 555 into all Local Calling Areas is to designate one HOME-NPA-NXX as 555, add that HOME-NPA-555 to one Rate Center, and then assign that Rate Center to all Local Calling Areas.

8.11 Billing/Statistics

- ⚡ The number of files that can reside in the ASCII Billing server's data directory is finite and is based on your particular Solaris configuration. Because it is possible to fill the directory to a point where the 'ls' command will not display the contents of the data directory, it is suggested that you first remove the previous month's data files from the data directory during the first week of the current month to prevent this from happening. If you do fill the data directory, use the 'find .' command, executed from the data directory, to display the contents of the directory. Move the files out of the data directory using the 'cp 'find ./SOME_PATHNAME*' SOMEOTHER_PLACE', executed from the data directory, until the 'ls' command works.
- ⚡ The ISDN PRI Traffic CCS report does not currently update the available circuit (AVLCIRC) field to reflect ISDN channels that are OOS.
- ⚡ Because Feature Group D functionality is fully supported from an Access Tandem and Inter-Exchange Carrier standpoint for CAS and ISUP in release 3.8 and above, originating carrier information (such as connect date, connect time, and elapsed time) is only valid for Feature Group D trunks.
Note: End Office Feature Group D functionality is not fully supported. For terminating carrier access calls, the carrier timing information is populated even if the incoming trunk group is not Feature Group D.

- ⚠ If the physical connection is lost between the LCS and the BTS server, the LCS does not generate an alarm due to a limitation of the Lynx TCP protocol stack. However, an alarm will be generated when the active SP determines that it cannot transmit records to the BTS server.
- ⚠ The Traffic Statistics Reports chapter of the *Billing and Traffic Guide* states that busy hour reports are supported for SIP, CAS, BICC and SS7 trunk groups. SIP busy hours reports are not supported. This is corrected in Issue 7 of the guide.
- ⚠ The Traffic Statistics Reports chapter of the *Billing and Traffic Guide* states that Incoming and Outgoing CICs have allowed value types of CAS interface and CAS line. This is incorrect, and is corrected in Issue 7 of the guide. Selections should be:
 - Ø 0 = (not used) for ISDN, CAS Interface, CAS Trunk Group or SIP Trunk Group
 - Ø CIC for SS7 Trunk Group
 - Ø CIC for BICC Trunk Group
 - Ø CRV for GR-303 interface

8.12 Integrated VoIP

- ⚠ If you change the VSM `aal5enc` encoding parameter (VCMUX, LLC SNAP), a VSM reboot is required for the change to take effect.
- ⚠ If the precedence of RTP packets is changed with ED-VOIP-SYS, the voice server module needs to be rebooted for the settings to take effect. This can be done with an IOM failover to the protection voice server module followed by an IOM revert of the voice server module.
- ⚠ If you change the ENA `format` parameter (802.3, DIX II), an ENA reboot is required for the change to take effect.
- ⚠ The adaptive jitter buffer algorithm has temporarily been disabled to provide additional feature support. **Note:** The TL1 `EDIT-VOIP-SYS` command still enables you to set the `jitBufPlMod` parameter to “ADAPTIVE” but the fixed jitter buffer algorithm will be used.
- ⚠ Echo tail of 64ms is not supported in this version. Supported echo tails are 32ms and 128ms. **Note:** If 64ms is provisioned, using TL1 or the PlexView EMS, then an echo tail of 128ms will be in effect.
- ⚠ Tone Relay support is limited to DTMF Events per RFC2833, Section 3.10, Table 1. Other types of tones are not supported.
- ⚠ The system does not currently verify the IP link connectivity state on IOM-8 prior to reverting. You should verify the status of the IP links on IOM-8 prior to reverting.
- ⚠ Fax/modem support between the LCS and some third-party equipment (such as gateways, IADs) is only available on G.711 calls. For calls using compressed CODECs (using G.729 protocol), fax/modem calls won't work with these vendors if they use proprietary signaling protocols.
- ⚠ The LCS supports G.711, G.726, G.729, G.723.1, CLEARMODE, X-CCD, CISCO-CLEAR-CHANNEL CODECs, each with 10, 20, 30 and 40ms sampling, except for G.723.1, which supports 30 and 60ms sampling. G.723 PTIME provisioning is not supported. The LCS defaults to 60ms, unless the endpoint requests 30ms.

- ## If you want to modify the endptvoip IP address on a GigE port, you must edit the ENET port Out of Service (OOS) and then use the RMV-EQPT command on the VPS IOM. There is no way to dynamically update the IP addresses without dropping all calls associated with a VPS IOM. For example, information would be entered as such:
- ```
ED-ENET::IOM-8-ENET-1:::OOS; (GigE port)
RMV-EQPT::IOM-11; (VPS/VSM IOM)
DLT-ENET-ENDPTVOIP::IOM-8-ENET-1; (Delete Endpoint)
ENT-ENET-ENDPTVOIP::IOM-8-ENET-:::IPADDR=10.18.140.211,
MATEIPADDR=10.18.140.212,SUBNETMASK=255.255.255.0,
DEFAULTGATEWAY=10.18.140.1:IS;
(Enter new IP address to the endpoint)
ED-ENET::IOM-8-ENET-1:::IS;
RST-EQPT::IOM-11;
```
- ## When the SDP profile contains multiple deep compression CODECs (G.729, G.723.1 or G.726), only the first available deep compression CODEC in the preference list will be included in the originating offer from the LCS, e.g., G.729, G.711, G.726. This results in G.711 and G.729 being the offered CODECs in the originating offer (provided G.729 is available; otherwise, G.726 or G.711 would be offered). This limitation applies to CODEC negotiation across BICC, SIP, and MGCP.
- ## MF Tone detection is not supported on the VPS IOM in this release. In order to support MF Tone detection, 89-0410/0411/0424/0425 IOMs, which have on-board DSPs to perform MF tone detection, must be used.
- ## The LCS only supports Payload Type 13 comfort noise for G.711 and G.726.
- ## RTCP reports sent for T.38 calls are invalid and should be ignored.

### 8.13 CLASS Services

- ## Busy Line Verification/Busy Line Interruption connections are not preserved on a SP/SF failover.
- ## Active Home Intercom calls (HI) are not preserved over an SP switch to protection card, since the HI call is not recognized as a stable two party call.
- ## Although the LCS currently enables the following services to be assigned to subscribers/interfaces with more than one line (DS0), assigning these services to subscribers/interfaces with more than one DS0 is not recommended:
- Ø Call Forwarding Busy Line
  - Ø Call Waiting
  - Ø Cancel Call Waiting
  - Ø Three-Way Calling
  - Ø Call Forwarding Variable
  - Ø Remote Call Forwarding
- ## If multiple lines (DS0s) are assigned to an interface and more than one party is off hook, the LCS has trouble identifying which line gets the call waiting tone or which party pushed the FLASH HOOK.

- Ø When a caller with Call Waiting is talking to a second party, and the caller with Call Waiting receives a call from a third party, the caller with Call Waiting can flash over to the third party, placing the second party on hold. Upon disconnecting the call with the third party, the caller with Call Waiting should either be able to wait for normal timer expiry before being reconnected with the second party, or should manually flash over to the second party to continue the call. Currently, the LCS does not wait for timer expiry or a manual command from the caller, but rather, automatically cuts back to the second party upon disconnect from the third party.
- Ø The `ED-SERVICE-ACCESSCODE` must put the VMS in-service to support voice mail. The command would appear as: `ED-SERVICE-ACCESSCODE::VMS:::IS;`

## 8.14 Voice Mail

- ⚠ The TL1 `RTRV-VMS-LNK` command should NOT be issued against multiple links. If multiple links are being used, the command should be issued multiple times against one link at a time.

## 8.15 System Software

- ⚠ UNIX system security does not support password aging or security logging for FTP and remote login access.
- ⚠ The date/time should be set before configuring the system and adding the IOM. It is advised that GMT time be used. Please contact Lucent Technical Services at 1-866-582-3688 (Option 5) for instructions on how to provision the LCS clock for GMT time.
- ⚠ If an IOM protection switch occurs, the monitoring function stops. Once an IOM revert occurs, the cross-connect to the test port has to be put out of service (OOS) and restored.
- ⚠ Currently, there is no way to retrieve the status of a nailed-up DS0 connection unless you know the exact DS0 of one of the connections. `RTRV-CRS-T0` without an AID should return the status of test port settings.

# 9. TL1 Restrictions and Security Errata

## 9.1 TL1 Restrictions

- ⚠ Occasionally a “reply timeout” message will be seen while trying to execute an ENT, ED or DLT TL1 command. The command may have still worked and should be validated with a RTRV.
- ⚠ The number of TL1 retrieve (RTRV) commands is limited to five results per second.
- ⚠ It is possible that some TL1 commands may timeout before completion, depending on system load. Should this occur, please contact Lucent Worldwide Services (LWS) at 1-866-582-3688 (Option 5) for assistance.

- ## Signaling TL1 commands respond “All Resources Busy” while standby SP is synchronizing.
- ## Logging into the TL1 agent cannot be done during part of SP sync on the standby side.
- ## When using the INIT-SYS, ED-BILLSYS, and EXEC-RESTORE-LCS commands, the target identifier (TID) must always be used. Therefore, the form of the command must be, as an example, INIT-SYS:TID::::10; or ED-BILLSYS:TID::::10; or EXEC-RESTORE-PLEXUS:TID::::10;
- ## Before restoring a backed up database using the EXEC-RESTORE-LCS command, contact Lucent Worldwide Services (LWS) at 1-866-582-3688 (Option 5) for assistance to ensure a successful database restoration.
- ## The *T3 Idle* and *T3 Map* parameters in the ENT/ED/RTRV-T3 command are not supported.
- ## For the commands INIT-REG-T1/T3/E1/OC12/OC3/STS1, NULL is the only accepted value in the *mondatt* and *montm* parameters. *ALL* is the only *montype* that will clear the registers.
- ## The “state” information on the SIP-IPADDR command is not persistent. If the primary IP address has failed over to the secondary IP address, and then you fail over the SP, your first SIP call after the SP failover will initially attempt the call on the wrong IP address. The call will complete on the secondary IP address once the SP determines the primary is down. The secondary IP address will then be made “active” and all subsequent calls will be made using the "active" IP Address.

## 9.2 IP Security Considerations

**IP Filtering**, an IP packet filtering application that runs on the SPs is available in this build. It is important to note that IP packet filtering is only a subset of full firewall/Session Border Controller functionality (e.g., packet filtering, bandwidth management, user authentication, network access rules, network address translation, and back-to-back user-agent). Because IP filtering and processing filtering rules is a CPU-intensive task that can degrade overall switch performance, the use of an external network firewall is highly desirable and recommended. However, in the absence of a firewall, IP filtering can protect the switch from unsophisticated attacks or accidental misuse. IP Filtering **is not enabled** upon initial boot up. Should IP filtering be required, contact Lucent Worldwide Services at 1-866-582-3688 (Option 5) for assistance.

**Secure Shell (SSH)** is a program for secure remote logins and other secure network services over an insecure network. SSH is actually a suite of three protocols that are transparent to the user: the SSH Transport Protocol, the SSH User Authentication Protocol and the SSH Connection Protocol. An SSH session applies cryptographically assured privacy and integrity protection as well as mutual authentication to the data passing through it. To use the SSH, **you must enable it** using the ED-SYS-SECU command as described in DLP-558, Configure Security, in the *Lucent Gateway Platform Operations Manual*. Once the Gateway Platform has SSH enabled, you must have a SSH client program installed on your PC in order to access the Gateway Platform. You must know the “local-port”, which is a free TCP port on the your server. The local port is a value greater than 1024 and is obtained from your system administrator. You can then access the

Gateway Platform by opening the Command Prompt window (DOS prompt) on your PC and entering the following commands substituting the correct value for <local-port> and the IP address for <Gateway Platform> to establish an SSH connection between the <local-port> and the 2361(TL1) port on the Gateway Platform.

**Notes:**