Lucent Technologies
Bell Labs Innovations

4ESS™ Switch Product Release Document

4E28 Release 1 Generic

234-090-281AC
Issue 1, October 2002

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4ESS™ Switch Generic Transition Document
234-090-281AC, Issue 1, October 2002

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About this information product

Purpose

The purpose of the Product Release Document (PRD) is to provide customers with information pertaining to the new features that are introduced in the 4ESS switch. A PRD is written to cover the features introduced in full generic releases and generic update releases.

This PRD provides information pertaining to the new features included in the Release, plus features that are released as Software Change Packages (SCPs), and features that are Non Release Specific (NRS).

Safety Labels

There are three types of safety labels used in Lucent Technologies documentation: DANGER, WARNING, and CAUTION. This document contains safety labels in the form of CAUTIONS. A CAUTION safety label indicates the presence of a hazard that will or can cause minor personal injury or property damage if the hazard is not avoided.

Scope

The Product Release Document provides customers with information not covered in other 4ESS switch documentation. It is not a replacement for other documentation such as Standard Lucent Technologies Practices, Task Oriented Practices (TOP), Maintenance Reference Handbooks, etc. that support the 4ESS switch. The information in this document is intended only for the introduction of the new Release, not the long-term maintenance. Since other documentation is used for the operation and maintenance of features after their introduction into the 4ESS switch, this PRD will not be reissued, unless there are changes or added SCP features.

Intended Audience

The document is intended for people involved in testing, provisioning, maintenance, administration, and technical support of the 4ESS switch. Feature managers, Integrated Test Network (ITN) personnel, field support, Network Control Center (NCC), Product Engineering Control Center (PECC), and National Electronic Switching Assistance Center (NESAC) personnel are examples of some of the people who will use the PRD.

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1 4ESS 3B APS Upgrade to RTR 21.40 Feature (588)

Overview

Description This feature provides a software upgrade of the 4ESS APS operating system software from RTR 21.30 and SOLARIS™ 2.6 to RTR 21.40 and SOLARIS 8. This software will be the base for 4E28R1 and 4AP21R1.

Purpose This chapter provides a feature description, and information on provisioning and transitioning of feature 588.

Contents This chapter contains the following topics:

Feature Description

Description

There is a need to maintain the latest 4ESS 3B21D APS software generic current with the latest RTR OS release and SDE build environment.

This feature provides a software upgrade of the 4ESS 3B21D APS operating system software from RTR 21.30 and SOLARIS 2.6 to RTR 21.40 and SOLARIS 8. This software will be the base for 4E28R1 and 4AP21R1.

Benefits

This feature provides a new, supported technology and environment for future generics and features.

Call Flow (Not Affected)

Provisioning (Not Affected)

Recording (Not Affected)

Network Management (Not Affected)

Maintenance/Troubleshooting

Page 1940 Commands

This feature adds page 1940 poke commands used for "Easy SU Installation" on the 3B21D APS.

These pages are not supported by 4ESS Switch documentation. Any use of these capabilities should be under direct supervision of the Lucent Customer Technical Support team.

Page 1990 Commands

This feature removes page 1990 poke commands from the 3B21D APS.

Transition Considerations

Feature Deployment

It is not necessary for this feature to be deployed in all switches for it to be fully operational.

Feature Activation

This feature is activated by software deployment.

□

Input/Output Manual Pages

APS Input Message - Modified

This feature modifies the following 4ESS switch APS input message. The **[,COM]** option is not used in this message for 4AP21 and later releases.

COPY:BKDISK

This page intentionally left blank.

2 Capacity Relief on 1B Memory Feature (8287)

Overview

Description

Feature 8287 moves disk-backed structures from 1B Main Memory to Segmented Memory. The Call Store disk-backed data structures are:

- 3-digit and 1-digit translation table
- 6-digit NPA-NXX - Location Routing Number (LRN)
- Multiple Carrier Treatment (MCT)
- Multiple Routing Treatment (MRT)
- 6-digit NPA-NXX – Local Number Portability (LNP)

This feature allows less restricted growth of these structures as well as growth of the structures remaining in the 1B Main Memory.

Purpose

This chapter provides a feature description, and information on provisioning and transitioning of feature 8287.

This feature is delivered as part of Generic 4E28R1.

Contents This chapter contains the following topics:

Feature Description

Description Feature 8287 moves disk-backed structures from 1B Main Memory to Segmented Memory.

Benefits Ensure the availability of spare memory.

This spare memory allows AT&T to grow network equipment, the number of customers, and services.

Call Flows (Not Affected)

Provisioning

ODA Form 406C

An ODA option indicator is provided for all optional data structures in the form.

- **F8287_SGM** option – Specifies whether 8287 subtranslators are in Segmented Memory or Main Call Store.
- **BOUND_SGM** option – Specifies how much Segmented Memory Call Store Non-Disk Backed (Dynamic) and Call Store Disk Backed (Static) memory is available for the Generic Life Cycle.

Recent Change Form 812

Recent Change Form 812 is modified to incorporate segmented memory.

Verify Forms 18a and 8a

Verify Forms 18a and 8a are modified to retrieve a memory address defined in segmented memory.

Network Provisioning Recent Changes

The following recent changes populate the Data Structures moved to Segmented Memory when Segmented Memory is provisioned in 4E28R1 Generic Release. There are no operational changes to the recent changes or their associated verify inputs/output messages

Data Structure	RC Form	Verify Input	Verify Output
HT41DIG (International Routing)	304	13c	3g
	305	13c	3g
	313	13a	3i
	314	13a	3j
	315	13a	3k
	316	13a	3l
	322	13h	3o
	333	13l	3y
	340	13i	3ac
	510	15a	5a,5d

Data Structure	RC Form	Verify Input	Verify Output
HT43DIG (3 Digit Routing)	300	13b	3a
	301	13c	3c
	302	13b	3e
	303	13b	3v
	304	13c	3g
HT4MRTRTNG (MRT Routing)	321	13h	3o
HT4MCTRTNG (MCT Routing)	339	13i	3ac
HT46DIGLRN (LRN Routing)	666	16bt	6bt
HT46DIGTYP (LNP Routing)	347	13av	3av

□

Recording (Not Affected)

Network Management (Not Affected)

Maintenance/Troubleshooting (Not Affected)

Transition Considerations

Feature Deployment It is not necessary for this feature to be deployed in all switches for it to be fully operational.

Feature Activation This feature is activated by software deployment.

□

Input/Output Manual Pages (Not Affected)

3 4ESS Switch Attached Processor Interface Capacity Relief Feature (8288)

Overview

Description This feature raises the Attached Processor Interface (API) capacity by implementing three API relief measures.

Purpose This chapter provides a feature description, provisioning information, and transition considerations.

This feature is delivered as part of Generic 4E28R1.

Contents

This chapter contains the following topics:

Feature Description

Description

Feature 8288 raises the API capacity between the 1B and 3B processors on the 4ESS switch. This feature includes three API relief measures.

1. Feature 8288 increases the NEtwork Management Operations System (NEMOS) data priority. This feature increases the NEMOS delay-based capacity by giving the NEMOS five-minute-data traffic, a priority over the fifteen-minute and hourly data traffic. The NEMOS five-minute-data traffic, fifteen-minute, and hourly data traffic use API capacity between the 1B and the 3B processors. When NEMOS five-minute-data traffic is requested, the fifteen-minute and hourly data traffic is deferred until the NEMOS traffic is completed.
2. Feature 8288 shortens the Transaction Capabilities Application Part (TCAP) responses. There are parameters in TCAP responses that are not required. These parameters are only applicable to outgoing TCAP queries. These parameters are removed across the API, from the 3B to the 1B, for Segmentation Directory (SD), INWATS (8YY), and Local Number Portability (LNP).
3. Feature 8288 removes the Network Switch Number (NSN) from the Initial Address Message (IAM) at the Originating AT&T Switch (OAS) on direct calls to the Terminating AT&T Switch (TAS). The NSN is not required on direct OAS-TAS calls and is removed from the IAM for these calls.

Benefits

The API capacity relief expected from Feature 8288 is

- 7.5% signaling-based and
- 10% NEMOS-based.

The API capacity relief, mentioned above, takes in to account relief expected from

- Feature 8093 – 4ESS Switch API Capacity Mining – 4E27 R1 and
- Feature 8290 – 4ESS Switch Real Time Capacity Mining II – 4E28R1

Call Flow (Not Affected)

Provisioning

Recent Change Form 809

Recent Change Form 809 is modified to allow feature bit **PF90** to turn the shortened TCAP response portion of this feature, ON or OFF. RC Form 809 is shown in the TG-4, Division 7, Section 8.

Feature bit **PF90** on Recent Change Form 809, set to ON or OFF, sets the ACI Translation Activity Flag, **XL4ABRTCAP_ACT**, ON or OFF. This specifies to the DLN that the Abbreviate TCAP End Message capability is activated or NOT activated.

The PF90 bit is verified by form 16az (TG-4, Division 8, Section 16az – Request Verification of Miscellaneous Data) and form 8j (TG-4, Division 8, Section 8j – Feature Bit Status).

Recording (Not Affected)

Network Management

NEMOS When five-minute NEMOS data is sent to NEMOS, transmission of DEMS/DARICS data from the 1B to the 3B is deferred until the five-minute NEMOS data is completed.

Maintenance/Troubleshooting (Not Affected)

Transition Considerations

Feature Deployment It is not necessary for this feature to be deployed in all switches for it to be fully operational.

Other Features Feature 8288 works in conjunction with these features.

- 8093 – 4ESS Switch Attached Processor Interface Capacity Mining (Documented in Product Release Document 234-090-271AC)
- 8290 - 4ESS Switch Real Time Capacity Mining II (Documented in Product Release Document 234-090-281AC)

Feature Activation

- To activate the "Abbreviated TCAP End Messages" of this feature, **PF90**, must be set to **ON** (Default = ON).
- To activate the **XL4ABRTCAP_ACT** flag, **PF90**, must be set to **ON** (Default = ON) using RC Form 809.

□

Input/Output Manual Pages (Not Affected)

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4 4ESS Switch Real Time Capacity Mining Feature (8290)

Overview

Description

This feature raises the 1B real-time capacity by removing or restructuring features no longer used by the AT&T Switched Network (ASN). Feature 8290 includes the following measures.

1. Remove Feature 5569 – Carrier Interconnect.
2. Remove Circuit Selection Capabilities Routing (CSCR) feature.
3. Restructure Transaction Capabilities Application Part (TCAP) / Alternate Signaling Transport Network (ASTN) logic.
4. Streamline Local Number Portability (LNP) processing.
5. Restructure logic of transmitting TCAP-Real Time Network Routing (RTNR) Query/Response (Q/R) messages.
6. Eliminate ANI Trigger-Table lookup in call processing.

Purpose

This chapter provides a feature description, provisioning information, and transition considerations.

This feature is delivered as part of Generic 4E28R1.

Contents This chapter contains the following topics:

Feature Description

Description

Feature 8290 raises the 1B real-time capacity by removing or restructuring features no longer used by the AT&T Switched Network (ASN). This feature includes the following measures.

1. Removes Feature 5569 (Carrier Interconnect). Carrier Interconnect has not been used by AT&T and is removed. This measure eliminates all AT&T Service/Call ID Type (ASCIT20) questions defined for CI and removes all call processing references to the IXC indicator, that are in the Trunk Subgroup (TSG).

2. Removes the Circuit Selection Capabilities Routing (CSCR) feature. The CSCR feature is no longer used by any services. This measure eliminates what remains of the Feature 4908 call processing logic.

3. Restructures Transaction Capabilities Application Part (TCAP) / Alternate Signaling Transport Network (ASTN) logic. Each received TCAP message and each transmitted TCAP BEGIN message from the 4ESS switch are examined to determine if ASTN is in control of these TCAP transactions. These interrogations are performed regardless of whether ASTN is active. This measure restructures and moves the logic for this task from the ASTN to TCAP call processing.

4. Streamlines Local Number Portability (LNP) processing by removing parameters, tables, conditional checks, and other items no longer needed for LNP. This measure does the following:
   - Internally restructures LNP processing to recover real time.
   - Does not check Feature 6375 bit PF59.
   - Makes bit PF59 spare.
   - Removes the TCAP-test-query capability that supports a single, combined ANI-DN query.
   - Removes the LNP ANI-FYI parameter that is sometimes sent in LNP DN queries.

5. Restructures logic of transmitting TCAP-Real Time Network Routing (RTNR) Query/Response (Q/R) messages. This measure removes unnecessary ASTN checks when transmitting these query/response messages.

Description (continued)

6. Eliminates the ANI Trigger-Table lookup in call processing. The Segmentation Directory (SD) assumes the ANI-TT function for different services. All Business and Consumer ANI-based services have been migrated to the SD. The ANI-TT function is obsolete.

Benefits

Feature 8290 is expected to provide 2% real time capacity relief.

The real time capacity relief, mentioned above, is working in conjunction with the following relief features.

- Feature 8092 – 4ESS Switch Real Time Capacity Mining – 4E27R1
- Feature 8093 – 4ESS Switch API Capacity Mining – 4E27R1 and
- Feature 8288 – 4ESS Switch Attached Processor Interface Capacity Relief – 4E28R1

Call Flow (Not Affected)

Provisioning

Recent Change Form 653 Associated Verify Forms 16au and 6bb

Recent Change Form 653 is modified to make the **Q20 AT&T Service Call Identifier Type (ASCIT)** question spare (CI – IXC originated call). Any provisioned dependency is removed.

This flag is verified by input form 16au and output form 6bb.

Recent Change Form 809 Associated Verify Forms 16az and 8j

Recent Change Form 809 is modified to make the **PF59** field (LNP) spare. The provisioned dependency of PF59 on PF29 is removed. RC Form 809 is shown in the TG-4, Division 7, Section 8.

This flag is verified by form 16az (TG-4, Division 8, Section 16az – Request Verification of Miscellaneous Data) and form 8j (TG-4, Division 8, Section 8j – Feature Bit Status).

Recent Change Forms 319 and 320 Associated Verify Forms: 13d and 3h

Recent Change Forms 319 and 320 are modified to make the **Translate 3-Digit Type (XL4DT11)** field spare (CI – "proximity screening). Any provisioned dependency is removed.

This flag is verified by input form 13d and output form 3h.

Recent Change Forms 300, 301, 302, 303, 304, 313, 314, 315, 316, and 346 Associated Verify Forms 13f, 13g, 13m, 3a, 3ab, 3ak, 3al, 3ay, 3b, 3c, 3d, 3e, 3f, 3g, 3i, 3j, 3k, 3l, 3n, 3v, 3w, and 3z

Recent Change Forms 300, 301, 302, 303, 304, 313, 314, 315, 316, and 346 are modified to make the **C bit** of the **AD3** field (TSAA Provider Present) spare. Any provisioned dependency is removed.

This flag is verified by input forms 13f, 13g, 13m, and output forms 3a, 3ab, 3ak, 3al, 3ay, 3b, 3c, 3d, 3e, 3f, 3g, 3i, 3j, 3k, 3l, 3n, 3v, 3w, and 3z.

Recent Change Form 642 Associated Verify Forms 6ap and 16ai

Recent Change Form 642 is modified to make the value of **IXC** in the **TORIG** field (CI) an unused value. The IXC value is no longer used in call processing.

This flag is verified by input form 16ai and output form 6ap.

Recent Change Forms 100, 102, 107, and 109 Associated Verify Forms 1a, 1c, and 11d

Recent Change Forms 100, 102, 107, and 109 are modified to make the Circuit Selection Capabilities, **CSCSET**, field on the RTNR TSGs, not used. Data administration for this field is not removed. The field is no longer part of call processing.

This flag is verified by input form 11d and output form 1a and 1c.

Recent Change Form 665 Associated Verify Forms 6bn and 16bn

Recent Change Form 665 is modified to make the entire form not used for **CSCI** translation data. Data administration for these fields is not removed. The fields in this form are no longer part of call processing.

CSCI data for input form 16bn and output form 6bn are not used to process calls.

Recent Change Form 338 Associated Verify Form 3ah

Recent Change Form 338 is modified to make the **CSCI** field not used for translations data. Data administration for this field is not removed. The field is no longer part of call processing.

This flag is verified by form 3ah.

Recent Change Forms 648, 650, 657, 658, and 659 Associated Verify Forms 6av, 6be, 6bj, and 16ao

Recent Change Forms 648, 650, 657, 658, and 659 are modified to make all of the forms not used for the **ANI trigger table** translation data. Data administration for these fields is not removed. The fields on these forms are no longer part of call processing.

ANI trigger table data for input form 16ao and output forms 6av, 6be, and 6bj are not used to process calls.

Recent Change Forms 100, 101,102, 107, 108, and 109 Associated Verify Forms 1a, 1b, 1c, and 11d

The **IXC** field is deleted from these forms with Feature 8372. This is mentioned here since an associated IXC value is removed from RC Form 642 and Verify forms 6ap and 16ai with Feature 8290.

Recording (Not Affected)

Network Management

NEMOS

This feature affects the interface between the 4ESS switch and the Network Management Operations Support (NEMOS) as follows.

1. Demand Message 33 – Modified to remove the Interexchange carrier (IXC) field.
2. Five Minute Data Message 8 – Modified to remove the Combined ANI and DN Attempt count.
3. Five Minute Data Message 4 – Modified to remove these peg counts:
   - Final RPI Conversion (Feature 4908)
   - RPI Reentry (Feature 4908)
   - RPI Egress Overflow (Feature 4908)
   - Grade-2 Calls Carried

DEMS/DARICS

The LNP Combined ANI and Destination Number Query Attempt count (hourly dari file) is removed.

Maintenance/Troubleshooting

Final Handling Codes

These Carrier Interconnect final handling codes are removed.

- 1821 – Incoming call from another IXC is rejected – data call
- 1822 - Incoming call from another IXC is rejected – operator call
- 1823 - Incoming call from another IXC is rejected – call not allowed for area/ABC digit
- 1824 - Incoming call from another IXC is rejected – c-bit is not set and ASCIT question is no
- 1825 – CI call killed – LNP query only received LRN

Transition Considerations

Feature Deployment

It is not necessary for this feature to be deployed in all switches for it to be fully operational.

Other Features

Feature 8290 works in conjunction with these features.

- 8092 - 4ESS Switch Real Time Capacity Mining – (Documented in Product Release Document 234-090-271AC)
- 8093 – 4ESS Switch Attached Processor Interface Capacity Mining (Documented in Product Release Document 234-090-271AC)
- 8288 - 4ESS Switch Attached Processor Interface Capacity Relief (Documented in Product Release Document 234-090-281AC)

Feature Activation

Feature 8290 is activated by software deployment.

□

Input/Output Manual Pages

Input Message - Modified

The following 4ESS switch input message is modified for the 4E28R1 and later generics.

TEST:TCAPDSD

Output Message - Modified

The following 4ESS switch output message is modified for the 4E28R1 and later generics.

TEST:TCAPDSD

5 Critical Field Sparing Expansion Feature (8372)

Overview

Description Feature 8372 expands the data structures to provide for additional resources to create a Stand Alone feature environment.

Purpose This chapter provides a feature description, provisioning information, and transition considerations.

This feature is delivered as part of Generic 4E28R1.

Contents This chapter contains the following topics:

Feature Description

Description

Feature 8372 expands the data structures to provide for additional resources to create a Stand Alone feature environment. The Stand Alone feature environment allows AT&T to receive features beyond the last generic. Feature 8372 will also allocate sufficient spares on the identified critical fields to last through the 4ESS life cycle in supporting the need for Fast Features. Some of data structures that are identified and updated are:

- Country code conversion (HT4CCCONV) translator items and associated provisionable RC/V fields
- Trunk sub-group (HT4TSG) items and associated provisionable RC/V fields
- Spare memory allocation
- Spare keywords on RC/V form 810
- Far End Network (FEN) block classes and associated provisionable RC/V fields

Benefits

The Feature 8372 provides the following benefits:

- Ensures the availability of sufficient spares for some critical fields commonly used in call processing
- Removes the limit on developing fast features, and
- Allows deployment of Stand Alone features beyond the last 4ESS generic.

Call Flow (Not Affected)

Provisioning

Recent Change Forms 100, 101, 102, 107, 108, and 109 Associated Verify Forms 1a, 1b, 1c and 11d

The following RC/V 100, 101, 102, 107, 108, and 109 forms layouts are affected as following:

a. Added 16 new fields for each RC/V form. The population rules for the new fields are as follows:
   - All of the new fields can be left blank. A blank field for an add form will cause the translator items to be populated with a default value.
   - **S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S21, S22** are all to be populated with an input value of a "Y" (=1) or "N" (=0), or blank. If a blank is input, then the translator will be populated with an "N".
   - **SM1** and **SM2** are to be populated with an input range value of 0 - 4095 or blank. If a blank is input, then the translator items will be populated with a zero.
   - **SM3** is to be populated with a string of 6 BCD digits with an input range of 0 - 999999 or blank. If a blank is input, then the translator item will be populated with a zero.
   - **SM4** is to be populated with a string of 6 BCD digits with an input range of 0 - 999999 or blank. If a blank is input, then the translator item will be populated with a zero.

b. Removed the following fields: **FVSR, IFITR, ANCR, FLDSPR, REVAMP, OFITR,** and **IXC**.

These fields are verified by verify input form 11d and verify output forms 1a, 1b and 1c.

Recent Change 317 Associated Verify Form 3m

The Recent Change 317 is modified to add 7 new **CCX**n fields (where n = 1- 8). The population rules for the CCXn fields are as follows:

- **CCX1** through **CCX5** are populated with "y, n, or blank"
- **CCX6** and **CCX7** are populated with "0 - 15 or blank"
- **CCX8** is populated with "0 - 4095 or blank".

These fields are verified by verify input form 3m.

Note: CCRF is removed and replaced with **CCX1.**

Recent Change 318

The Recent Change 318 is modified to remove the data for the new spare items when a country code is deleted.

Provisioning (continued)

Recent Changes 617, 618 and 619 Associated Verify Forms 1a, 1b, 1c and 11d, 16m

The Recent Changes 617, 618 and 619 are modified to add new Far End Network **CLASS** field and spare indicator fields (SPR8, SPR13, SPR14 and SPR15). This field is allowed on these forms with no dependent population rules.

Recent Change 810 Associated Verify Forms 6du and 16du

The Recent Change 810 is modified to add 20 new **SPR_KEY** structures. The population for the SPR_KEY fields will all be a numeric range of "0 - 16777215".

These fields are verified by one verify input form 16du and one verify output form 6du. See Figure 1 and 2 for layout.

Figure 1 - Verify Input Message 16du

```
INPUT:                          VERIFY 16du

ex. 1 Verify all spare feature assignments.


                              VER:MISC:FHT SPRKEY!(EOT)

OUTPUT:                           VERIFY 6du

                               VER:MISC:FHT SPRKEY:



                                   RECENT CHANGE INPUT SOURCE - #810
```

Provisioning (continued)

Figure 2 - Verify Output Message 6du

```
INPUT:                      VERIFY 16du

VER:MISC:FHT SPRKEY!(EOT)


OUTPUT:                     VERIFY 6du

VER:MISC:FHT SPRKEY:
SPRKEY1 --------,
SPRKEY2 --------,
SPRKEY3 --------,
SPRKEY4 --------,
SPRKEY5 --------,
SPRKEY6 --------,
SPRKEY7 --------,
SPRKEY8 --------,
SPRKEY9 --------,
SPRKEY10 --------,
SPRKEY11 --------,
SPRKEY12 --------,
SPRKEY13 --------,
SPRKEY14 --------,
SPRKEY15 --------,
SPRKEY16 --------,
SPRKEY17 --------,
SPRKEY18 --------,
SPRKEY19 --------,
SPRKEY20 --------,

                            RECENT CHANGE INPUT SOURCE - #810
                            VERIFY SPARE FEATURE DATA
                            4E28R1 AND LATER GENERIC PROGRAMS
```

Recording (Not Affected)

Network Management (Not Affected)

Maintenance/Troubleshooting (Not Affected)

Transition Considerations

Feature Deployment It is not necessary for this feature to be deployed in all switches for it to be fully operational.

Feature Activation This feature is activated by software deployment.

□

Input/Output Manual Pages

Input Messages One new input message was created for this feature.

- **VER:MISC:FHT SPRKEY**

Two input messages are modified for this feature.

- **VER:FEN**
- **VER:TSGLIST**

Output Messages One new output message was created for this feature.

- **VER:MISC:FHT SPRKEY**

Six output messages are modified for this feature.

- **VER:CODEGRP-CCD**
- **VER:FEN**
- **VER:TSG-LIST**
- **VER:TSG-IN1WAY**
- **VER:TSG-OUT1WAY**
- **VER:TSG-TWOWAY**

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6 Served NPA Expansion Feature (8425)

Overview

Description This feature expands Served NPAs (SNPAs) in a 4ESS switch from 31 to 159. The number of domains increases from 256 to 512.

Purpose This chapter provides a feature description, provisioning information, and transition considerations.

This feature is delivered as part of Generic 4E28R1.

Contents This chapter contains the following topics:

Feature Description

Description

Feature 8425 provides the following capabilities:

1. The number of assigned SNPAs in a 4ESS switch increases from 31 to 159. The number of domains in a 4ESS switch increases from 256 to 512.
2. The number of NPAs allowed in the Automatic Number Identification (ANI) Trigger Table increases to 159. The ANI Trigger Table increase is needed to maintain transparent provisioning of ANI data. This increase in the trigger table corresponds to the SNPA increase in the 4ESS switch.

Benefits

This feature allows new SNPAs to be assigned because of:

- NPA splits
- Increased homing radii of the 4ESS switch
- Growth in Nodal terminations

Call Flow (Not Affected)

Provisioning

Recent Change Forms 100, 101, 102, 107, 108, and 109

The domain item in the trunk block expands for these forms.

Recent Change Forms 300,301, 302, 303, and 311

The number of POTS subdomains increases and the domain item in the calltype words increases for these forms.

Recent Change Form 307

The number of valid SNPAs, which can be built with this form, increases to 159.

Recent Change Forms 300, 319, and 320	The number of code groups changed per message is limited for these forms. The limit depends on the amount of data that is changed. This prevents a large volume of data changes, for a large number of assigned NPAs, from slowing the RC/V system.
Recent Change Forms 500, 503, 505, 508, 510, 513, 514, 517, and 519	The valid domain item increases for these forms.
Recent Change Forms 650 and 658	The new translator expands to 256 NPAs. An error check is made to limit the number of unique NPAs to 159.
Recent Change Forms 657	The new translator expands to 256 NPAs. An error check is made to limit the number of unique NPAs to 159.
Recent Change Miscellaneous Message RC:MISC	The valid domain item increases for the RC:MISC message.
Verify Output Forms 1a, 1b, and 1c	The valid domain number increases for the TSG messages on these verify output forms.
Verify Input Form 11d	The valid domain number increases for the TSG messages on this verify input form. The **DOM** field is modified to add **SNPA32** through **SNPA159NAC** as legal values.
Verify Output Form 6c	The output message delivers the valid, additional domains and SNPA assignments. The **Assigned Served NPAs** field lists a maximum of 159 SNPAs if the office uses SNPA 10-digit routing. The **Assigned Served NPAs** and the **Assigned Routing Domains** output fields increase due to the expansion of SNPAs and domains.

Recording (Not Affected)

Network Management

NEMOS

The 4ESS switch modifies NEMOS messages to support the increase in the number of domains from 256 to 512.

These messages include the following.

- Message 33 is modified.
- New messages 29, 53, 54, 58, 77,130, 131, 132, and 169 replace old messages 49, 51, 52, 60, 82, 134, 135, 136, and 170 respectively.

Maintenance/Troubleshooting (Not Affected)

Transition Considerations

Feature Deployment

It is not necessary for this feature to be deployed in all switches for it to be fully operational.

Other Features

Feature 8425 works in conjunction with these features.

- 4839 – SNPA Expansion and Handling NPA Improvement (Documented in Product Release Document 234-090-221AC)
- 5636 – SNPA Expansion MRs to Feature 4839 (Documented in Product Release Document 234-090-221AC)

Feature Activation

Feature 8425 is activated by software deployment.

□

Input/Output Manual Pages

Input Message Modified

The following 4ESS switch input message is modified for 4E28R1 and later generics.

VER:TSGLIST

Output Messages Modified

The following 4ESS switch output messages are modified for 4E28R1 and later generics.

VER:MEMORY-EM

VER:TSG-LIST

7 Enhanced Overload Control Feature (8438)

Overview

Description

This feature provides the following capabilities.

1. Allows Feature 6989, "Enhanced Scheduling and Executive Control," (4E25 R3) to operate in Real Time Levels 1 and 2.
2. Allocates additional Call Registers in Real Time Levels 3 through 5.
3. Increases the queue sizes of ISDN User Part (ISUP), INUP, and Telephone User Part (TUP).
4. Reorders the seizure buffer dispensers.

Purpose

This chapter provides a feature description, provisioning information, and transition considerations.

This feature is delivered as part of Generic 4E28R1.

Contents This chapter contains the following topics:

Feature Description

Description

Feature 8438 provides the following capabilities:

1. Allows Feature 6989, "Enhanced Scheduling and Executive Control," (4E25R3) to operate in Real Time Levels 1 and 2. This results in one 3ms segment of Deferred Scheduler work per 3 Base Level Cycles (BLCs). Also, this feature adds 8 additional Call Registers when the current BLC is over 80ms and the average of the last BLCs is under 170ms.
2. Allocates additional Call Registers in Real Time Levels 3, 4, and 5. Eight additional Call Registers are added for each level 3 through 5.
   - 48 Call Register are allocated to Real Time Level 3.
   - 32 Call Registers are allocated to Real Time Level 4.
   - 16 Call Registers are allocated to Real Time Level 5.
3. Increases the queue sizes of the Call Registers for ISDN User Part (ISUP), INUP, and Telephone User Part (TUP).
   - ISUP queue size – 32
   - INUP queue size – 16
   - TUP queue size – 16
4. Reorders the seizure buffer dispensers to increase the usage of call registers.

   Prior to Feature 8438, Call Registers were allocated as follows:

   A. All calls on queue from the last BLC were allocated first.
   B. New originations for in-band signaling were pre-allocated based on the history of what was used in the last BLC.
   C. Any remaining Call Registers were available for use for out-of-band signaling new originations.

   Call Registers were dispensed as follows:
   A. Queues were dispensed first.
   B. Out-of-band new originations were dispensed.
   C. In-band new originations were dispensed.

   With Feature 8438, the allocated Call Registers, not used for in-band calls, are added to the common pool of Call Registers for out-of-band calls. In-band messages are dispensed prior to out-of-band messages.

Benefits

This feature allows increased throughput of calls without causing degradation.

This feature extends the benefits of Feature 6989 by getting ahead of traffic bursts and doing additional work in the BLC.

Call Flow (Not Affected)

Provisioning

Recent Change Form 809 Feature Bit F29

Recent Change Form 809 is modified to unassign and make spare feature bit **F29** (originally for Feature 6989). RC Form 809 is shown in the TG-4, Division 7, Section 8. Removing this feature bit

- Always allocates an additional 8 Call Registers, if available, when the BLC is between 80ms and 170ms.
- Reduces the Deferred Scheduler work to one 3ms segment per 3 BLCs when the BLC is 80ms or above.
- Always applies the 200-400 dynamically computed limit on messages dispensed from the CNI buffer at any BLC length.

This flag is verified by form 16az (TG-4, Division 8, Section 16az – Request Verification of Miscellaneous Data) and form 8j (TG-4, Division 8, Section 8j – Feature Bit Status)

Recent Change Form 809 Feature Bit F33

Recent Change Form 809 is modified to allow feature bit **F33** to turn the Load Shedding portion of feature 8438 ON and OFF. RC Form 809 is shown in the TG-4, Division 7, Section 8. This feature bit allows control over which Load Shedding Table is used for Real Time Levels 3, 4, and 5.

- ON – Use the new Load Shedding Table for Real Time Levels 3, 4, and 5.
- OFF – Use the existing Load Shedding Table for Real Time Levels 3, 4, and 5

This flag is verified by form 16az (TG-4, Division 8, Section 16az – Request Verification of Miscellaneous Data) and form 8j (TG-4, Division 8, Section 8j – Feature Bit Status)

Recording (Not Affected)

Network Management (Not Affected)

Maintenance/Troubleshooting (Not Affected)

Transition Considerations

Feature Deployment

It is not necessary for this feature to be deployed in all switches for it to be fully operational.

Feature Activation

To use the new Load Shedding Table in Real Time Levels 3, 4, and 5, feature bit **F33** must be set to **ON**. (Default = OFF).

Removing the feature bit, **F29**, activates the remaining sections of Feature 8438. This is done automatically by software deployment.

□

Input/Output Manual Pages (Not Affected)

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8 Increase Recent Change Buffer Feature (8574)

Overview

Description This feature increases the 4ESS switch Recent Change (RC) buffer capacity to 2039 messages. Each message has a maximum of 1000 characters (bytes).

Purpose This chapter provides a feature description, provisioning information, and transition considerations.

This feature is delivered as part of Generic 4E28R1.

Contents This chapter contains the following topics:

Feature Description

Description

Feature 8574 expands the 4ESS switch RC buffer size from 1024 messages to an actual useful size of 2039 messages. The buffer size increases to 2048 messages. Nine words of overhead are used for buffer management. (2048 – 9 = 2039 useful messages)

Two areas are impacted with the increase in the RC buffer size.

- This feature allocates additional 3B21D system-file disk space to support the increase in the RC buffer size. Since all 4ESS switches are upgraded to the 3B21D processor, 3B system-file disk space is not a limiting factor. The 3B21D has at least 2Gigabytes of Volume Table of Contents (VTOC) system-file disk space.
- This feature sets the constant, defined in the 1B library, of accessible RC messages, to 2048 messages. This is the upper boundary of accessible RC messages in the 1B library. Additional development is required if the accessible RC messages need to be expanded past 2048 messages.

Benefits

This feature increases the RC buffer capacity to avoid the buffer – overflow condition.

Features 7698, 7752, and 8010 are implemented as part of the Traffic Transition Plan. These features increase the necessary RC messages by 300 messages. The RC buffer capacity is increased to accommodate the increase in the number of messages.

The increase in buffer capacity avoids:

- RC buffer overflow
- Manual intervention from SNOW-R
- Loss of RC messages, and
- Disruption to the Traffic Transition Plan.

Call Flow (Not Affected)

Provisioning

Administrative Recent Change Messages

These Recent Change messages are changed to accept and print out 2039 Recent Change forms that may be in the increased buffer.

- **OP:RCBSPACE!**
- **OP:RCBORNU!**

IRAS

Increasing the RC buffer capacity impacts the IRAS system.

- IRAS must support the increase of the RC buffer capacity from 1024 messages to 2048 messages. There are 1000 characters per message.
- IRAS must enhance the numbering scheme used for Recent Changes to accommodate the increased capacity of the RC buffer.

Recording (Not Affected)

Network Management (Not Affected)

Maintenance/Troubleshooting (Not Affected)

Transition Considerations

Feature Deployment

It is not necessary for this feature to be deployed in all switches for it to be fully operational.

Other Features

There are no feature dependencies for this feature.

Feature 8574 builds on Feature 7094 (4E24R1). Feature 7094 increased the RC buffer capacity from 512 messages to 1024 messages.

These features drive a large volume of routing-change demands and increase the number of RC messages.

- 7698 – Traffic Transition, Phase 1 – Switched Access to the Edge (Documented in Product Release Document 234-090-272AC)
- 7752 – Edge-to-Edge Routing - (Documented in Product Release Document 234-090-262AC)
- 8010 – ES Assigned APN Nodal Traffic Routing from an Originating 4ESS Switch (Documented in Product Release Document 234-090-272AC)

Feature Activation

This feature is activated by software deployment.

□

Input/Output Manual Pages

Input Messages - Modified

The following 4ESS switch input messages are modified with 4E28R1 and later generics.

OP:RCBORNU

OP:RCBSPACE

Output Message - Modified

The following 4ESS switch output message is modified with 4E28R1 and later generics.

OP:RCBSPACE

Output Message - Added

The following 4ESS switch output message is added with 4E28R1 and later generics.

REPT:RCBORNU

9 SS7 Network ID Expansion Feature (8757)

Overview

Description This feature expands the number of provisioned, non-local SS7 Network IDs (NIDs), supported by the 4ESS switch, from the previous number of 24 to a current number of 64.

Purpose This chapter provides a feature description, provisioning information, and transition considerations.

This feature is delivered as part of Generic 4E28R1.

Contents This chapter contains the following topics:

Feature Description

Description

The 4ESS switch translation table capacity needs to expand to support interconnection with the increasing number of emerging carriers. These carriers include LECs that are approved to provide Long Distance (LD) services in various states.

Feature 8757 expands the number of provisioned, non-local NIDs, supported by the 4ESS switch, from the previous number of 24 to the current number of 64. With full feature deployment, every 4ESS switch has the capacity to provision 64, non-local NIDs.

Benefits

This feature:

- Increases the allowed number of provisioned, non-local NID values to 64.
- Allows SS7 traffic to be completed to new carriers.

Call Flow (Not Affected)

Provisioning

Recent Change Form 809 Associated Verify Forms 8j and 16az

For the 4E28 generic, feature bit **F34** is set to the default of ON for an AT&T office type. Do NOT use Recent Change Form 809 to turn **F34** ON or OFF.

Note: Turning the feature bit off, inhibits the ability to provision additional NIDs to the office.

For the 4E28 generic, **XL4NIDE_ACT** is set to the default of ON for an AT&T office type.

The **F34** bit is verified by form 16az (TG-4, Division 8, Section 16az – Request Verification of Miscellaneous Data) and form 8j (TG-4, Division 8, Section 8j – Feature Bit Status).

Recording (Not Affected)

Network Management (Not Affected)

Maintenance/Troubleshooting

NESAC This feature requires NESAC and CNAC to be aware of and support the change in available number of NIDs in the 4ESS switch. The available number of NIDs expands from 24 to 64 for non-local NID values.

Transition Considerations

Feature Deployment It is necessary for this feature to be deployed in all Alternate Signaling Transport Network (ASTN) switches for it to be fully operational. When a new NID is added to a switch, it must also be added to the designated ASTN helper switches.

Feature Activation For the 4E28 generic, feature bit **F34** is automatically set to the default of ON for an AT&T office type.

For the 4E28 generic, **XL4NIDE_ACT** is automatically set to the default of ON for an AT&T office type.

□

Input/Output Manual Pages (Not Affected)

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A Release Summary - 4E28 Release 1 Generic

Overview

Purpose This appendix summarizes the growth and retrofit documents, input and output messages, the OS interfaces, new or changed alarms, measurements, and the feature activation summary for the 4E28 Release 1 Generic Product Release Document (PRD). This includes Software Change Packages (SCPs) documented in this PRD.

□

Contents This Appendix contains the following topics:

Growth and Retrofit Documents

Growth and Retrofit Documents

The Growth and Retrofit Planning Group reports the following documentation impacts resulting from the 4E28 Release 1 Generic:

- 234-160-028 – 4ESS Switch – 1B Processor 4E27 to 4E28 Generic and 4E28 ODA Update
- 234-185-028 – 4ESS Switch – Generic Retrofit and ODA Update Planning and Scheduling Guide
- 234-160-421 – 4ESS Switch – 4AP20 to 4AP21 Retrofit (3B21D APS Only).

Input/Output Messages

Purpose

The following lists include the input and output messages for the 4E28 Release 1 Generic that are feature-related. A notation is included indicating whether each message is new, revised, or deleted. The feature numbers are included in parentheses ( ).

4ESS Switch Input Messages

The following are 4ESS switch input messages for Generic 4E28R1. These messages will be included in the input manual IM-4B000-01.

OP:RCBORNU	Revised (8574)
OP:RCBSPACE	Revised (8574)
VER:FEN	Revised (8372)
VER:MISC:FHT SPRKEY	New (8372)
VER:TSGLIST	Revised (8372, 8425)

4ESS Switch Output Messages

The following are 4ESS switch output messages for Generic 4E28R1. These messages will be included in the output manual OM-4B000-01.

OP:RCBSPACE	Revised (8574)
REPT:RCBORNU	New (8574)
VER:CODEGRP-CCD	Revised (8372)
VER:FEN	Revised (8372)
VER:MEMORY-EM	Revised (8425)
VER:MISC:FHT SPRKEY	New (8372)
VER:TSG-LIST	Revised (8372, 8425)
VER:TSG-IN1WAY	Revised (8372)
VER:TSG-OUT1WAY	Revised (8372)
VER:TSG-TWOWAY	Revised (8372)

4ESS Switch Proprietary Input Messages

The following are 4ESS switch proprietary input messages for Generic 4E28R1. These messages will be included in the proprietary input manual 4B-000-01AC.

TEST:TCAPDSD	Revised (8290)

4ESS Switch Proprietary Output Messages

The following are 4ESS switch proprietary output messages for Generic 4E28R1. These messages are included in the proprietary output manual 4B-000-01AC.

TEST:TCAPDSD	Revised (8290)

4ESS/APS Switch Input Messages

The following are 4ESS/APS switch input message for Generic 4E28R1. This message is included in the APS input manual IM-4A001-01.

COPY:BKDISK Revised (588)

OS Interfaces

OS Interfaces

Several features in this release interact with various Operations Support Systems (OSSs). The following features interact with various Operations Support Systems, including AMA, CDRP, IRAS, NEMOS, and TOPAS.

Feature	OSS
8288	NEMOS, DEMS/DARICS
8290	NEMOS, DEMS/DARICS
8425	NEMOS
8574	IRAS

New or Changed Alarms (Not Affected)

Measurements/OSOR

Feature 8290 Measurements

One new count is removed for DEMS/DARICS in the existing Hourly dari file. The count is named “LNP Combined ANI and Destination Number Query Attempt”.

Feature Activation Summary

Feature 588 **4ESS 3B APS Upgrade to RTR 21.40**

This feature is activated by software deployment.

Feature 8287 **Capacity Relief on 1B Memory**

This feature is activated by software deployment.

Feature 8288 **4ESS Switch Attached Processor Interface Capacity Relief**

To activate the "Abbreviated TCAP End Messages" of this feature, **PF90**, must be set to **ON** (Default = ON).

To activate the **XL4ABRTCAP_ACT** flag, **PF90**, must be set to **ON** (Default = ON) using RC Form 809.

Feature 8290 **4ESS Switch Real Time Capacity Mining**

This feature is activated by software deployment.

Feature 8372 **Critical Field Sparing Expansion**

This feature is activated by software deployment.

Feature 8425 **Served NPA Expansion**

This feature is activated by software deployment.

Feature 8438 Enhanced Overload Control

To use the new Load Shedding Table in Real Time Levels 3, 4, and 5, feature bit **F33** must be set to **ON**. (Default = OFF).

Removing the feature bit, **F29**, activates the remaining sections of Feature 8438. This is done automatically by software deployment.

Feature 8574 Increase Recent Change Buffer

This feature is activated by software deployment.

Feature 8757 SS7 Network ID Expansion

For the 4E28 generic, feature bit **F34** is automatically set to the default of ON for an AT&T office type.

For the 4E28 generic, **XL4NIDE_ACT** is automatically set to the default of ON for an AT&T office type.

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B Acronyms and Abbreviations

Purpose The following is a cumulative list of acronyms and abbreviations used throughout Product Release Documents (PRDs).

Acronym/Abbreviation	Definition
1B	4ESS 1B Processor
2DSA	No. 2 Direct Services – ANI Based
2DSD	No. 2 Direct Services Dialing
2IDB	2 InWATS Database
2NCP	No. 2 Network Control Point
2NCPAS	2 Network Control Point Administration System
2NCP/2DSA	No. 2 Network Control Point/Number 2 Direct Services ANI
3B	4ESS 3B Processor
AAP	Announcement Administrative Process
AATOS	Alternate Access to Operator Services Signaling
ABC Digits	NPA digits of NPA-NXX-XXXX
ABS	AT&T Business Services
AC	Area Code
ACC	Automatic Congestion Control
ACD	Automatic Call Distributor
AC-DES TSG	Access-DES Trunk-SubGroup

Acronym/Abbreviation	Definition
ACG	Automatic Call Gapping
ACG	Automatic Code Gap
ACI	AT&T Communications Customer Interface
ACK	Acknowledge
ACM	Address Complete Message
ACP	Action Control Point
ACR	Alternate Carrier Routing
ACS	AT&T Consumer Services
AC-TTA TSG	Access-TTA Trunk-SubGroup
ACV	Access Charge Verification
AD1	Additional Data 1
AD2	Additional Data 2
AD3	Additional Data 3
ADA	ANC Dial-Around
ADC	Acceptable Digit Count
ADJ	Adjunct
ADL	AT&T Digital Link
ADL2	AT&T Digital Link 2
ADL4	AT&T Digital Link 4
ADL5	AT&T Digital Link 5
ADLL	ADL Intertoll
ADL-V	AT&T Digital Link-Phase V
ADR	Alternate Destination Routing
AESA	ATM End System Address
AF	Alternate Final
AFAI	Actual/last tried Foreign Administration Identifier
AILS	Automatic Inward Line Screening
AIN	Advanced Intelligent Network
AIWS	AT&T International Wholesale Service
ALA	Adjunct Logical Address
ALAMO	AT&T Local Access Management Option
ALI	Automatic Line Identification
ALN	AT&T Local Network
AMA	Automatic Message Accounting
ANC	AT&T Network Connections
ANCR	ANC NANP CIC Routing
ANI	Automatic Number Identification
ANICAR	Automatic Number Identification Call Attempt Record
ANI-TT	ANI Trigger Table
ANM	Answer Message
ANSI	American National Standards Institute

Acronym/Abbreviation	Definition
ANT	Alternate Number Transition
AP	Attached Processor
API	Attached Processor Interface
APM	Application Transport Mechanism
APN	Action Point Number
APP	Application Transport Parameter
APS	Attached Processor System
AR	Automatic Routing
ARN	Advanced Remote Node
ARS	Automatic Route Selection
ARTS	Automatic Regression Test System
ASCIT	AT&T Service/Call ID Type
ASN	AT&T Switched Network
ASTN	Alternate Signaling Transport Network
AT	Access Tandem
ATB	All Trunks Busy
ATM	Asynchronous Transfer Mode
ATP	AT&T Trigger Platform
ATP	Alternate Transport Provider
ATTDTF	AT&T Direct Toll Free
ATV	AT&T Trigger Validation
AVA	Access Value Arrangement
BAF	Bellcore AMA Format
BCD	Binary Coded Decimal
BCIC	Basic Carrier ID Code
BCN	Backbone Concentrator Node
BCSN	Billing Call Sequence Number
BHCA	Busy Hour Call Attempt
BICC	Bearer Independent Call Control
BILLDATS	Billing Data Acquisition and Transfer System
BL	Base Level
BLC	Base Level Cycle
BLCNT	Billing Count
BLDS	Business Long Distance Service
BMD	Business Markets Division
BN	Billing Number
BSI	Backhaul Screening Indicator
BTAD	Branding Time at Destination
BTN	Basic Traffic Number
BWM	Broadcast Warning Message
C7	CCITT Signaling System No. 7
CAC	Carrier Access Code
CAC	Customized Announcement Capabilities

Acronym/Abbreviation	Definition
CADCR	Centralized Alternate Direct Call Routing
CADCS	Call Attempt Data Collection Service
CAL	Customer Account Logic
CAL	Customer Application Logic
CAL	Customer Application Language
CAMA	Centralized Automatic Message Accounting
CAS	Competitive Access Provider
CAST	Coordinating and Scheduling Tool
CAT	Consolidated Access Traffic
CAT	Customer Acceptance Test
CAUCS	Centralized Announcement Update Control System
CBIS	Cincinnati Billing Information System
CC	Call Code
CC	Central Control
CC	Country Code
CCCONV	Country Code Conversion
CCCV	Commercial Credit Card Validation
CCD	Consumer Consolidated Database
CCD/UMS	Consumer Consolidated Database/Usage Management System
CCIS	Common Channel Interoffice Signaling
CCITT	International Telegraph and Telephone Consultative Committee
CCITT7	CCITT Signaling System No. 7
CCRF	Carrier Completion Rate Feature
CCS	Hundred-Call Seconds
CCS	Common Channel Signaling
CCS7	Common Channel Signaling System No. 7
CCT	Continuity Check Transceiver
CCT	Continuity Check Test
CDDS II	Call Detail Data System II
CDN	Calling Directory Number
CdPA	Called Party Address
CdPN	Called Party Number
CDRP	Call Detail Recording Platform
CgPN	Calling Party Number
CHI	Call Handing Instruction
CI	Carrier Interconnect
CIC	Carrier Identification Code
CID	Carrier Identification
CIG	Common Information Group
CIM	Call Irregularity Message

Acronym/Abbreviation	Definition
CIP	Calls in Progress
CIP	Carrier Identification Parameter
CIR	Call Irregularity Report
CLD	Consumer Long Distance
CLEC	Certified Local Exchange Carrier
CLF	Clear Forward
CLLI	Common Language Location Identifier
CMC	Cellular Mobile Carrier
CMD	Consumer Market Division
CN	Calling Number
CN	Charge Number
CNAC	CCS Network Administration Center
CNI	Common Network Interface
CNIDBA	CNI Database Administration
CNIDBOC	CNI Database Operation Consolidator
CNRDB	Common Network Routing Database
COS	Class of Service
COT	Continuity Test Successful
CPA	Common Platform Adjunct
CPC	Calling Party Category
CPE	Customer Premises Equipment
CPED	Call Processing Execution District
CPF	Call Processing Features
CPG	Call Progress Message
CPN	Calling Party Number
CPPA	Calling Party Pays Airtime
CPPS	Call Processing Process Support
CPR	Call Processing Number
C-PRI	Commercial PRI
CPUP	Call Processing Upchained
CPWC	Call Path Work Center
CR	Call Register
CRB	Crankback
CRI	Carrier Routing Index
CS	Call Store
CS	Carrier Solutions
CSC	Circuit Selection Capability
CSCI	Circuit Selection Capability Indicator
CSCR	Circuit Selection Capabilities Routing
CSI	Carrier Selection Information
CSIN	Circuit Switch International Network
CSMC	Consumer Services Management Center
CSMS	CMD Service Management Center

Acronym/Abbreviation	Definition
CSN	Carrier Solutions Nodal
CSPU	Central Site Processing Unit
CSR	Carrier Specific Routing
CSRO	Customer Specific Routing Option
CSRT	Carrier Specific Routing Treatment
CU	Carrier Usage
CUG	Closed User Group
CW	Compare Word
DAL	Direct Access Link
DARICS	Data Acquisition Reporting Integration Control System
DAS	Digit Analysis Selector
DB	Data Base
DCI	Dual-serial Channel Interface
DCIC	Domestic Carrier ID Code
DCN	D-Channel Nodes
DDD	Direct Distance Dialing
DECOS	Domestic End-to-End Class of Service
DEMS	Dynamic Engineering Mechanized System
DES	Designated Edge Switch
DFS	Directory Function Server
DHNR	Dynamic Non-Hierarchical Routing
DID	Direct Inward Dialing
DIF	Digital Interface Frame
DL	Digital Link
DLN	Direct Link Node
DMA	Direct Memory Access
DMOQ	Direct Measure of Quality
DMS	Database Management System
DN	Destination Number
DN	Dialed Number
DN	Directory Number
DNHR	Dynamic Non-Hierarchical Routing
DNIS	Dialed Number Identification Service
DNST	Dialed Number Services Type
DNTT	Dialed Number Trigger Table
DOD	Direct Outward Dialing
DOW	Day of Week
DP	Dial Pulse
DPC	Destination Point Code
DPM	Dual Ported Memory
DPSMO	Delete Permanent SD Mode of Operation
DS1	Digital Signal 1

Acronym/Abbreviation	Definition
DSA	Direct Services ANI
DSA	Direct Services Application
DSAS	Direct Signaling Assignment System
DSCH	Dual Serial Channel
DSD	Direct Services Dialing
DSN	Destination Switch Number
DSTAT	Domestic Status
DT	Digit Type
DTIM	Display TNM Integrator Module
DTMF	Dual Tone Multi-Frequency
DTO	Dedicated Trunk Sub-group Option
DWAN	Dedicated Wide Area Network
EA	Equal Access
EACC	Equal Access Circuit Code
EAMF	Equal Access Multifrequency
EAR	Emergency Alternate Routing
EBAF	Extended Bellcore AMA Format
ECD	Equipment Configuration Data
ECIC	Enhanced Carrier Identification Code
ECOS	End-to-End Class of Service
ECR	Enhanced CIC Routing
EBIT	Earning Before Interest and Tax
EDP	Elimination of Dual Provisioning
EDR	Efficient Data Representation
EFEP	Equipment Front End Processor
EIN	Ethernet Interface Node
EO	End Office
EOLN	End Office Local/Nodal
EON	End Office Nodal
EOT	End of Transmission
ERI	Egress Route Number
ERPI	ECOS Routing Pattern Identity
ES	Edge Switch
ESB	Emergency Services Board
ESCR	Enhancements for Special CIC Routing
ESI	Egress Switch Indicator
ESRF	Enhancements to Special Routing Features
ESS	Electronic Switching System
ETC	End-Office Toll Connect
ETD	ECOS Trunk Data
EUSEC	Enhanced USEC
EV	Edge Vehicle
FAI	Foreign Administration Identity

Acronym/Abbreviation	Definition
FCC	Federal Communications Commission
FCI	Forward Call Indicator
FEALN	Far-End AT&T Local Network
FEAREA	Far End AREA
FEN	Far End Network
FENPA	Far End Numbering Plan Area
FEOFC	Far End Office Code
FFA	First Field Application
FG-C	Feature Group C
FG-D	Feature Group D
FHC	Final-Handling Code
FHT	Final Handling Treatment
FI	Feature ID
FIA	Feasibility Impact Assessment
FITR	Forced Intertoll Routing
FNSI	Forward Network Specification Information
FO	Feature Options
FON	Force On Net
FRF	Feature Request Form
FRS	Feature Requirement Specifications
FS	File Store
FSD	Feature Specification Document
FSI	Feature Service Indicator
FVSR	Force Via Switch Routing
FVSRTT	FVSR Trigger Table
GAL	Generic Address List
GAP	Generic Address Parameter
GCD	Global Country Direct
GCDH	Global Country Direct Hubbing
GETS	Government Emergency Telecommunications Service
GNFMC	Global Network Fraud Management Center
GNOC	AT&T Global Network Operations Center
GNSC	Global Network Service Center
GOP	Generic Operations Parameter
GPA	General Purchase Agreement
GPA	Global Positioning Agreement
GPS	Global Positioning System
GPWC	Global Provisioning Work Center
GSDDN	Global Software Defined Data Network
GSDN	Global Software Defined Network
GSDS	Global Switched Digital Service
GSS	GTN Support System

Acronym/Abbreviation	Definition
GTD	Generic Transition Document
GTFH	Global Toll-Free Hubbing
GTN	Global Transaction Network
GTS	Global Toll-Free Service
GTT	Global Title Translation
GW	Gateway
GWS	Global Wholesale Services
HAS	Hand-off AT&T Switch
HCDS	Home Country Direct Select
HICAP	High Capacity
HOT	HICAP Originating Treatment
HPC	High Probability Completion
HU	High Usage
I/O	Input/Output
I800	International 800
IAM	Initial Address Message
IBSS	In-Band Supervisory Signaling
IBU	In-Band Unit
ICCV	International Credit Card Validation
ICDR	International Call Detail Recording
ICIC	International Carrier ID Code
ICLD	International Consumer Long Distance
ICP	Intelligent Call Processing
ICS	International Carrier Service
ICT	Incoming Trunk
ICTRC	International Call Trouble Receipt
IDB	INWATS Database
IDDD	International Direct Distance Dialing
IE	Information Element
IEH	Installation Engineering Handbook
IFAI	Initial Foreign Administration Identifier
IH	Intermediate High-usage
II	Information Indicator
II	Interexchange Identifier
IIA	Invalid International Automatic call codes. These codes correspond to the DEF digits of the called part number for international incoming calls.
IIC	Invalid International Call
ILD	International Long Distance
ILDS	International Long distance Service
ILEC	Incumbent Local Exchange Company
INC	Industry Numbering Committee

Acronym/Abbreviation	Definition
INCD	Incoming Data Domain – Domain in which incoming data calls are translated to determine routing treatment for the call.
INCID	A TSG indicator used to indicate that a trunk can receive
INPA	Interchangeable NPA
INR	Intelligent Network Register
INRG	International Routing Group
INSP	International Network Services Provisioning
INTO	International Outbound Domain
INWATS	Inward Wide Area Telephone Service
IP	Internet Protocol
Ipe	Intelligent Peripheral
IPGW	IP Gateway
IR	ISDN Register
IRAS	Integrated Routing Assignment System
IRG	International Routing Group
IRN	Integrated Ring Node
ISAIC	Improved Service Announcement & Information Collection
ISC	Incoming Signaling Characteristic
ISC	International Switching Center
ISDN	Integrated Services Digital Network
ISDT	IIA – Skip Digit Type
ISET	Inbound Services Emergency Translation
ISOI	Inbound Supplemental Originating Information
ISPC	International Signaling Point Codes
ISTAT	International Status
ISUP	ISDN User Part
IT	Internet Telephony
IT	InterToll
ITAMAC	International Transit, Accounting, Maintenance and Analysis of Calls
ITE	Installation Test Equipment
ITFDB	Industry Toll-Free Data Base
ITFS	International Toll Free Service (formerly I800)
ITFSS	ITFS Select
ITN	Integrated Test Network
ITSC	International Transport Servicing Center
IT-T	International Telecommunications Union-Telecommunications
ITTM	International Transit Traffic Monitoring
IVC	International Vacant Code

Acronym/Abbreviation	Definition
IVS	Interactive Voice Services
IVT	International Voice Transit
IWZ1	International World Zone 1
IXC	Interexchange Carrier
JIP	Jurisdiction Information Parameter
Kw	Kword = 1024 words
LACIDs	Logical Access Identifiers
LAM	Leave A Message
LAN	Local Area Network
LANI	Local Automatic Number Identification
LATA	Local Access and Transport Area
LATT	Loop Around Transceiver Test
LCC	Local Caller Connect
LCC	Local Carrier Connecting
LCC	Local Exchange Carrier Connecting
LCVT	Local Service Validation Test
LD	Long Distance
LDI	Laboratory Design Information
LDIT	Local Digit Interpreter Table
LDNC	Long Distance Nodal Concentration
LDP	Long Distance Platform
LDS	Long Distance Service
LEC	Local Exchange Carrier
LERG	Local Exchange Routing Guide
LNP	Local Number Portability
LRN	Location Routing Number
LSI	Local Screening Index
LSP	Local Service Provider
LTD	Local/Toll Differentiation
LVL	Level
M-code	Memory circuit pack with capacity of 1 Mw
MAP	Mass Announcement Platform
MCC	Master Control Complex
MCS	Micro Control Store
MCT	Multiple Carrier Treatment
MDN	Miscellaneous Distribution Number
MDR	Multiple Destination Routing
Memory Segment	Contiguous space of 3 Mw in the segmented memory
MF	Multi-Frequency
MGTS	Message Generator Traffic Simulator
MGW	Medium Gateway
MIN	Mobile Identification Number

Acronym/Abbreviation	Definition
MLID	Master List Identifier
MLSS	Machine Load and Service Summary
MML	Human Machine Language
MMOC	Minicomputer Maintenance Operations Center
MOC	Maintenance Operations Center
MOS	Mean Opinion Score
MOSS	Modified Operator Services Signaling
MPS	Message Processing System
M&Ps	Methods & Procedures
MR	Modification Request
MRII	Match Restriction Indicator Information
MRT	Multiple Routing Treatment
MSC	Mobile Switching Center
MSI	Market Segmentation Indicator
MSN	Miscellaneous Scanner Number
MSR	Mechanized Service Request
MTBT	Domestic Outbound Business
MTRT	Domestic Outbound Residential
MTP	Message Transfer Part
MTP	Message Transfer Protocol
MUP	MCC Utility Processor
Mw	Mword = 1024Kwords
MW	Megaword
NAI	Network Access Interrupt
NAMACC	National AMA Control Center
NANP	North American Numbering Plan
NAP	Network Adjunct Platform
NBROX	Network Billing Recording Operations Expert System
NC	No Circuit
NCA	No Circuit Announcement
NCA	No Circuits Available
NCC	Network Control Center
NCD	Network Core Database
NCD	Network Call Denial
NCP	Network Control Point
NCP&D	Network Capacity Planning & Delivery
NCS	Network Control Point
NDIG	Next Digit
NE	Non Emergency
NEA	Network Element Administrator
NEMOS	Network Management Operations System
NESAC	National Electronic Systems Assistance Center

Acronym/Abbreviation	Definition
NESV	Network Edge Switch Vehicle
NFM	Network Fault Management (formerly TNM)
NGT	New Global Telecom
NI	Network Interconnect
NI-2	National ISDN-2
NID	Network ID
NIS	Network Implementation Services
N-ISDN	Narrowband Integrated Switched Digital Network
NM	Network Management
NN	Nation Number
NOA	Nature of Address
NOC	Network Operations Center
NOC-INM	Network Operations Center-International Network Management
NOE	Network Operations Enterprise
NoN	Nature of Number
NP	Network Provisioning
NP	Node Processor
NPA	Numbering Plan Area
NPAC	Number Portability Administration Center
NPONS	ANS Packet and Optical Network Services
NPP	Network Provisioning Platform
NPWC	Network Provisioning Work Center
NR	Non-Call Register
NRA	Network Remote Access
NRAMS	Network Remote Access Monitoring System
NRM	Network Recording Management
NRN	Network Routing Number
NRN DB	Network Routing & Numbering Database
NS	Network Services
NSA	Network Service Automator
NSAC	Non-Simultaneous Authorization Code
NSD&M	Network Service Delivery & Maintenance
NSF	Network-Specific Facilities
NSM	Network Services Maintenance
NSN	Network Switch Number
NSP	Network Services Provisioning
NTD	Network Technology Development
NTH	No Trunk Hunt
NTM	Non-Traditional Market
NVT	Network Verification Testing
NWM	Network Management

Acronym/Abbreviation	Definition
NWZ1	Non-World Zone 1
OACV	Originating Access Charge Verification
OAID	OSPS Access ID
OAM&P	Operations, Administration, Maintenance, & Provisioning
OAR	Originating Access Record
OAS	Originating AT&T Switch
OCC	Other Common Carrier
OCC	Originating Country Code
OCDD/RT	On-line Call Detail Data/Real Time
OCN	Original Called Number
OCTCP	Originating Carrier/Terminating Carrier Pair
ODA	Office Data Assembler
ODAD	ODA Data
ODMS	Office Data Management System
ODP	Office Dialing Plan
OE	Operator Express
OES	Originating Edge Switch
OFAI	Overflow Foreign Administration ID
O-FAI	Originating – Foreign Administration ID
OGT	Outgoing Trunk
OHD	Off-Hook Delay
OLI	Originating Line Identifier
OLP	Off-Line Processor
ONAC	Operations and Network Administration Center
ONCID	A TSG indicator used to indicate thata trunk can send
OnStar	A subsidiary of General Motors
OOB	Out of Band
ORB	Operations Requirements Brief
ORNU	RC Order Number
OS	Operating System
OSC	Outgoing Signaling Characteristic
OSI	Operator Systems Indicator
OSOR	On Site Operations Report
OSPS	Operator Services Position System
OSPSID	Operator Service Position System Identification
OSSs	Operation Support Systems
OST	Originating Station Type
OSWF	On Site Work Force
OTP	Operations Technical Plan
P.CarrierID	Primary Carrier ID

Acronym/Abbreviation	Definition
PABO	Protected, Disk-backed, API-Accessible, ODA-Generated
PACR	Post Answer Call Redirection
PAS	Protected Application Segment
PAS	Public Announcement System
PASP	Public Safety Answering Point
PBAO	Protected, Simplex, Disk-backed, API accessible and ODA
PBX	Private Branch Exchange
PC	Point Code
PCP	Positive Call Processing
PDD	Post Dial Delay
PDIT	Prefix/Feature Digit Interpreter Table
PDN	Pseudo-Destination Number
PDV	Pre-Defined Variable
PECC	Product Engineering Control Center
PH	Primary High-usage
PI	Precedence Index
PIC	Point in Call
PIC	Presubscribed Inter-exchange Carrier
PLU	Positive Lookup Table
PMO	Present Mode of Operation
PNI	Proprietary Network Interface
PNLCT	Prohibit No-Loopback Continuity Check Test
POP	Point of Presence
POTS	Plain Old Telephone Service
PRD	Product Release Document
PRI	Primary Rate Interface
PRIT	Primary Rate Interface Type
PRT	Proportional Routing Treatment
PS-ALI	Public Safety-Automatic Location Identification
PSE	Program Store Expansion
PSMO	Permanent SD Mode of Operation
PSTN	Public Switched Telephone Network
PTC	Primary Toll Carrier
PTT	Post Telephone and Telegraph
PUC	Public Utilities Commission
PV	Performance Verification
PVC	Permanent Virtual Circuits
QDRS	Quantum Data and Routing System
QH	Quiet Hear
Q/R	Query/Response
RA	Route Advance

Acronym/Abbreviation	Definition
RAM	Random Access Memory
RAO	Revenue Accounting Office
RBC	Rate Based Control
RC	Recent Change
RC/V	Recent Change/Verify
RCAS	Recent Change Administration System
RCC	Radio Common Carrier
RC/V	Recent Change/Verify
RDB	Routing Data Block
REL	Release Message
RI	Redirection Information
RICS	Recorded Information Collection System
RINDEX	Rate Index
RLC	Release Complete Message
RN	Routing Number
RO	Remote Operations
ROR	Re-route on Release
RP	Redirecting Party
RPC	Regional Processing Center
RPI	Route Pattern Index
RRAP	Repetitive Routing Attempt Procedure
RSI	Route Selection Index
RSIDF	Route Selection Index Default
RT	Real Time
RTNR	Real-Time Network Routing
RTR	Real-Time Reliable
RUAS	Remote Utility Access System
RUT	Routine USEC Testing
SAC	Service Access Code
SAFER	Split Access Flexible Egress Routing
SAN	Service Circuit System Announcement
SAP	Service Activation Parameter (ISUP)
SC	Structure Code
SCCP	Signaling Connection Control Protocol
SCGA	Software Carrier Group Alarm
SCP	Service Control Point
SCP	Software Change Package
SCS	Service Circuit System
SCSI	Small Computer Systems Interface
SCU	Service Circuit Unit
SD	Segmentation Directory
SDAT	Switched SDN
SDDN	Software Defined Data Network

Acronym/Abbreviation	Definition
SDDNI	Software Defined Data Network International
SDE	Software Development Environment
SDI	Switched Digital International
SDI-I	Switched Digital International – Inbound
SDN	Software Defined Network
SDN	Switched Digital Network
SDNA	Software Defined Network Access
SDN-DRAR	Software Defined Network- Digital Radio Avoidance Routing
SDN NRA	Software Defined Network/Network Remote Access
SDNSMS	SDN Service Management System
SDNT	Direct Access SDN
SDQ	SD Query
SDR	SD Response
SDS	Switched Digital Service
SDTT	Segmentation Directory Transition Type
SDX	Subsequent Digit Index
SG	Software Generation Data
SGPA	Supplemental – GPA
SI	Service Identity
SI	Service Index
SIC	Service Indicator Code
SID	Station Identification
SII	Service Identity Index
SMO	SD Mode of Operation
SMO	Segmentation Mode of Operation
SMS	Service Management System
SMW	Service Management Workstation
SN	Services Node
SNAS	Signaling Network Administration System
SNET	Southern New England Telephone
SNOOPER	System that provides customers a channel to verify 4ESS switch routing and trunking information on the AT&T Switched Network.
SNOW-R	Service NOW-Routing
SNOW-T	Service NOW-Trunking
SNPA	Served NPA
SOIP	Send Optional ISUP Network Interconnect
SOP-P	Signaling Operations Platform-Provisioning
SP	Service Processor
SPC	Switching and Permuting Circuit
SPE	Strategic Planning Estimate

Acronym/Abbreviation	Definition
SPSI	Service Processor Service Indicator
SPU	Signal Processing Unit
SRAS	Special Routing Arrangement Service
SRF	Service Request Form
SS7	Signaling System 7
SS7-NI	Signaling System 7-Network Interconnect
SSC	Special Service Code
SSIRS	Switched Services Information and Routing System
SSN	Subsystem Number
SSO	Sub-System Overload
SST	Signaling Service Type
SSU	Standard Service Unit
STIM	Satellite TNM Integrator Module
STOR	Send to Outside Resource
STP	Signaling Transfer Point
STT	Success To the Top
SUR	Standard Usage Record
TA	Telecommunications Administrator
TACV	Terminating Access Charge Verification
TAD	Time at Destination
TAN	Trunk Appearance Number
TAS	Terminating AT&T Switch
TAR	Terminating Access Record
TB	Trunk Block
TBN	True Billing Number
TCAP	Transaction Capabilities Application Part
TCE	Transmission Control Element
TCC	Technology Control Center
TCS	Transfer Connect Service
TDAS	Traffic Data Administration System
TDEST	Type of Destination
TDM	Technology Development Management
TDM	Time Division Multiplexing
TEC	Terminal Equipment Center
TES	Terminating Edge Switch
TG	Trunk Group
TG-4	Translation Guide *4ESS*
TIM	Tandem NFM Integrator Module
TMR	Trunk Maintenance Register
TNM	Total Network Management
TNR	Transmitted Noise Reduction
TNRN	Terminating Network Routing Number

Acronym/Abbreviation	Definition
TNS	Transit Network Selection
TOD	Time of Day
TOP	Task Oriented Practice
TOPAS	Testing, Operations, Provisioning and Administration System
TORIG	Type of Origination
TOT	Type of Trunk
TOW	Time of Week
TP	Target Party
TPC	Transport Capability
TQ	Trunk Queing
TQR	Test Query Register
TRN	Trunk Rating Number
TS	Time Slot
TSAA	Terminating Switched Access Arrangement
TSD	Technical Service Description
TSG	Trunk Subgroup
TSGB	Trunk Subgroup Block
TSI	Time Slot Interchange
TSM	Tandem NFM Surveillance Module
TSN	Trunk Scanner Number
TT	Transition Type
TT	Translation Type
TT	Transport Tariff
TT Phase 1	Traffic Transition Phase 1
TTA	Terminating Traffic Architecture
TTM	Trunk Type Modifier
TTS	Terminating Toll Switch
TTUSFI	Transport Tariff Usage Sensitive Feature Indicator
TUP	Telephone User Part
TV	True Voice
UGTT	Universal Global Title Translation
UI	User Interface
UIFN	Universal International Freephone Number (Format = 800+8-digits)
UMIU	Unidentified Message Investigation Unit
UMS	Usage Management System
US	Utility System
USDS	Universal Subscriber Data Structure
USDS	Universal Subscriber Data Service
USEC	Universal Services Echo Canceler
USI	User Service Information

Acronym/Abbreviation	Definition
UTA	Universal T1.5 Access
UUI	User to User
VAC	Via – Avoidance Control
VAS	Via AT&T Switch
VC	Vacant Code
VCA	Vacant Code Announcement
VCR	Voicepath Cancellation Rate
VIN	Vehicle Identification Number
VOIP	Voice Over Internet Protocol
VPA	Voice Path Assurance
VRUs	Voice Response Units
VSSID	Voice Storage System Identity
VTNS	Virtual Telecommunications Network Service
VTOC	Volume Table of Contents
WATS	Wide Area Telephone Service
WATSBN	WATS Billing Number
WC	Work Center
WCS	Windowed Call Store
WEFOS	WATS Eight Hundred Family of Services
WMS	Work Management System
WS	Workstation
WZ1	World Zone 1
XPCC	XTSI Per Call Control
XTSI	Expanded Time Slot Interchange
Y2K	Year 2000

C Master Index of Product Release Documents (PRDs)

Overview

Purpose This appendix contains a complete list of all features documented in Product Release Documents (PRDs). Features are listed by number, name, and PRD number. Revisions to a PRD are shown as, “Rev1, Rev2,” etc. New issues of a PRD are shown as, “Iss 2,” etc.

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305	Automatic Removal of Adjunct TSG Head Cells	234-090-163AC
306	ASTN 56Kbps Capacity Increase	234-090-171AC
315	Ring No Answer Billing Enhancement	234-090-162AC
320	Improved Automatic D-Channel Recovery	234-090-163AC
323a	ICS Task Force Ph2 Enhancement	234-090-163AC

Feature Number	Feature Name	PRD Release
323b	Continuity Check Call With An Unsuccessful COT C	234-090-163AC
323c	Automatic Repeat Attempt on Receipt of Unreasonable Signaling Informational	234-090-163AC
323d	Automatic Repeat Attempt on Receipt of Blocking Signaling	234-090-163AC
323e	TUP Unsuccessful COT Check-CCR Received	234-090-163AC
323j	Additional Requirement for Interworking Between DSS1 and International CCITT7 ISUP	234-090-163AC
323k	Rejection of Implicit Request for User-to-User Service 1	234-090-163AC
324a	ISUP Continuity Check-CCR Received Unsuccessful: Verify T27 Timer	234-090-163AC
324b	Check of Timers T14 and T15	234-090-163AC
324c	ISUP Continuity Check Test Call-COT Unsuccessful	234-090-163AC
324e	ISUP Continuity Check Test Call - CCR Received Unsuccessful	234-090-163AC
324f	Check of Timers T1 and T5: Failure to Receive RCM	234-090-163AC
324g	Check of Timers T16 and T17	234-090-163AC
333	LEC Switched Digital Service-Ph 2	234-090-183AC
341	700/800/900/Service 4E Announcement Delay	234-090-163AC
344	E-Link	234-090-182AC
349	PCP-Preassigned Value/ANI Expansion	234-090-171AC
354	Input Message TEST:DSIG Parameter Addition	234-090-172AC
356c	Service Translator	234-090-181AC
356d	Removal of Hardware Doc	234-090-181AC
356e	TTSI Decrease	234-090-181AC
356i	Code Group Form AD3	234-090-181AC
356j	Remove DNHR Controls	234-090-181AC
356k	New TDAS MC	234-090-181AC
356l	D-Channel Node Audits	234-090-211AC
372	Generic Update Capability	234-090-172AC
373	Inter-LATA Switched Digital Service and Network Interconnect for PRI	234-090-173AC
374	SCSI Firmware Download	234-090-172AC
375	AIN Dialed Number Triggers	234-090-182AC
375a	AIN-Operator Routing	234-090-201AC
376	Address Complete Message Timeout for Study Classes	234-090-172AC
378	Threshold Alerting/MSR2	234-090-181AC
381	Teleconferencing NSCX Trunk Maintenance Enhancement	234-090-172AC
383	Expanded ETC Type of Trunk Capability for GTE	234-090-172AC
384a	Miscellaneous RC Form Values	234-090-201AC
384b	Combine ANI Tables	234-090-201AC
384c	Combine AMA RCVR/Formatter	234-090-201AC
384d	AMA Functional Program Replacement	234-090-182AC

Feature Number	Feature Name	PRD Release
384e	D-Channel Backup Flow Control	234-090-211AC
384f	Removal of OPAV	234-090-201AC
384h	Increase Number of FHCs	234-090-201AC
385	3B20 Conversion to 3 1/2" Disks	234-090-182AC
386	SCS-Announcement System Manager Plus	234-090-182AC
387	Software Update Merge	234-090-201AC
390	3B Initialization Time Improvement	234-090-174AC
391	CNI Routing Restructure	234-090-181AC
393	3B Upgrade from 6.4 to 21	234-090-201AC
394	Software Update Automation	234-090-201AC
395	Ring Node Version Available	234-090-182AC
400	Message Transfer Part Restart	234-090-211AC
401	SS7 Trunk Signaling Interface for Cellular Type 2A	234-090-183AC
402	15-Digit International Numbering Plan	234-090-211AC
403	CCIS2WRE Field Enhancement in Recent Change	234-090-182AC
404	SCS-4 Gigabyte Disk Drive	234-090-183AC
405	Feature Group-D CIC Exp Cause Transparency	234-090-182AC
406	Carrier Identification Parameter-CIP	234-090-184AC
408	3.1 kHz Enhancement: Switch Options Feature	234-090-183AC
410	AIN Trunk Group Routing	234-090-184AC
411	AIN Default Routing - Phase 1	234-090-201AC
414	Increase in GULP Buffer Size	234-090-201AC
414a	Increase in GULP Buffer Size	234-090-211AC
415	AIN Selective Default Routing Dialed Number Trigger Calls-Phase 2	234-090-202AC
416	NSR Domain Data Enhancements	234-090-213AC
417	Explicit 4-Digit CIC Indicator to NetMinder	234-090-202AC
419	AIN Data Calls	234-090-214AC
421	AIN-Operator Routing for AIN Calls	234-090-203AC
422	CAMA for the LECs	234-090-203AC
430	Trunk Group Control of Signaling Bits	234-090-211AC
432	LEC Toll-Free Treatment for NPA 888	234-090-211AC
433	AIN Dialed Number Trigger Table Expansion	234-090-231AC
435	NetMinder Support of Alternate Overflow Reroute	234-090-211AC
437	Buffered Recent Change Transition	234-090-204AC
440	1B ORD:MCCKEY	234-090-204AC
442	AIN Dialed Number Trigger Expansion-Ph 0	234-090-211AC
443	AIN 800 Toll-Free Capability	234-090-213AC
448	*4ESS* Ring and Tone Plant Replacement	234-090-213AC
449	DMS D-Channel CINs	234-090-213AC
450	Number Portability-LEC	234-090-222AC

Feature Number	Feature Name	PRD Release
450a	Number Portability Modification Request-LEC	234-090-224AC
451	CVU/4E Echo-Back Interface for R2.2	234-090-214AC
452	XTSI Release 2 (LEC)	234-090-222AC
455	LEC AT Toll Resale	234-090-214AC
456	SCS UN351 Board Redesign	234-090-213AC
457	3B20D 2-Gigabyte Disk Certification	234-090-214AC
461	Extend ACM Timer for CCS7	234-090-221AC
467	AIN Call Code Provisioning	234-090-214AC
468	AIN Carrier Access Module Setting	234-090-214AC
469	MUP Firmware Upgrade	234-090-222AC
470	DLN-AP30 Circuit Pack Update	234-090-223AC
471	SCS TN4000B and TN1972C Replacement	234-090-221AC
472	Redesign of SCU EPIC	234-090-221AC
473	Checksum Macro	234-090-221AC
474	MCC Alarm Enhancement	234-090-222AC
475	ASM Plus Enhancements	234-090-221AC
476	2000 A.D. Transition	234-090-233AC
477	Test Query Enhancement-MR to CALIPER(4923)	234-090-224AC
478	*4ESS* APS RTR 21.17 Upgrade	234-090-231AC
480	CIP Number Expansion	234-090-223AC
482	LEC ODAMANanger	234-090-222AC
487	XTSI Static A/B Bit Option(2-Wire)	234-090-222AC
488	AT Routing Enhancement	234-090-224AC
488i	AT Routing Enhancement	234-090-231AC
496	Enhance TM Messages	234-090-231AC
497	Code Group Restructure	234-090-231AC
502	Cellular Mobile Carrier SSP/800 & AIN AMA Enhancement	234-090-224AC
505	*4ESS* Switch Header Validation	234-090-231AC
515	Analyze Ported Number GAP for AIN CNT LNP	234-090-233AC
516	AIN 6-Digit	234-090-233AC
517	LEC LNP OA&M Enhancements	234-090-233AC
517a	LEC LNP OA&M Enhancements MR 2	234-090-233AC
517r	LEC LNP OA&M Enhancements MR 2	234-090-233AC
521	Grow D-Chan Node Cap. From 106	234-090-251AC
523	RC Form Metrics Reports	234-090-241AC
534	LEC LNP/AIN Domain Option	234-090-233AC
536/i	3B20 to 3B21 Conversion from 4E24 (LEC & AT&T)	234-090-241AC
5361i	Interim D-Channel Expansion--SW	234-090-231AC
537	LEC Originating LNP Module AMA Enhancements	234-090-234AC
538	LEC LNP Additional OA&M Enhancement	234-090-234AC
538a	LEC LNP Additional OA&M Enhancement	234-090-234AC

Feature Number	Feature Name	PRD Release
540	DSC SCP Interface Modification for LNP	234-090-234AC
543	New XTSI Fan Unit SW Changes	234-090-241AC
545	US/RUAS Y2K Compliance	234-090-242AC
545a	RUAS Y2K Standalone Config	234-090-242AC
552	*4ESS* 3B APS Upgrade to RTR 21.31	234-090-251AC
554	DECOS Changes to RC639	234-090-242AC
564	Improved ISUP Message Header Reduction for API Capacity	234-090-254AC
564i	Improved ISUP Message Header Reduction for API Capacity	234-090-261AC
566	US/RUAS Productization	234-090-253AC
568	3B20D and 3B21D Disk Replacement (9GB Disk)	234-090-251AC
572	Y2K Century Bit on IBM Tape Header	234-090-243AC, Iss 2
588	4ESS 3B APS Upgrade to RTR 21.40	234-090-281AC
901	Performance and Capacity Improvements	234-090-161AC
902	Modular Recording of Data	234-090-161AC
903	Customer-Specific Recording	234-090-161AC
904	Recording of Additional Usage Data	234-090-161AC
905	10-Digit Global Title Translation	234-090-161AC
906	Common Network Interface Integration	234-090-161AC
907	Combined Link Set Routing	234-090-161AC
908	Intranet Signaling Connection Control Part Routing Verif. Test	234-090-161AC
909	Interim Dynamic-Automatic Congestion Control	234-090-161AC
910	Class of Service Parameter for Some Network Management Controls	234-090-161AC
911	Expanded ISDN Message Associated User-to-User Info. Length	234-090-161AC
912	Elimination of Double Dip and SDN NCP	234-090-161AC
913	CCITT7 ISUP-Ph 3	234-090-161AC
914	Carrier Specific Routing for Intl. Card and Global SDN Calls	234-090-161AC
915	Facsimile Identification and AMA	234-090-161AC
916	1+Spontaneous Access to Call Delivery Service	234-090-161AC
917	Intra-LATA Switched 384	234-090-161AC
918	Intra-LATA 7-Digit Free Calling	234-090-161AC
919	Unsuccessful Call Setup	234-090-161AC
920	Passing Unrecognized Parameters	234-090-161AC
921	Q.931 Information Elements Transport	234-090-161AC
1001	CCITT7 ISUP-Ph 4	234-090-172AC
3037	Signaling Connection Control Part Routing Verification Test	234-090-163AC
3066	Switched Digital International 384-Kbps Service	234-090-172AC
3068	1B24 Processor	234-090-181AC
3071	Feature Group-D Carrier Identification Code Handling	234-090-181AC
3082	ISAIC-AUI-AAP	234-090-181AC
3082	ISAIC-CORE	234-090-173AC

Feature Number	Feature Name	PRD Release
3082	ISAIC_CORE(109a)-Brkpt MR	234-090-173AC
3082	ISAIC_CORE(109a)- SCU	234-090-173AC
3091	ISAIC-Expanded Final Handling Announcements	234-090-173AC
3091	Expanded Final Handling Announcements (109c)	234-090-173AC
3133	15-Digit Intl Numbering Plan	234-090-211AC
3142	End-to-End Class of Service	234-090-201AC
3172	ISAIC-NSCX	234-090-181AC
3187	ISAIC-MAS Announcement System (Televote)	234-090-173AC
3195	Generation of CCS7 Discretes	234-090-174AC
3213	Resize Number of Switches Count	234-090-171AC
3214	Use and Handling of Unequipped Circuit Identification Code	234-090-172AC
3215	Provide Cause Information with Tones and Announcements	234-090-172AC
3285	SRVT Enhancements	234-090-173AC
3286	Processor Outage-Ph 2	234-090-173AC
3299	Call Detail Recording Platform	234-090-181AC
3300	0+/0- Access to AT&T Message Service	234-090-172AC
3306	I800/Country Direct Carrier Specific Routing-Ph 1	234-090-173AC
3318	MRVT Enhancements	234-090-174AC
3333	Program Store Expansion – 1B Processor	234-090-221AC
3333a	Program Store Expansion	234-090-211AC
3334	Flexible SDN Manual Control	234-090-174AC
3349	Dynamic Automatic Congestion Control, The Final Phase	234-090-172AC
3355	Extended Stores (XS) – 1B	234-090-211AC
3355a	Extended Stores (XS) – 1B	234-090-201AC
3356	1B File Expanded Program Store Disk/XS	234-090-201AC
3356a	1B File Restructuring	234-090-201AC
3410	Hard-To-Reach for SAFER Modification	234-090-174AC
3420	ISDN Extended D-Channel	234-090-201AC
3433	Increased Number of Links in Link Set	234-090-172AC
3446	Alternate Destination Routing-Ph 2	234-090-171AC
3448	Change Under Minimum Billable Call Duration Threshold	234-090-171AC
3460	PCP ANI Table Expansion	234-090-171AC
3472	Non-ISUP Public Switched Telephone Network Architecture	234-090-164AC
3472a	Non-ISUP PSTN GSDN Arch (RC)	234-090-181AC
3474	GSDN International Private Numbering Plan Option	234-090-164AC
3500	User-Entered Code Information Element Protocol Upgrade	234-090-164AC
3503	SDS Early Address Complete Message Elimination	234-090-164AC
3512	TOPAS Summary Trunk Turndown Improved Interface	234-090-163AC
3519	Transport Tariff/Usage Sensitive Feature Indicator Field Expansion	234-090-164AC
3520	Remote Adjunct Call Handling (REACH)	234-090-174AC

Feature Number	Feature Name	PRD Release
3520b	Remote Adjunct Call Handling (REACH)	234-090-181AC
3532	SDN-NPA Split Announcement	234-090-164AC
3534	Expand Class Of Service Parameters	234-090-171AC
3534a	Expand Class Of Service Parameters-RC	234-090-181AC
3541	RTNR Support for SSN/SRAS (Govt RTNR CAP)	234-090-181AC
3559	Carrier Routing Platform Network Management Enhancement	234-090-164AC
3564	Interchangeable NPA Additions	234-090-171AC
3566	Express Connect ANI Query	234-090-164AC
3567	Dynamic Load Control Trunk Assignment Expansion	234-090-164AC
3572	PBX High and Wet Wink Release	234-090-163AC
3587	SDN-Universal GTT Database	234-090-173AC
3590	GSDN CCS7 ISUP Network Interconnect Interface	234-090-172AC
3595	Positive Call Processing Release 3 List Transaction	234-090-172AC
3595a	Positive Call Processing Release 3 Provisioning	234-090-174AC
3597	I800 Carrier Specific Routing-Ph 2	234-090-173AC
3599	High Speed A/E Links	234-090-211AC
3604	International Calling for WATS over Network Interconnect	234-090-162AC
3606	Carrier Screening for 800 Number Portability	234-090-172AC
3607	Domestic Hard-To-Reach Data Modification for USADirect	234-090-172AC
3609	1+Directory Link	234-090-201AC
3618	Direct Connect Trunk Sub-Group Lockout	234-090-163AC
3630	Switch Based Network Call Denial	234-090-174AC
3636	Post Dialing Delay Reduction	234-090-201AC
3637	TCAP End Message Fix for NRA Improved Sequence	234-090-163AC
3640	FHC on the AMA Record	234-090-163AC
3649	Improved Recent Change for GTT	234-090-164AC
3650	Improved Recent Change for GTT	234-090-174AC
3662	Total Office Blocking Status Exchange	234-090-172AC
3664	Call Disposition Module on the Inbound AMA Record	234-090-164AC
3669	GSDN/SDN International Digits-Ph 2	234-090-173AC
3670	Remote Utility Access System (RUAS)	234-090-181AC
3671	GSDN/SDN International Digits-Ph 1	234-090-164AC
3680	ISDN 56 Kbps Routing	234-090-164AC
3741	SDN-NRA New Billing Structure Codes	234-090-164AC
3742	Far-End Network Service Category Treatment	234-090-173AC
3753	1B Processor Contingency (Undiagnosed 1A)	234-090-181AC
3776	CCITT5 Proceed To Send Signal	234-090-172AC
3777	Inbound I800 Call Prompter	234-090-173AC
3779	PROM Kit for Link Interface Encryption Removal	234-090-173AC
3795	iPCC-USEC Individual Per-Call Control	234-090-183AC
3800	GSDN Ph 2 International World Zone 1 Dedicated Access	234-090-172AC

Feature Number	Feature Name	PRD Release
3801	4E18 INPA Enhancements	234-090-181AC
3806	GTT Provisioning	234-090-173AC
3819	Carrier Specific Routing for ISTS	234-090-203AC
3840	SDN Digital Radio Avoidance Routing	234-090-173AC
3843	SDN NRA-Inclusion of ANI in AMA Record ANI	234-090-172AC
3844	PCP-ANI Table Limit Expansion	234-090-181AC
3847	Temporary Signaling Connection Controls	234-090-181AC
3852	AAP Maintenance Enhancements and AAP/SCANS	234-090-181AC
3857	SDN-10288 Access to SDN	234-090-202AC
3860	Alternate Signaling Transport Network NI Backup	234-090-173AC
3863	Telecommunications Relay Service Carrier of Choice	234-090-173AC
3867	Force Time-Critical Calls for AT&T NetProtect Service	234-090-172AC
3868	Prefix NPA Digits for Reroute Control	234-090-172AC
3876	ABC Architecture APN Dialing Requirements	234-090-173AC
3880	GETS-Government Emergency Telecommunications Service	234-090-184AC
3883	SDDN 700 Number Outward Dialing	234-090-172AC
3887	Integrated Access Terminating Switch Access Arrangement	234-090-184AC
3891	ANI/DN Per Call Control of Voice Enhancement	234-090-183AC
3892	RMS Interface to Network Validation Test AMA Collecting and Reporting	234-090-173AC
3898	3B/DLN Recent Change Inhibit Enhancements	234-090-172AC
3899	10-Digit GTT Expansion-Inbound	234-090-173AC
3904	Call Complete With DTMF Congestion	234-090-172AC
3917a	10-Digit GTT Support – Ph 1	234-090-174AC
3917b	10-Digit GTT Support – Ph 2	234-090-182AC
3931	A-Law/U-Law Modification Requirement/CCITT7	234-090-172AC
3932	ABC ANI Trigger Table Field Redefinition	234-090-173AC
3935	PCP Using 2NCP/NSCX	234-090-173AC
3943	PCP R2.0 Enhanced PAV	234-090-173AC
3944	ANI Table Change for SB NCP MR	234-090-174AC
3949	10-Digit GTT Table Expansion-Long Term	234-090-182AC
3956	SCS Yes or No for EFH	234-090-181AC
3957	Inbound I800 Separation of Country Code	234-090-183AC
3963	Network Access Interruption	234-090-184AC
3964	Universal Subscriber Data Structure—USDS	234-090-211AC
3967	Balancing Load Sharing	234-090-211AC
3968	Easy Reach 700 Call Forwarding Service	234-090-173AC
3978	RETract Reach to Access Toll-RETREAT	234-090-184AC
3991	BLDS Services – Call Disposition Recording	234-090-182AC
4012	Inbound Automated GTT	234-090-174AC
4013	II Digit Information Delivery	234-090-174AC

Feature Number	Feature Name	PRD Release
4018	End-to-End Class Of Service/AP	234-090-201AC
4018a	End-to-End Class Of Service/AP	234-090-202AC
4019	5-Digit Dialing on SDN-Ph 1	234-090-174AC
4020	Authorization Code Digits Encoding	234-090-174AC
4026	Network Call Denial for International	234-090-174AC
4029	Multiple Trunk Group Assignment	234-090-174AC
4032	Self-Provisioning GTT	234-090-182AC
4032a	Self-Provisioning GTT Deferred Requirement	234-090-183AC
4033	Alternate Signaling Transport Network Gateway/NI Backup	234-090-183AC
4043	XTSI—Release 2	234-090-221AC
4050	ASTN Forced Intertoll Routing	234-090-174AC
4053	ODA Datalinking (ODAD)-Ph 1	234-090-201AC
4057	1A/1B Processor RC Throughput Improvement	234-090-182AC
4058	Collision of REL Messages	234-090-174AC
4099	Type Digital Interface Unit(TDIU) Redefinition	234-090-211AC
4107	Calling Party Number/Billing Number Delivery Enhancement	234-090-181AC
4117	Domestic PSTN Routing CAP-GSDN	234-090-181AC
4129	Alternate Signaling Transport Network Enhanced ISUP	234-090-184AC
4133	Direct Link Node Throughput Increase-Ph 1	234-090-201AC
4136	Never Miss a Call/ADR on Busy	234-090-182AC
4168	Alternate Signaling Transport Network 56 Kbps for UNITEL	234-090-183AC
4170	Inbound I800 Service Overseas Access	234-090-183AC
4180	INUP Echo Control-Ph 1	234-090-181AC
4180a	INUP Echo Control-Ph 2	234-090-182AC
4183	Automatic Speech Recognition-Ph1	234-090-203AC
4183a	Automatic Speech Recognition—AAP Software Update	234-090-203AC
4186	Universal Global Translator Fall-out Report	234-090-183AC
4189	Enhanced I800 Service Using USADirect	234-090-183AC
4201	1+Directory Link for BLDS PCP	234-090-201AC
4203	ANI Trigger Table Capacity Enhancement-Ph 1	234-090-201AC
4206	ANI Trigger Table Capacity Enhancement-Ph 2	234-090-211AC
4213	Increase International Point Codes	234-090-182AC
4215	UNITEL Network Identification Code	234-090-183AC
4216	Number Portability-AT&T	234-090-223AC
4218	ABC Terminating Switch	234-090-182AC
4219	SOP to *4ESS* Interface Changes	234-090-223AC
4232	Multiple *4ESS* Switch Network Announcements	234-090-183AC
4232a	Multiple *4ESS* Switch Network Announcements-Ph 2	234-090-202AC
4243	Nonobtrusive D-Channel Node Pump	234-090-201AC
4268	ISAIC Usage for the GETS	234-090-184AC
4271	Network Queuing Courtesy Response	234-090-184AC

Feature Number	Feature Name	PRD Release
4273	Verify Messages for Routing Table	234-090-184AC
4275	SDDN-I for UNITEL	234-090-202AC
4290	Inbound Services 10-Digit GTT Recent Change Packing	234-090-184AC
4291	Inbound Services 10-Digit GTT Data Consistency Check	234-090-184AC
4292	Inbound Services 10-Digit GTT File Transfer	234-090-184AC
4306	AT&T Trigger Platform Jr.	234-090-201AC
4310	4E20 ODA Requirements for CDR	234-090-201AC
4312	SDN-NRA Sequential Dialing using ATP	234-090-201AC
4314	Generic Indicators in Tracer Records	234-090-202AC
4317	Service Count Tracer Records Unanswered/Mutilated	234-090-202AC
4322	Foreign-Billed 800 Service	234-090-183AC
4323	AT&T Circuit Switched Data	234-090-203AC
4324	Easy Reach 1+500 Dialing Plan	234-090-202AC
4344	Backward Release After ACM-INUP Trunks	234-090-184AC
4355	SDN ANI Trigger Table Indicator	234-090-201AC
4364	Switched Digital Screening	234-090-213AC
4366	Recent Change Administration System-Ph 2	234-090-202AC
4366a	Recent Change Administration System-MR to Add CLLI	234-090-184AC
4367	SRVT Compatibility With Feature 3957	234-090-184AC
4369	Cellular Mobil II Sets 62/63 ID	234-090-204AC
4372	ANI Trigger Data Proc Data Expn	234-090-203AC
4376	ISDN Operational Improvements	234-090-203AC
4388	IXC-Megacom 800 Service to an IXC With ANI	234-090-184AC
4401	IXC-Megacom 800 Service to an IXC with ANI Ph 2 Inband	234-090-184AC
4404	International Call Detail Record for SDN-Canada Cross-Border	234-090-184AC
4430	International Billing Number Screening-Ph 2	234-090-202AC
4438	Elimination of Via Routed Calls	234-090-221AC
4448	Clearback Suppression/Brazil	234-090-201AC
4449	Tones Announcement on TUP & ISUP	234-090-202AC
4464	CDRP & Multiple *4ESS* Streams	234-090-221AC
4472	New Generation-ODA Provisioning Tools	234-090-201AC
4474	SDN 1+10D Dialing on Dedicated Access	234-090-202AC
4477	2NCP/CADCR Svc Assists/Handoff	234-090-212AC
4482	Foreign-Billed 800 Service-Ph 2	234-090-184AC
4506	IXC With ANI Billing Improvements	234-090-203AC
4507	Clearback Suppression Ph 2 Brazil	234-090-203AC
4508	SDN and GETS Service Mixing	234-090-184AC
4529	800 Services Account Codes	234-090-214AC
4530	I800 Billing for Mexico	234-090-202AC
4538	*4ESS* SPGTT Table Expansion	234-090-202AC
4539	SDI 1536 Kb/s Service	234-090-204AC

Feature Number	Feature Name	PRD Release
4540	SDN Access to SDN-MR to Feature 3857	234-090-202AC
4555	AT&T Trigger Platform Jr – Busy/Ring No Answer MR	234-090-202AC
4557	SDN NRA Using ASR	234-090-211AC
4559	Handling *4ESS* SPI ASTN NI Backup	234-090-204AC
4564	Segmentation Directory	234-090-222AC
4569	PCP 10-Digit Delivery to PCP 2NCP	234-090-201AC
4570	Universal 1.5 Access	234-090-204AC
4575	Interim 1+500 Via the *4ESS*	234-090-202AC
4579	PZM Triggered iPCC Gateway	234-090-202AC
4590	Call Forwarding for SDN/800	234-090-214AC
4591	SS7 Access to Nodal Services	234-090-203AC
4601	NAI ACG Type of Digit Coding	234-090-184AC
4603	Continuity Check on INUP Circuits 1877	234-090-203AC
4632	CDR Data Tracer Count MR	234-090-203AC
4642	GSDDN International On-Net Data Service	234-090-203AC
4650	10-Digit Trunk Group Rating Number	234-090-204AC
4655	SDN – ASTN/SGGTT Interworking	234-090-203AC
4656	800 Growth to Include 888	234-090-204AC
4658	PCP for Equal Access Cellular	234-090-204AC
4659	Calling Party Number Delivery	234-090-203AC
4673	SDN Customer Outage Protection	234-090-213AC
4677	iPCC Gateway Maintenance Enhancement	234-090-203AC
4677a	iPCC Gateway Maintenance Enhancement	234-090-203AC
4686	Carrier Identification Code Delivery	234-090-212AC
4692	Automatic Call Distributor in the Network-Ph 2	234-090-203AC
4694	Direct Link Node Capacity Upgrade-Ph 2	234-090-221AC
4696	RMS/*4ESS* Switch Testing Enhancement	234-090-212AC
4706	DTMF Inband ANI Delivery	234-090-204AC
4719	PACR on AT&T Trigger Platform Jr. Rls 1.0	234-090-204AC
4721	PACR to POTS Billing Fix	234-090-211AC
4739	Project Zebra (National Directory Assistance)	234-090-211AC
4741	AT&T Advanced 800 Automatic Speech Recognition Using Call Store	234-090-212AC
4744	PCP for CMC Service Type	234-090-203AC
4751	Improve NEMOS to *4ESS* Interface	234-090-212AC
4751a	Merging RNMS and *4ESS*/NEMOS-Ph 2	234-090-214AC
4753	MEGACOM 800 IXC With ANI-MR 02	234-090-203AC
4754	XTSI (Was 4043)	234-090-213AC
4760	ISC Composite Circuit Enhancement	234-090-212AC
4760a	ISC Composite Circuit Enhancement	234-090-221AC
4768	*4ESS* Signaling Management Enhancement	234-090-223AC

Feature Number	Feature Name	PRD Release
4769	Announcement Set B on SCS	234-090-214AC
4769a	Announcement Set B on SCS	234-090-221AC
4776	End-to-End Class Of Service Areas Increase	234-090-221AC
4776a	End-to-End Class Of Service MR 94-02 and 95-01	234-090-212AC
4779	Check Application Status	234-090-211AC
4785	Inbound I800 CSR & Enhanced Call Origination	234-090-214AC
4789	XTSI Rls 3 In-band Supv Signaling	234-090-242AC
4789L	XTSI Rls 3 In-band Supv Signaling	234-090-242AC
4790	CDRP Tracer Count Consistency	234-090-214AC
4795	USDS Phase 1.1 Support for TNR Triggers	234-090-212AC
4800	CDRI Communications Web	234-090-221AC
4800i	CDRI Communications Web-Ph 2 Tracking Encryption	234-090-214AC
4801	SCS Automatic Speech Recognition-Ph 2	234-090-214AC
4815	Disaster Recovery Enhancement-Rls 1	234-090-223AC
4815a	Disaster Recovery Enhancement-Rls 1	234-090-222AC
4815i	SDRP 1B Code	234-090-222AC
4815j	SDRP 3B Code	234-090-222AC
4839	SNPA Expansion and Handling NPA Improvement	234-090-221AC
4839	SNPA Expansion/Handling NPA Improvement LEC	234-090-221AC
4850	Foreign-Billed 800-Ph 3	234-090-212AC
4866	Routing Data Block List Verify Tool	234-090-213AC
4867	Transfer Connect Service 3.0	234-090-213AC
4870	CDRP Software Release Synchronization	234-090-204AC
4875	PACR-ATP OutofBand Enhancements for VRU-BT	234-090-213AC
4880	Segmentation Directory-Ph 2 Pkg1	234-090-231AC, Ad1
4880a	Segmentation Directory-Ph 2 Pkg2	234-090-232AC
4880b	Segmentation Directory-Ph 2 Pkg3	234-090-233AC
4880c	Segmentation Directory-Ph 2 Pkg4	234-090-234AC
4893	Universal T1.5 Access-MR to Feature 4570	234-090-204AC
4898	Service Identity Traffic Data Collection	234-090-224AC
4898b	Service Identity Traffic Data Collection	234-090-223AC
4899	High Speed Links T1 Maintenance Enhancement	234-090-222AC
4903	CCS7 Signaling Transport Footprint	234-090-213AC
4903a	CCS7 Signaling Transport Footprint-Encryption Unit	234-090-213AC
4904	Domestic ECOS Class of Service	234-090-231AC
4920	Dual Sessions for Network Elements-NEMOS	234-090-223AC
4923	Calling Party Pays Airtime-CALIPER	234-090-213AC
4924	Foreign-Billed 800-Ph 4	234-090-213AC
4928	TCAP Parameter for Transmission Enhancement Control	234-090-222AC
4940	GETS Initial Operational Capacity	234-090-213AC
4941	ADR Recording Changes for Interaction with TCS-NAP	234-090-224AC

Feature Number	Feature Name	PRD Release
4957	Per Announcement Information Data (PAID)	234-090-212AC
4958	Global Carrier Selection	234-090-212AC
4965	Billing Fix-Cellular Access/SDN-Ph 2	234-090-212AC
4967	Automatic Routing	234-090-241AC
4967a	Automatic Routing Ph 1 (Pre-ACM)	234-090-233AC
4967b	Automatic Routing Ph 2 (Post-ACM)	234-090-233AC
4967i	Automatic Routing-Pre-AR Structure Work	234-090-231AC
4990	Associate Announcement Number with FHC 1592	234-090-212AC
4991	Removal of Routing Prefix Codes Network Security	234-090-212AC
4995	Recent Change Administration System-MR to Feature 4366	234-090-211AC
4997	Enhanced DIF-E1 Internal Bus Mismatch Diagnostics	234-090-222AC
5000	Single Entry MRTT Counts for SAFER	234-090-211AC
5003	API Capacity Improvements	234-090-221AC
5004	ANI Data Service Vu	234-090-214AC
5005	Assignment I/O for *4ESS* Switch	234-090-233AC
5013	1B Processor Tape Unit Elimination	234-090-221AC
5013i	Cable Design for TUC Elimination	234-090-222AC
5020	Short Term D-Channel Expansion	234-090-214AC
5020a	Short Term D-Channel Expansion	234-090-231AC
5024	SUME for 800/900 Number Translations	234-090-224AC
5041	XTSI TM Gen DS3 Alarms Maintenance Channel	234-090-214AC
5051	LYNX Software Upgrade	234-090-213AC
5060	Positive Lookup Table in WCS	234-090-231AC
5064	Idle Link Bandwidth Adjustment NM Controls	234-090-212AC
5072	MR to Univ T1.5 Access	234-090-212AC
5111	XTSI in I/O Msg—5111a,b,c for LEC	234-090-221AC
5111a	XTSI I/O Message Specification	234-090-214AC
5111b	XTSI in I/O Messages	234-090-221AC
5111c	XTSI in I/O Messages	234-090-222AC
5113a	XTSI Software Update Tool – Ph 1	234-090-221AC
5113b	XTSI Software Update Tool – Ph 2	234-090-223AC
5123	Network Support for 8YY	234-090-231AC
5129	Inspection II Digits/Dialed Number	234-090-231AC
5131	Service Control After 2 D3Sus Fail	234-090-221AC
5153	Consolidated 0+/- & 1+ Hotel Traffic	234-090-222AC
5158	Carrier Completion Rate Feature	234-090-241AC
5161	Switch Disaster Recovery Enhancements	234-090-234AC
5163	Positive Lookup Tools (PLUTO)	234-090-231AC
5198	CIC Based Resale	234-090-221AC
5198a	CIC Based Resale	234-090-231AC
5222	3B21D APS Upgrade—Hardware	234-090-231AC

Feature Number	Feature Name	PRD Release
5222i	3B21D APS Upgrade—Software	234-090-231AC
5241	Segmentation Directory Black Hole Detection & Recovery	234-090-224AC
5247	Call Turn Around	234-090-214AC
5252	800 Service DSD Fix	234-090-221AC
5308	Consolidated Access Traffic-Ph 1	234-090-224AC
5341	QuietHear MR for 109 Test Lines	234-090-221AC
5349	Correction of Collusion INUP Release Messages	234-090-222AC
5352	Modify Connected Number Screening	234-090-222AC
5353	Universal International Free Phone	234-090-223AC
5361	Interim D-Channel Expansion—HW	234-090-231AC
5370	Local Service for Nodals on *4ESS*-Ph 1	234-090-222AC
5370i	Local Svc for Nodals on *4ESS*-Ph 1	234-090-251AC
5371	Local Service for Nodals on *4ESS*-Ph 2	234-090-223AC
5371a	Local Service for Nodals on *4ESS*-Ph 2	234-090-224AC
5376	SS7 Node Buffer Size Modification	234-090-214AC
5399	Foreign-Billed 800 Service Enhancement-Ph 5	234-090-223AC
5399r	Foreign-Billed 800 Service Enhancement-Ph 5	234-090-223AC
5460	NAI-Ph 3A *4ESS* & CDRP	234-090-222AC
5460a	NAI-Ph 3A MR to 5460	234-090-233AC
5505	XTSI Rapid Restore	234-090-223AC
5506	Selective Blocking of Codesets	234-090-224AC
5528	Early Answer for GETS Inbound International Calling Opt 2	234-090-223AC
5529	Interim Speech Recognition ISIAC Call Prompt	234-090-214AC
5531	MR to SI Data Collection-5-minute NEMOS Data	234-090-223AC
5531i	MR to SI Data Collection-TDAS Data	234-090-224AC
5532	Project Radar – Ph 2	234-090-231AC
5538	End Office Local Nodal (AT&T)	234-090-232AC
5563	SCS Software Update Tool	234-090-224AC
5568	9 Gigabyte Disk Units for SCS	234-090-224AC
5578	Transfer Connect Service-MR to Feature 4867	234-090-221AC
5579	SDN Access Via Network Access Platform	234-090-221AC
5589	Modification to 4557	234-090-221AC
5591	Set S DTMF to ASR Switching	234-090-221AC
5594	CPN Anomaly Report	234-090-221AC
5600	XTSI Rls 3—Digital Svc Circuits	234-090-242AC
5600L	XTSI Rls 3—Digital Svc Circuits	234-090-242AC
5613	ISDN Called Party Number Protocol Upgrade	234-090-221AC
5636	SNPA Expansion-MRs to Feature 4839	234-090-221AC
5641	Segmentation Directory Ph 3, Rel 1	234-090-242AC
5641a	Segmentation Directory Ph 3, Rel 2	234-090-243AC, Iss 2
5641b	Segmentation Directory Ph 3, Rel 3	234-090-243AC, Iss 2

Feature Number	Feature Name	PRD Release
5645	Local Service for Nodals Ph 2.1	234-090-224AC
5668	HSL Status Indication Busy Enhancement	234-090-223AC
5670	NAI for Direct Connect Calls	234-090-222AC
5681	Number Portability Open Portability Verify	234-090-223AC
5700	CAT FSD MRs (to Feature 5308)	234-090-224AC
5701	AAP ISDN Loopback Capability	234-090-222AC
5704	ODA Datalinking Software Tool Enhancement	234-090-221AC
5711	API Message Header Reduction-Ph 2	234-090-231AC
5724	Extend ACM Timer for CCS7	234-090-221AC
5742	Improved Codelist Verify	234-090-224AC
5754	Network Access Interruption and Directory Assistance Resell	234-090-221AC
5766	Advantis Default OLI	234-090-222AC
5773	SDN NRA Tollfree Dialed Number for CSCR	234-090-222AC
5791	Long-Term "CIC-Based NAI"	234-090-223AC
5794	SCS Announcement Seconds Expansion	234-090-224AC
5794j	SCS Announcement Seconds Expansion	234-090-224AC
5802	CIC Code Exp for 5198 & 5754	234-090-221AC
5805	Inbound Services 10-Digit GTT Table Expansion	234-090-224AC
5816	CSCI Recording	234-090-231AC
5817	International Originating Satellite Rules Modification	234-090-222AC
5822	Enhanced CIC Routing for Operator Services	234-090-233AC
5835	AAP Disk Copy Enhancement	234-090-224AC
5840	1+CIC Wholesale Features-Ph 1	234-090-224AC
5843	ISDN Operational Enhancements	234-090-242AC
5844	Announcement Set D on ISAIC	234-090-224AC
5844a	Announcement Set D on ISAIC	234-090-231AC
5874	B/RNA Cellular Monitor	234-090-224AC
5876	Segmentation Directory Recovery	234-090-243AC, Iss 2
5887	GCS Capability Near-Term Modification	234-090-222AC
5892	Transfer Connect Capacity 97	234-090-234AC
5898	Code Group Restructure	234-090-231AC
5899	MR on Feature 4323	234-090-224AC
5906	Improved Calling Party # Anomaly Report	234-090-241AC
5907	Cellular B/RNA for TC/ER Service	234-090-224AC
5915	Nodal Egress Sequential Trunk Hunt	234-090-231AC
5917	Expansion of *4ESS* OSPS Table	234-090-231AC
5918	Inband Q.931 Signaling for Carrier Solutions Nodal Customers	234-090-232AC
5922	Foreign Admin Identifier Expansion	234-090-241AC
6072	OCTCP & CIC Table Expansion	234-090-231AC
6130	2000 A.D. (AT&T)	234-090-233AC
6137	Domestic ECOS: New RLI & Route Control-MR to Feature 4904	234-090-232AC

Feature Number	Feature Name	PRD Release
6142	Additional Support for *4ESS* Local for Nodal	234-090-233AC
6142i	Additional Support for Local Nodal—OSOR	234-090-231AC
6143	Enhanced CIC Routing for Directory Assistance	234-090-233AC
6156	*4ESS* CMS/ESS Audit Enhancement	234-090-231AC
6164	Payphone Compensation—Ph 2	234-090-224AC
6190	AMA Recording Fix for GETS	234-090-231AC
6231	No-Loopback Continuity Check	234-090-234AC
6266	Enhanced CIC Routing for International Calls	234-090-233AC
6272	Performance Enhancements for Segmentation Directory	234-090-233AC
6273	Tones & Announcements on Unsuccessful Calls After Call Prompting	234-090-242AC
6296	Open Segment 2 of 1B File Store-3BPAS	234-090-241AC
6328	Carrier Completion Rate (5158) MR	234-090-241AC
6330	4E AT&T Digital Link LRN Capabilities	234-090-232AC
6363	Increase Number of MCT Tables	234-090-231AC
6375	Number Portability Ph 1 Architecture Extension	234-090-234AC
6413	OAS Call Processing on Inter-Toll Trunks	234-090-242AC
6426	SD CIC Based Proc & SDN Default Handling	234-090-233AC
6428	Automatic Routing (4967) MR	234-090-241AC
6468	Early Disconnect Project Radar	234-090-231AC
6483	ECOS Support of GNS Call Type (MR-3142)	234-090-231AC
6487	Int'l Toll Free Service TEST:TCAPDSD Support FSID Routing	234-090-233AC
6492	TCAP Parameter for Trans Enhancement Control	234-090-242AC
6494	Digital Link Local Service Measurement Capabilities	234-090-234AC
6500	Carrier Solutions Enhanced CIC-Based Maintenance	234-090-234AC
6512	Domestic End-to-End Class of Service	234-090-234AC
6516	*4ESS* Switch Routing RC/V Improvements	234-090-241AC
6516a	*4ESS* Routing RC/V Improvements	234-090-234AC
6516b	*4ESS* Routing RC/V Improvements	234-090-234AC
6516c	*4ESS* Routing RC/V Improvements	234-090-234AC
6516i	*4ESS* Routing RC/V Improvements	234-090-234AC
6563	Universal Int'l Free Phone Numb Enhancement	234-090-234AC
6605	TSAA/AVA with DL Phase 4	234-090-234AC
6617	SDN and 1+DL Feature Interaction MR	234-090-231AC
6620	MR to 5840—1+CIC Wholesale	234-090-234AC
6624	ANI Replacement on Cellular Roamer 8YY Calls	234-090-234AC
6625	Digital Link "0ZZ" on Backhauled 8YY Calls	234-090-234AC
6629	EOLN-PMO Processing of EOLN PCP Calls	234-090-234AC
6638	Ignore Calling Party # on ITFS Calls	234-090-231AC
6643	4E—NEMOS Link Upgrade	234-090-242AC
6657	MR to ADR Recording Change (4941)	234-090-234AC

Feature Number	Feature Name	PRD Release
6665	MR to Payphone Compensation, Phase 2	234-090-231AC
6685	Digital Link Phase 3 Equal Access Capability	234-090-242AC
6745	Terminating Traffic Architecture	234-090-233AC
6750	Dial 1 Service Integration	234-090-242AC
6757	NAI Call Redirection & ATP	234-090-233AC
6759	MR to SI Traffic Data FSD (4898, 5531)	234-090-234AC
6762	MR to 5371 FSD	234-090-242AC
6763	Impaired Via Avoidance	234-090-243AC, Iss 2
6777	DSA Based Architecture for TSAA/AVA	234-090-234AC
6881	*4ESS* SCS Cache Change to 256 Milliseconds	234-090-242AC, Rev1
6888	Capacity Relief on 1B Processor Memory	234-090-251AC
6896	700 PIC Verification Announcement for CSP	234-090-242AC
6915i	*4ESS* Switch Signaling Capacity Improvements	234-090-253AC
6938	AT&T Digital Link Phase V Architecture	234-090-251AC
6947	Segmentation Directory ND/CDN Digits Length	234-090-234AC
6955	MR to Digital Link Phase 2.1	234-090-234AC
6982	Expand ANI Trigger Table Structure Size	234-090-241AC
6989	Enhanced Scheduling and Executive Control	234-090-253AC
6990	AT&T Digital Link Ph 3 Equal Access Dial Around Capability	234-090-243AC, Iss 2
7028	Voice Over IP (VoiP) Mexico)	234-090-242AC
7038	AT&T Digital Link Ph 3 911 Capabilities	234-090-243AC, Iss 2
7063	MR to SDN Overflow Routing on Busy with ADL4	234-090-242AC, Rev 1
7064	Further Expansion of OSPS Access ID Table	234-090-251AC
7067	RTNR-Type of Origination for WZ1	234-090-243AC, Iss 2
7070	Number Pooling Target Architecture	234-090-254AC
7102	Removal of Forced Overflow on User Busy for Trunks with Access Ids	234-090-241AC
7106	Non Emergency (NE) Initial Address Message (IAM) Priority Level at the Egress of the Network	234-090-253AC
7148	AT&T Digital Link Announcements – Part 1	234-090-243AC, Iss 2
7157	International Point Code Expansion	234-090-241AC
7181	Removal of NSN for ADL LNP Processing	234-090-241AC
7217	Elimination of Dual Provisioning – Phase 1	234-090-254AC
7221	Expanding Route Skip/Cancel-(To,From) Controls	234-090-243AC, Iss 2
7222	*4ESS* Domain Value Output Enhancement	234-090-242AC
7236	DECOS Incoming Circuit Immediate Release	234-090-243AC, Iss 2
7240	Modified FG-D Support for ANC	234-090-242AC
7240a	Modified FG-D Support for ANC	234-090-243AC, Iss 2
7254	Restructure and Grow the Call Register	234-090-251AC
7255i	Change to 1B Prefetch Destination on IF:T	234-090-261AC
7264	Toll-Free Service Processing on Edge Switches with SD	234-090-261AC

Feature Number	Feature Name	PRD Release
7285	ANC II/OLI Screening – Phase 1	234-090-243AC, Iss 2
7294	DCI at OLP	234-090-242AC
7312	Killing Fraudulent SDN NRA Calls	234-090-251AC
7323	ANC NANP CIC Routing	234-090-251AC
7335	Transfer Connect on ATP-Out of Band Enhancement	234-090-251AC
7344	1-Digit Translation Table Expansion	234-090-251AC
7412	Application Improvement	234-090-261AC
7429	Mandatory 10-Digits on LSP_LOCAL Trunks – Part 1	234-090-243AC, Iss 2
7429a	Mandatory 10-Digits on LSP_LOCAL Trunks – Part 2	234-090-251AC
7477	ALAMO (AT&T Local Access Management Option)	234-090-243AC, Iss 2
7492	Capacity Relief in 1B Memory for 4E26	234-090-261AC
7497	AT&T Network Connection (ANC) Enhancements to Special Routing Features	234-090-253AC
7501	Expand LACIDs to Support 856 D-channels	234-090-251AC
7506	NAI Call Redirection and LNP Interaction	234-090-243AC, Iss 2
7520	ANC Dial-Around (ADA) Blocking	234-090-243AC, Iss 2
7573	Segmented Memory Base Capability	234-090-261AC
7573a	Segmented Memory Base Capability	234-090-254AC
7592	Network Routing and Numbering Database for Intl. Routing	234-090-253AC
7592a	Routing Database Architecture for International Routes	234-090-254AC
7619	MR to 5645 – Digital Link Ph 2.1 – 8YY Screen	234-090-243AC, Iss 2
7633	MR to 7038 – Support for Deletion of CPN over AATOS Trunks	234-090-243AC, Iss 2
7645	National ISDN PRI for AT&T Digital Link Ph V and LDNC Ph 2	234-090-261AC
7673	ANC ECR for Operator Services UTA Update	234-090-243AC, Iss 2
7698	Traffic Transition Phase 1 – Switched Access to the Edge	234-090-262AC
7701	Procedure for Growing ATP TSGs	234-090-251AC
7752	Edge-to-Edge Routing	234-090-262AC
7815	Modified No-Loopback Continuity Check (7815)	234-090-251AC, Rev 1
7860	Edge Switch Access to Prepaid Card	234-090-261AC
7862	Direct Services ANI-Based for Access Value Arrangements/ Terminating Switched Access Arrangement—Phase 2	234-090-254AC
7872	TCS Redirection to OCC 8YY	234-090-261AC
7880	Location Routing Number (LRN) Recipient Switch Coding of Forward Call Indicator (FCI) for Interswitch Routing of DN	234-090-253AC
7883	Billing Number for Switched Data Video Gateway (SDVG)	234-090-253AC
7888	Expansion of BLCNT for Q.931 Trunks Subgroups	234-090-261AC
7944	Commercial Credit Card Validation	234-090-261AC
8010	ES Assigned APN Nodal Traffic Routing from an Originating 4ESS	234-090-272AC
8024	Switched Access 8YY Originations at the Edge – Phase 1	234-090-271AC
8024i	Switched Access 8YY Originations at the Edge – Phase 1	234-090-271AC

Feature Number	Feature Name	PRD Release
8045	Capacity Relief on 1B Main Memory for 4E27	234-090-271AC
8072	International Transit Calls Using SS7 NI for NWZ1 Terminations	234-090-261AC
8074	Increased Number of Transfers for TCS on NAP	234-090-261AC
8092	*4ESS* Real Time Capacity Mining	234-090-271AC
8093	*4ESS* API Capacity Mining	234-090-271AC
8114	CCITT7/CCS7 CPC Interworking for Pay Phone Calls	234-090-261AC
8141	TTA Over ATM Route Advance Trigger	234-090-271AC
8202	Billing Number for Switched Data Video Gateway (SDVG)	234-090-271AC
8214	AT&T Digital Link 711 Calling Capacity	234-090-271AC
8230	MR to Feature 7264 – Tollfree Service Processing on Edge Switch With SD	234-090-262AC
8287	Capacity Relief on 1B Memory	234-090-281AC
8288	4ESS Switch Attached Processor Interface Capacity Relief	234-090-281AC
8290	4ESS Switch Real Time Capacity Mining	234-090-281AC
8294	NRN Database Phase 2	234-090-272AC
8364	Modification Request (MR) to Feature 4941 – ISUP to Q931 Clearing Message	234-090-271AC
8372	Critical Field Sparing Expansion	234-090-281AC
8390	Marking All Eligible ASN Trunks Assigned on DIFs and DTs as SCGA	234-090-271AC
8425	Served NPA Epansion	234-090-281AC
8437	4ESS Switch OnStar Routing	234-090-272AC
8438	Enhanced Overload Control	234-090-281AC
8456	Support ISUP OCN/RI Across NI Boundaries	234-090-272AC
8514	Remove 1B-DLN Heartbeat Delay Triggering of No Trunk Hunt	234-090-272AC
8524	Growth Procedure for ATP-TSG Changes	234-090-272AC
8574	Increase Recent Change Buffer	234-090-281AC
8580	AT&T IVS DNIS Delivery on 4ESS Switch	234-090-272AC
8718	Enhanced Prepaid Card Local	234-090-272AC
8749	SDN NRA with Time Manager Capability in the 4ESS Switch	234-090-272AC
8757	SS7 Network ID Expansion	234-090-281AC

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