Lucent Technologies
Bell Labs Innovations

4ESS™ Switch Product Release Document
4E26 Release 2 Generic

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**4ESS™ Switch Product Release Document
234-090-262AC, Issue 1.1, July 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. Each safety label is in the form of a CAUTION. 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.

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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 Traffic Transition Phase 1 - Switched Access to the Edge Feature (7698)

Overview

Description   This feature migrates switched access trunks and some switched access services to the AT&T Edge Switches.

Purpose   This chapter provides a feature description, call flows, provisioning information, final handling codes, and transition considerations.

Contents   This chapter contains the following topics:

Feature Description

Description   This feature supports AT&T's plan to migrate traffic off of the *4ESS* switches. In this phase of the plan, switched access trunks are migrated off of the *4ESS* switches onto the AT&T Edge Switches. Switched Access calls that can be handled by the Edge Switches are routed to the *4ESS* switch in "primary mode" for routing purposes only. Switched Access calls that cannot be handled by the Edge Switches are "upchained" to the *4ESS* switch for full service processing.

Benefits   This feature allows the *4ESS* switch to handle both primary mode and upchained calls to support Phase 1 of the Switched Access Traffic Transition plan.

Network Architecture   Figure 1-1 shows the high-level network architecture for this feature. Equal-access switched-access trunks are moved from the *4ESS* switch to the Originating Edge Switch (OES). In the timeframe that this feature is implemented, only a subset of services is able to be processed at the OES. When a switched-access call arrives at the OES, it can be upchained immediately, or a Segmentation Directory (SD) query can be made. If an SD query is made, based on the results of SD processing, a query may be made to a Service Control Point (SCP) for service processing. The SCP may process the call or may determine that the call requires *4ESS* switch processing, in which case the SCP provides upchaining information to the OES. If the call is processed at the OES, the OES routes the call. The route may be to a Terminating Edge Switch (TES) or may be to a *4ESS* switch.

Figure 1-1 - Network Architecture for Traffic Transition
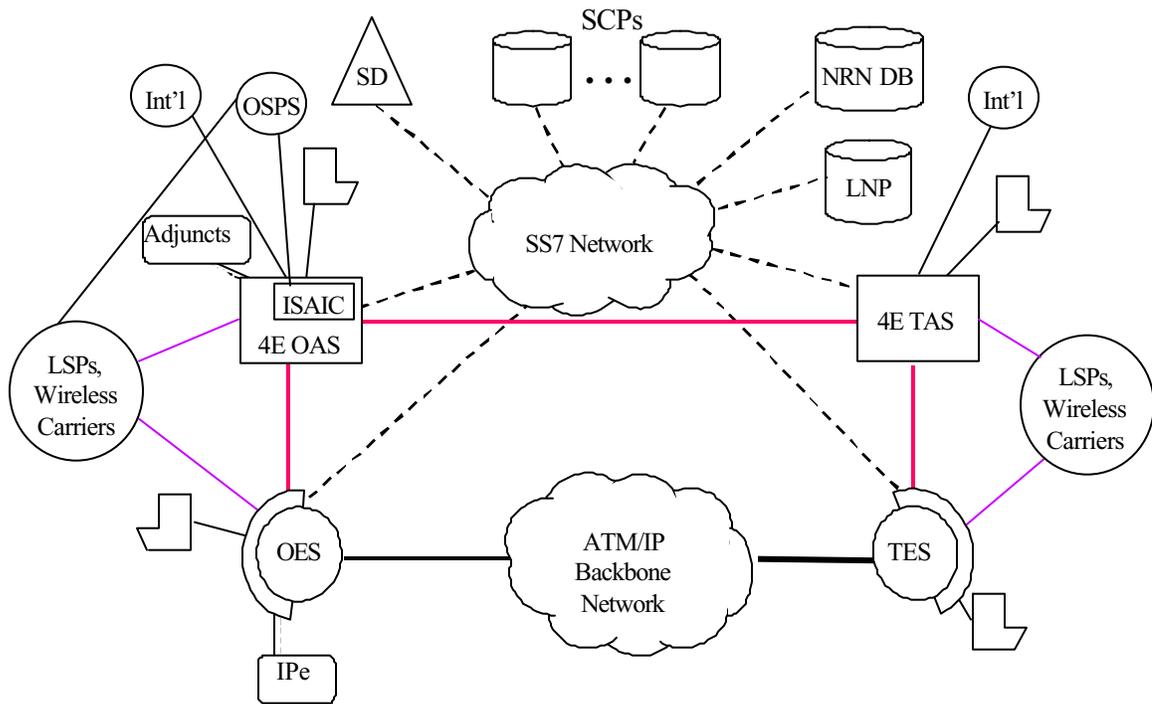
LSP to ES Trunks to be Moved in TT Phase 1

Feature Group D (FG-D) switched-access trunks between the Local Service Provider (LSP) and the *4ESS* switch being relieved are moved to an Edge Switch (ES). Figure 1-2 illustrates the switched-access trunks to be moved to the ES for Traffic Transition (TT) Phase 1.

Figure 1-2 - Local Service Provider to Edge Switch Trunks to be Moved in Traffic Transition Phase 1
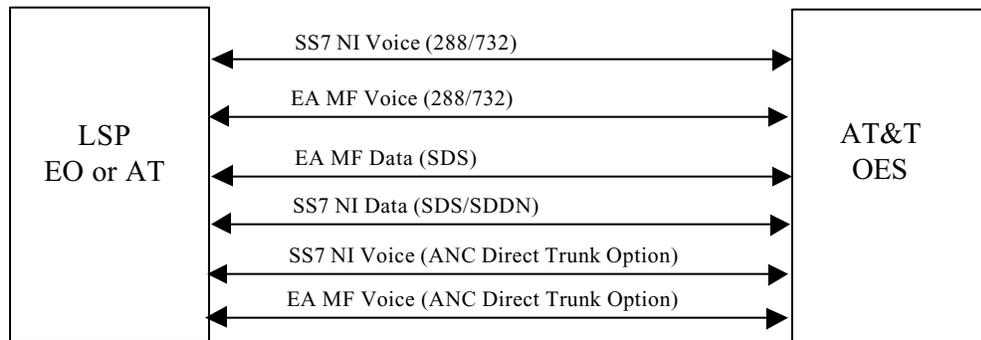
Edge Switch to *4ESS* Switch Trunking

Figure 1-3 illustrates the trunking between a TT Phase 1 ES and a *4ESS* switch. This feature maximizes the use of existing Trunk Sub Groups (TSGs) established between the ES and the *4ESS* switch. The three TSGs already defined for AT&T Digital Link (ADL) (288 and 732 voice, and DL732D data) are augmented and also used for switched access traffic. POTS calls routed from the *4ESS* switch to the ES are routed on the Terminating Traffic Architecture / Asynchronous Transfer Mode (TTA/ATM) TSG between the *4ESS* and ES. Action Point Number (APN) calls routed from the *4ESS* switch to the ES are routed on the 288 or 732 voice trunks. Switched Digital Service / Software Defined Data Network (SDS/SDDN) data calls are routed between the ES and *4ESS* switch on the DL732D data trunks.

Figure 1-3 - Edge Switch to *4ESS* Switch Trunking

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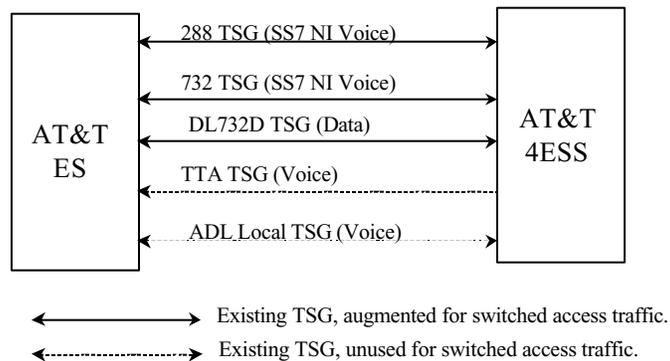
Call Flow

Call Flow Overview   Calls may be routed from the ES to the *4ESS* switch as upchained or Primary Mode calls. In Traffic Transition Phase 1, any service could be upchained from the ES to the *4ESS* switch. Only a subset of services may be processed at the ES and then routed Primary Mode to the *4ESS* switch.

Upchaining may be determined in one of four ways at the ES:

1. All calls on a trunk group may be upchained by provisioning the Off Hook Delay (OHD) trigger such that all digit strings escape. SDS and SDDN trunks are provisioned such that all calls upchain this way.

2. Calls may be upchained because the dialed digit string is on the OHD trigger escape list (see Step 5 in **"Call Flow for Switched Access Call at the OES"** below for the escape codes).

3. AT&T Network Connections (ANC) calls may be upchained because the ANC Carrier Identification Code (CIC) is on the OHD CIC escape list. This list includes CICs for those ANC customers who have features, for example, Enhanced CIC Routing (ECR) that require *4ESS* switch processing.

4. A call which receives SCP processing based on a query from the ES may be upchained to the *4ESS* if, for example, a customized announcement required by the feature is not supported at the ES or if the feature requires functionality only available on the *4ESS* switch in this timeframe. These may include:

   - SDN Online Call Detail Data (OCDD) upchained by 2DSA/2NCP

   - SDN Cellular Automatic Number Identification (ANI) upchained by 2DSA/2NCP

   - International Calls requiring Foreign Administration ID (FAI) and Carrier Specific Routing (CSR) upchained by

2DSA/2NCP

- Calls routing to Interim Split Access Flexible Egress Routing (SAFER) or Alternate Destination Call Redirection locations upchained by 2DSA/2NCP

- ANC calls upchained by 2DSA/2NCP

- All CMD ANI-based features (i.e., Branding/Time at Destination, Call Complete, AT&T Call Organizer/Bill Balance, TrueTies, Instant Rewards, Wilson and LeaveAMessage) upchained by Consumer Consolidated Database/Usage Management System (CCD/UMS).

A subset of the following calls may be processed at the ES and routed Primary Mode to the *4ESS* switch:

- Software Defined Network (SDN)

- Positive Call Processing (PCP)

- AT&T Network Connect (ANC)

- Featureless Consumer Markets Division (CMD) and Business Markets Division (BMD) Plain Old Telephone Service (POTS).

Call Flow for Switched Access Call at the OES

The following call flow is for a switched access call at the Originating Edge Switch.

1. The OES receives a call from an LSP over a Switched-Access TSG.

2. The switch performs screening on all NPAs. The OHD trigger is assigned to all switched access trunks.

3. The ES analyzes dialed digits based on the translations associated with the trunk group. The dialed digits that the ES analyzes are received in:

   - The CalledPartyNumber parameter of the incoming Initial Address Message (IAM) when a ported number Generic

Address Parameter (GAP) does not exist,

- The CalledPartyNumber parameter of the incoming IAM when a ported number GAP exists but the M-bit of the Forward Call Indicator (FCI) is not set, or

- The Ported Number GAP parameter of the incoming IAM when the ported number GAP exists and the M-bit of the FCI is set.

4. For Data trunks, the digit translators are provisioned so that all dialed digits escape the OHD trigger. For all other incoming switched access trunks the digit translators are provisioned with the Escape ("ESC") field = YES for the following codes so that the ES does NOT initiate an Info_Collected query to SD:

- Any 00- or 0+10 digits Operator Calls

- 8YY

- 900, 710

- 011+CC+NN and IWZ1

- Directory Assistance Numbers

- Preferred Interexchange Carrier (PIC) Verification Numbers (700-555-4141, NPA-700-4141)

a) If the call escapes the OHD trigger, the associated digit analysis tables direct the ES to route the call to a *4ESS* switch. The Application Transport Parameter (APP) in the IAM is populated with the Access ID, Trunk Rating Number, Far-End NPA, and Access Domain ID. **See "Upchaining to the *4ESS* Switch" below.**

b) If the Off-Hook-Delay trigger is encountered, **continue.**

5. Next CIC escaping is checked:

a) If the CIC of an incoming call is provisioned with the CIC escape field, the ES does NOT initiate an Info_Collected query to SD. The APP in the IAM is populated with the Access ID, Trunk Rating Number, Far-End NPA, and

Access Domain ID. **See "Upchaining to the *4ESS* Switch." below.**

b)   If the CIC is not provisioned to escape, **continue to Step 6.**

6.   Per existing OHD procedures, the ES queries SD.

7.   To query the SD, the ES formulates an Info_Collected message to send to SD.

8.   SD performs II/OLI screening (and assuming that the II/OLI screening indicates "allow"), SD determines if the Info_Collected message should be forwarded to an SCP.

a)   If no, SD returns an Analyze_Route with Carrier Usage=1 and Extension Parameter with a Service Activation Parameter (SAP) of Primary Mode. The OES performs LNP processing and sets the M bit. The call is routed based on dialed digits. **See "Routing Primary Mode to the *4ESS* Switch" below.**

b)   If yes, the message is forwarded to the SCP supporting the feature identified by SD. **Continue to Step 9**.

9.   The SCP performs feature processing.

a)   If required, the SCP may interact with an Intelligent Peripheral (IPe) to provide announcement and digit collection. The SCP then returns an Analyze_Route with Carrier Usage=1 and SAP with Primary Mode Feature Code. The SAP may also include a Feature Code of SDN or Global Software Defined Network (GSDN). The Analyze_Route may, or may not, contain an Extension Parameter with an NAI Reply Code (but only if there is no SAP SDN or GSDN Feature Code). The OES performs LNP processing and sets the M bit. The call is routed based on dialed digits. **See "Routing Primary Mode to the *4ESS* Switch" below.**

b)   The SCP may determine that the call should be upchained to the 4ESS switch for processing. The SCP returns an Analyze_Route with Carrier Usage=0. **See "Upchaining**

to the *4ESS* Switch" below.

Upchaining to the *4ESS* Switch

The following call flow is for a call that is upchained from the Edge Switch to the *4ESS* switch.

1. The OES formulates an ISDN User Part (ISUP) IAM including APP with:

    *   Access ID Generic Operations Parameter (GOP)

    *   Trunk Rating Number (TRN) GOP

    *   Far End Numbering Plan Area (NPA) GOP

    *   Access Domain ID GOP

2. The call is routed to the *4ESS* switch over a 288 or 732 voice TSG for a voice call, or over a DL732D data TSG for a SDS/SDDN call. These trunks are SS7 NI LCC trunks with FEALN=YES.

3. The *4ESS* switch receives the IAM and sees that the Type of Trunk (TOT)=LCC, that FEALN=YES and that there is no SAP.

    a) For voice calls, the *4ESS* switch sets the Access Type to Switched, sets the TSG Service Type to Long Distance Service (LDS) and sets the domain to:

        *   Plain Old Telephone Service (POTS) if the call arrived on a 288 trunk from the OES.

        *   SDNA if OLI=93, Access Domain ID=732, or the call arrived on a 732 trunk from the OES.

        The call is processed as a switched access call, using the Access ID, Trunk Rating Number (TRN) and Far End NPA received in the APP GOPs to populate the Automatic Message Accounting (AMA) record. The *4ESS* switch derives Service Identity (SI) and Class of Service (COS). If Access Domain ID=732, the *4ESS* switch sets SST to SDN for SI derivation. The *4ESS* switch launches an SD query as appropriate.

b)   For SDS/SDDN calls, the *4ESS* switch sees that the call is
        a data call from the Transfer Rate in the User Service
        Information (USI). The *4ESS* switch sets the Access Type
        to Switched, sets the TSG Service Type to Long Distance
        Service (LDS) and sets the domain to Software Defined
        Network Access (SDNA). The *4ESS* switch launches an
        SD query as appropriate.

Routing Primary Mode to the *4ESS* Switch

The following call flow is for calls that are routed to the *4ESS* switch
in the primary mode.

1. The OES formulates an ISUP IAM including SAP with Primary
    Mode Feature Code and optional SDN, GSDN or LDS Feature
    Code. The SAP is copied from the Transaction Capabilities
    Application Part (TCAP) Analyze_Route unless the call has been
    default routed, in which case the OES generates the SAP (in this
    case, there would be no optional SDN, GSDN, or LDS Feature
    Code). The IAM may, or may not, include an APP with NAI
    Reply Code GOP. Note that if the SAP has an optional SDN,
    GSDN, or LDS Feature Code, there is not an APP with NAI
    Reply Code GOP.

2. The call is routed to the *4ESS* switch over either a 288 voice or
    732 voice TSG for a voice call. (Note: SDS/SDDN data calls are
    always upchained in Traffic Transition Phase 1.) These trunks are
    SS7 NI LCC trunks with FEALN=YES.

3. The *4ESS* switch Direct Link Node (DLN) receives the IAM, sees
    that there is a SAP with Primary Mode Feature Code as the first
    Feature Code, and sends the call to the 1B (no SD query is done at
    the DLN).

4. At the 1B, the following are **not** done:

    - Segmentation Directory (SD) or Service Processor (SP)
      queries

    - Billing record generation

    - ANI Trigger Table (TT) lookup

    - Network Access Interruption (NAI) query

- ANI/NPA screening

- Far End NPA (FEN) Block Call Denial Screening

- LNP query if the M bit is set

5. The *4ESS* switch provides other processing, e.g., Service Identity (SI) and Class of Service (COS) derivation.

Provisioning

Recent Change Form 809   Recent Change Form 809 is modified to allow feature bit **PF82** to turn this feature ON and OFF. 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 (Division 8, Section 8j –Feature Bit Status).

Recording (Not Affected)

Network Management (Not Affected)

Maintenance/Troubleshooting

Final Handling Codes   Two final handling codes (FHCs) are new with this feature.

FHC 727:

- **Last Normal Condition:** The switch translated the Originating Line Information (OLI).

- **Irregular Condition:** The switch received either a primary service activation parameter (SAP) or an Application Transport Parameter (APP) with one or more of the following Generic Operations Parameters (GOPs): ACCESS ID, TRN, FENPA, ACCESS DOMAIN ID.

- **Handling:** The switch final handles the call using a release message with a cause of temporary failure.

FHC 728:

- **Last Normal Condition:** The switch processed the IAM up to the SAP.

- **Irregular Condition:** The SAP parameter indicated primary mode and the APP had ACCESS DOMAIN ID in its GOP.

- **Handling:** The switch final handles the call using a release with a cause of temporary failure.

Transition Considerations

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

Feature Dependencies   This feature depends on the following features:

- 5538 - End Office Local Nodal Phase 1 (Documented in Product Release Document 234-090-232AC)

- 7264 - Toll Free Service Processing on Edge Switches with Segmentation Directory (Documented in Product Release Document 234-090-261AC)

- 7752 - Edge-to-Edge Routing (Documented in this Product Release Document - 234-090-262AC)

Feature Activation   To activate this feature, PF82 (Feature 7698) must be set to **ON** (Default = OFF). Also, the following feature bits must be set to ON:

- **PF34** (Feature 5371) must be set to ON (Default = OFF)

- **PF37** (Feature 5538) must be set to ON (Default = OFF)

- **PF73** (Feature 6938) must be set to ON (Default = OFF)

- **PF79** (Feature 7264) must be set to ON (Default = OFF)

Input/Output Manual Pages (Not Affected)

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1A MR to Feature 7698 - Traffic Transition Phase 1 - Switched Access to the Edge Feature (7698 MR 12)

Overview

Description Feature 7698 MR 12 is an update to Feature 7698 (4E26 R2). This feature provides an Alternate Far End Network (FEN) Block, which can be used by upchained Switched Access Traffic Transition (SATT) calls to enable recording. There is one Alternate FEN Block per 4ESS switch.

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

This feature is delivered as a Software Change Package (SCP) to Generic 4E27.

Contents   This chapter contains the following topics:

_____

Feature Description

Description   On Edge Switch (ES) to 4ESS switch trunks, AMA recording is
required on some upchained calls. AMA recording is not performed on
error-scenario calls that are received on these same trunks.

An Alternate Far End Network (FEN) Block is provisioned on the
4ESS switch for the upchained calls that require AMA recording.
There is one Alternate FEN Block per 4ESS switch. The upchained
calls, which use the Alternate FEN Block, are received on the ES to
4ESS Switched Access trunk. These upchained calls have an Initial
Address Message (IAM) that contains the Access Domain ID Generic
Operations Parameter (GOP) in the Application Transport Parameter
(APP). The Alternate FEN Block is provisioned to provide AMA
recording as necessary for these upchained calls.

All other calls, received on the ES to 4ESS Switched Access trunk, use
the FEN Block assigned to the Trunk Subgroup (TSG). This FEN
Block is provisioned NOT to perform AMA recording.

Benefits   The Alternate FEN Block allows recording of SATT upchained calls
without reprovisioning the FEN Blocks of the ES to 4ESS switch
trunks.

Call Flow (Not Affected)

Provisioning

TG4 References

RC Form 617	TG-4, Division 7, Section 6r
RC Form 619	TG-4, Division 7, Section 6t
RC Form 810	TG-4, Division 7, Section 8k
VER:FEN	TG-4, Division 8, Section 16m
VER:MISC:FHT ALTFEN	TG-4, Division 8, Section 16dv
VER:ALTFEN	TG-4, Division 8, Section 6dv

Provisioning Sequence for the Alternate FEN Block

One Alternate FEN Block must be provisioned per 4ESS switch. The process for provisioning the Alternate FEN Block contains four steps.

1. Provision a FEN Block using the existing Recent Change Form 617. A non-blank FID must be used.

2. Enter the following input message to determine the FENN (FEN Index) of the FEN Block provisioned in Step 1.

    VER:FEN;STDP:CLASS a**, FID** b**!(EOT)**

    Where:

    > **a** = CLASS (FEN Class) of the FEN Block provisioned in Step 1
    > **b** = FID (FEN ID) of the FEN Block provisioned in Step 1

    Results:

    > Verify output message, **VER:ALTFEN,** provides the **CLASS**, **FID**, **FENN** (FEN Index), and an **ALTFEN** indicator.

    > **Note:** The **ALTFEN** indicator value is NO, since the FEN Block is not yet provisioned as the Alternate FEN Block.

3. Provision the FEN Block as the Alternate FEN Block by using Recent Change Form 810.

    Where:

    > **FEATURE INFO** = OFFLATA
    > **DATA =** FENN value that was output in Step 2

    Results:

    > The FEN Block is now provisioned as the Alternate FEN Block.

---

4. Enter one of the following input messages to verify the Alternate
    FEN Block provisioned in Step 3.

    VER:MISC:FHT ALTFEN!(EOT)

    VER:FEN;STDP:CLASS a**, FID** b**!(EOT)**

    Results:

    > Verify output message, **VER:ALTFEN,** provides the
    > **CLASS**, **FID**, **FENN** (FEN Index), and an **ALTFEN**
    > indicator.

    > **Note:** The **ALTFEN** indicator value is YES, since the FEN
    > Block is now provisioned as the Alternate FEN Block.

Verify Input Message   Verify input message **VER:FEN** is modified to add the **STDP** option
VER:FEN   as part of the input message:

VER:FEN;STDP:CLASS a**, FID** b**!(EOT)**

If VER:FEN includes STDP as an option,

*   CLASS and FID must both be input.
*   The new verify output message used is **VER:ALTFEN.**
*   If the CLASS and FID entry does not exist in the HT4FEN
    translator, then "NO DATA FOUND" is output.

Recent Change Form 810   Recent Change Form 810 populates a word of memory, which
contains the Alternate FEN Block Index.

If **FEATURE INFO** equals OFFLATA and **OD4OPTENH** equals
4ODOPT_YES (4ODOPT_YES designates an AT&T office), then:

*   OD4ALT_FENN (Office Alternate FEN) is populated.
*   Valid range for **DATA** is 1-255. Use message,
    VER:FEN;STDP:CLASS a**, FID** b, to get the value of the **DATA**
    field. This value is the **FENN** output from output message,
    VER:ALTFEN.
*   **DATA** value must exist as an assigned FENN entry in the
    HT4FEN translator with a non-blank FID. (See RC Form 617 to
    assign the CLASS (FEN Class) and FID (FEN ID) prior to
    populating RC Form 810.)

**New Verify Input Message
VER:MISC:FHT ALTFEN**

A new verify input message,

VER:MISC:FHT ALTFEN!(EOT),

is created to verify the new OD4ALT_FENN (Office Alternate FEN) and output the new verify output message, **VER:ALTFEN**. See Figure 1.

Input message, **VER:MISC:FHT ALTFEN,** verifies the
- CLASS and ID populated by RC Form 617
- FENN number derived from input message, **VER:FEN**, using the STDP option, and
- DATA populated with the FENN number by RC Form 810.

If OD4ALT_FENN is zero, then NO DATA FOUND is output.

Figure 1: Verify Input Message VER:MISC:FHT ALTFEN (TG4, Division 8, Section 16dv)

```
                          SAMPLE MESSAGES


    INPUT:                      VERIFY 16dv


        ex. 1    Verify the Office Alternate Far End Network.

                 VER:MISC:FHT ALTFEN!(EOT)


    OUTPUT:                     VERIFY 6dv


                         VER:ALTFEN


                 RECENT CHANGE INPUT SOURCE - FORM #617/618/810
```

New Verify Output Message VER:ALTFEN

A new verify output message, **VER:ALTFEN**, is created to verify the FEN translator index number and whether the FEN is the office alternate FEN. See Figure 2.

Outputs for **VER:ALTFEN** are:

- **CLASS** and **FID** – The outputs match the outputs for the existing output message, **VER:FEN**.
- **FENN** – The range is 1-255. The output is the index in the HT4FEN translator for CLASS and FID. The FENN value is used for **DATA** in RC Form 810 when the **FEATURE INFO** on RC Form 810 equals OFFLATA.
- **ALTFEN** – YES or NO. YES means the FENN equals the FENN stored in OD4ALT_FENN (Office Alternate FEN). Otherwise, the output is NO.

Figure 2: Verify Output Message VER:ALTFEN (TG4, Division 8, Section 6dv)

```
     INPUT:                    VERIFY #16m & 16dv


     VER:FEN;STDP:CLASS a,FID b!(EOT)

     VER:MISC:FHT ALTFEN!(EOT)


     OUTPUT:                   VERIFY 6dv


     VER:ALTFEN          CLASS ------,     FID ------,

     FENN ---,     ALTFEN ---,

            RECENT CHANGE INPUT SOURCE - FORM #617/618/810
```

Recent Change Form 619

A FEN Block cannot be deleted if it is the Alternate FEN Block. Recent Change Form 619 must fail if the:

- CLASS and FID is assigned in the HT4FEN translator, and
- Corresponding FENN is assigned in OD4ALT_FENN (Office Alternate FEN).

Recording (Not Affected)

Network Management

NEMOS   Message 33 displays the FENID of the associated TSG. The Alternate
FEN Block does not display in the NEMOS message since it is not
directly linked to a TSG.

Peg Count   If a Forward Transfer Message or Ring Forward occurs, the peg count
associated with the FEN Block is pegged for the existing TSG FEN
Block and not the Alternate FEN Block.

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 Dependencies   This feature updates Feature 7698 (4E26 R2).

Feature Activation   This feature is activated by software deployment and the provisioning
of the Alternate FEN Block.

☐

Input/Output Manual Pages

Input Message - Modified The following 4ESS switch input message is modified with this feature.

VER:FEN

Input Message - Added The following 4ESS switch input message is added with this feature.

VER:MISC:FHT ALTFEN

Output Message - Added The following 4ESS switch output message is added with this feature.

VER:ALTFEN

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_____

2 Edge-to-Edge Routing Feature (7752)

Overview

Description   This feature provides network capabilities and operational support to route calls that originate from an edge switch directly to a terminating edge switch. Additional signaling changes are required in the *4ESS* network to account for these new capabilities.

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

Contents   This chapter contains the following topics:

Feature Description

Description   This feature provides network capabilities and operations support to route calls that originate from an Edge Switch (ES) directly to another ES. Previously, edge-to-edge routing was achieved by routing calls through the *4ESS* network ("upchaining"). This feature adds edge-to-edge routes, using either circuit trunks or, when available, the Asynchronous Transfer Mode (ATM) backbone network as a first choice route, and thus reduces the need to route through the *4ESS* network. This helps to further relieve the *4ESS* network resources. This feature addresses routing determinations on which AT&T ESs terminate the call, independent of the connection layer, and addresses the operational impacts for provisioning Time Division Multiplexing (TDM) circuits between ESs.

Network Architecture   Network architecture is given in the following paragraphs for three cases:

- Edge-to-edge routing on circuit trunks

- Edge-to-edge routing over the ATM backbone network

- Edge-to-edge routing over the ATM backbone network after switched access traffic is transitioned to the edge-backbone network

Edge-to-Edge Circuit   Figure 2-1 shows the network architecture for edge-to-edge routing on
Routing   circuit trunks.

Figure 2-1 - Network Architecture for Edge-to-Edge Circuit Routing
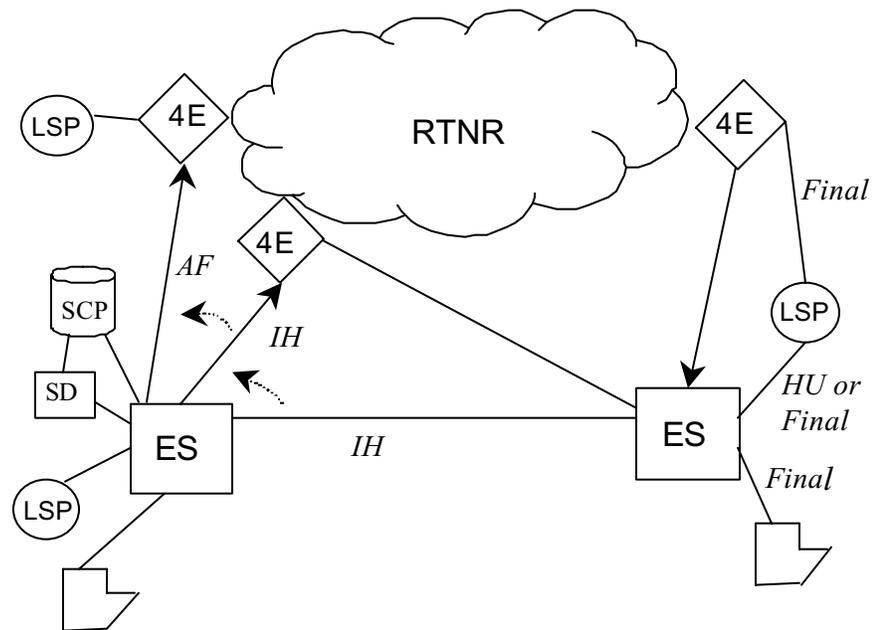
Traffic demand between two edge switches may justify building a
trunk group between them in the absence of ATM connectivity. The
direct circuit trunk group is the intermediate high-usage (IH) route for
calls from one edge switch to the other. The *4ESS* Real-Time Network
Routing (RTNR) network provides potential overflow routing for
edge-to-edge calls based on the "All Route" arrangement with IH
routes to non-exhausting *4ESS* switches and an alternate final (AF)
route to the most exhausting *4ESS* switch. Local calls destined to
Local Service Provider (LSP) switches may egress directly from the
Originating Edge Switch (OES) and overflow to the edge-to-edge
route. Local calls to destined LSP switches originated from the edge
switch will not overflow to the *4ESS* network.

Edge-to-Edge over ATM Routing   Figure 2-2 shows the network architecture for edge-to-edge routing over the ATM backbone network.

Figure 2-2 - Network Architecture for Edge-to-Edge over ATM Routing
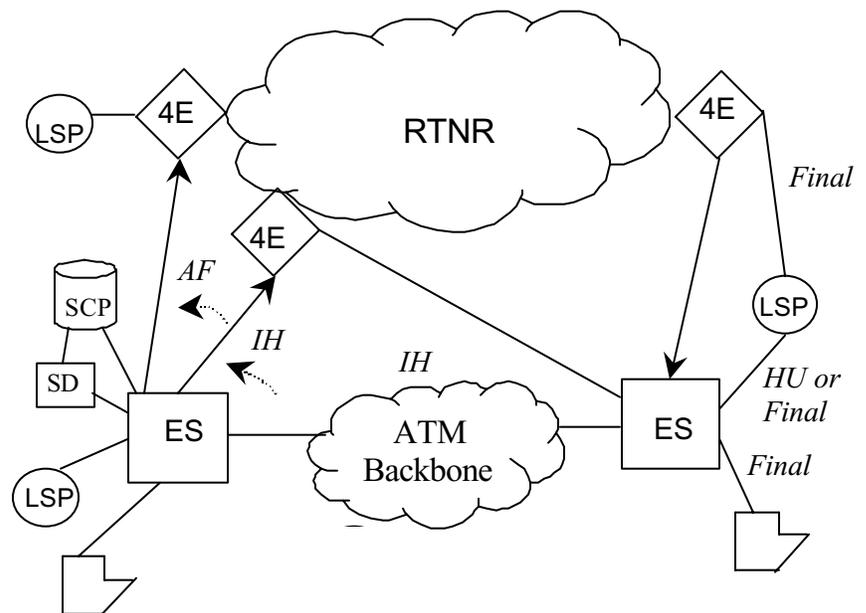
Between two ATM-capable edge switches that are connected to the ATM backbone network, calls can be routed through the ATM backbone network. The direct edge-to-edge over ATM route is the IH route for calls from one edge switch to the other. The *4ESS* RTNR network provides potential overflow routing for edge-to-edge calls based on the "All Route" arrangement with IH routes to non-exhausting *4ESS* switches and an AF route to the most exhausting *4ESS* switch. Local calls destined to LSP switches may egress directly from the OES and overflow to the edge-to-edge route. Local calls destined to LSP switches originated from the edge switch do not overflow to the *4ESS* network.

Switched Access Edge-to-Edge Routing

Figure 2-3 shows the network architecture for edge-to-edge routing over the ATM backbone network after switched access traffic is transitioned to the edge-backbone network.

Figure 2-3 - Network Architecture for Switched Access Edge-to-Edge Routing

Between two ATM-capable edge switches that are connected to the ATM backbone network, calls can be routed through the ATM backbone network. The direct edge-to-edge over ATM route is the IH route for calls from one edge switch to the other. The *4ESS* RTNR network provides potential overflow routing for edge-to-edge calls based on the "All Route" arrangement with IH routes to non-exhausting *4ESS* switches and an AF route to the most exhausting *4ESS* switch.

Call Flow

4ESS Capabilities   The 4ESS switch capabilities that affect 4ESS to Edge Switch call flows are given as follows.

TTA Avoidance Calls   The 4ESS switch does not route on Terminating Traffic Architecture (TTA) routes if the call came from an edge switch after overflowing from the edge-to-edge route.

If the OES up-chains a call to the 4ESS switch or routes a call to the 4ESS switch as the first choice route and the call is determined by the 4ESS to be eligible for TTA, then the 4ESS switch uses the TTA routes as the first choice routes and the RTNR route over the 4ESS network as the final route. However, if the OES routes a call to the 4ESS switch as an alternate route, the 4ESS switch does not use any TTA routes in order to avoid trying the same congested route again. Under the AT&T Digital Link (ADL) Toll Free Feature (7264) and the Switched Access Traffic Transition Feature (7698), the 4ESS switch checks the Service Activation Parameter (SAP) to determine whether it needs to do origination processing or just routing. This feature requires another SAP feature code to indicate that the edge-to-edge routing has been tried so that the 4ESS switch could exclude TTA routes. The intent is not to route the call back to the edge switch as a TTA call after edge-to-edge routing fails.

For calls routed from the OES to the 4ESS OAS, a SAP feature code indicating TTA avoidance is included in the IAM message if the OES routes advance on release to a 4ESS switch. The 4ESS switch call processing proceeds to selecting the Trunk Sub-Group (TSG) and skips all ISUP TSGs marked with TTA.

Figure 2-4 shows that the call is first routed on the edge-to-edge route . If the originating edge switch receives a release message with cause value 34 or 47, then the OES routes advance to the 4ESS switch with SAP feature code = "TTA avoidance" included in the IAM. The 4ESS avoids sending the call to the edge switch on the TTA over ATM route   . Instead, the 4ESS switch routes the call over the

RTNR network   .

Figure 2-4 - TTA Avoidance

In IAM from ES to 4E:
SAP feature code =
"TTA Avoidance" and
FCI M bit set
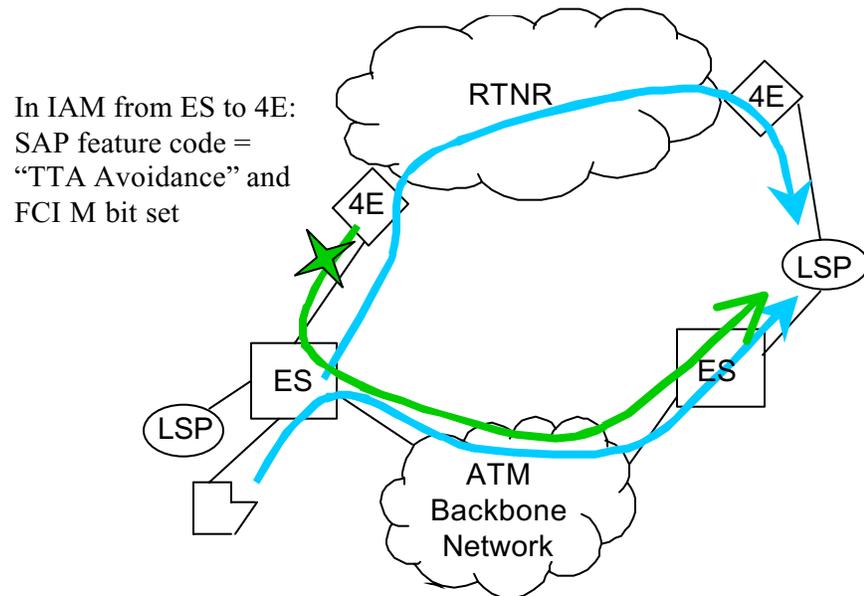
Primary Mode Calls Where ES Queries LNP Database

The 4ESS does not query the LNP database for primary mode calls coming from an edge switch via Trunk Sub-Groups (TSGs) identified by Type of Trunk (TOT)="Local Carrier Connecting (LCC)" and FEALN="Y", if the M bit in the Forward Call Indicator (FCI) parameter is set indicating that the edge switch has done the LNP query. "Primary mode" calls are calls with either an Originating Line Identification (OLI) value of "48" or "49" or SAP containing the Primary Mode Feature Code. The 4ESS switch must be provisioned using Recent Change Form 337, per Feature 6938, to assign the appropriate service types to OLIs 48 and 49. Feature 6938 (AT&T Digital Link Phase V) is described in Product Release Document 234-090-251AC.

The edge switch does LNP query for all edge originated primary mode calls, not just those directly egressing off the originating edge switch (OES). Therefore, if the call is routed or overflowed to the 4ESS switch, the 4ESS switch avoids another LNP query. The 4ESS switch should receive the FCI parameter with M bit set if LNP query has been done. But the 4ESS previously did not skip LNP query based on the

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M bit for calls originating on TSGs with TOT=LCC. The 4ESS switch skips LNP query if the FCI M bit is set for primary mode calls originating on TSGs with TOT=LCC and FEALN=Y.

Trunk Group Consolidation

The 4ESS switch populates the Numbering Plan and Nature of Address fields for APN and NANP calls so that both POTS and APN calls can be routed on the same trunk groups to the edge switch.

This capability allows trunk group consolidation between the 4ESS switch and the edge switch because POTS and APN calls can be routed on the same trunk group. The 4ESS switch provides Nature of Address information in the IAM, and the proper translators for these calls are defined in the edge switch.

If the 4ESS switch routes a call in any dedicated egress domain to an edge switch, the 4ESS switch populates Nature of Address = "APN". If the 4ESS switch routes a call in POTS domain or Domain 82 to an edge switch, the 4ESS switch populates Nature of Address = "National".

Provisioning (Not Affected)

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 Dependencies   This feature depends on the following features:

- 6938 - AT&T Digital Link Phase V Architecture (Documented in Product Release Document 234-090-251AC)

- 7070 - Number Pooling Target Architecture (Documented in Product Release Document 234-090-254AC)

- 7264 - Toll Free Service Processing on Edge Switches with Segmentation Directory (Documented in Product Release Document 234-090-261AC)

- 7698 - Traffic Transition Phase 1 - Switched Access to the Edge (Documented in this Product Release Document - 234-090-262AC)

Feature Activation   This feature is activated automatically by software deployment.

Input/Output Manual Pages (Not Affected)

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                Use pursuant to Company instructions   Issue 1, July, 2001

3 Modification Request (MR) to Feature 7264 - Tollfree Service Processing on Edge Switch With Segmentation Directory (SD) Feature (8230)

Overview

Description   This feature allows the 4ESS switch to populate the Called Number with the ISDN User Part (ISUP) Generic Address Parameter (GAP) (Dialed Number) received from the Edge Switch for MEGACOM 800 calls to an Interexchange Carrier (IXC). This capability is provided as a Modification Request (MR) to feature 7264.

Purpose   This chapter provides a feature description and transition considerations.

This feature is delivered as a Software Change Package (SCP) to Generic 4E26.

Contents   This chapter contains the following topics:

Feature Description

Description   In Feature 7264 (Tollfree Service Processing on Edge Switches with
SD), if the Edge Switch (ES) sent a call to the 4ESS switch that was
also eligible for "MEGACOM 8YY Over IXC" feature processing at
the 4ESS Terminating AT&T Switch (TAS), then the TAS would
disconnect the call. This disconnect would occur since it was not
known how to populate the outgoing ISUP Initial Address Message
(IAM) Called Party Number. The original Feature 7264 provided that
the TAS would populate the ISUP IAM Called Party Number with the
incoming ISUP IAM Dialed Number. Since an ISUP IAM GAP
(Dialed Number) parameter would be received instead of an ISUP
IAM Dialed Number parameter on ES-originated calls, then the TAS
would halt processing of MEGACOM 8YY Over the IXC, and would
disconnect the call.

This feature allows the TAS to also use the incoming ISUP IAM GAP
(Dialed Number) to populate the outgoing ISUP Called Party Number.

Benefits   This feature allows calls that originate at an Edge Switch to be
processed and delivered to the IXC instead of being terminated
because the ISUP Dialed Number parameter was not received at the
terminating 4ESS switch.

Call Flow (Not Affected)

Provisioning (Not Affected)

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 automatically by software deployment.

Input/Output Manual Pages (Not Affected)

A Release Summary - 4E26 Release 2 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 4E26 Release 2 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 (Not Affected)

Input/Output Messages (Not Affected)

OS Interfaces (Not Affected)

New or Changed Alarms (Not Affected)

Measurements/OSOR (Not Affected)

Feature Activation Summary

Feature 7698   **Traffic Transition Phase 1 - Switched Access to the Edge**

To activate this feature, PF82 (Feature 7698) must be set to **ON** (Default = OFF). Also, the following feature bits must be set to ON:

- **PF34** (Feature 5371) must be set to ON (Default = OFF)

- **PF37** (Feature 5538) must be set to ON (Default = OFF)

- **PF73** (Feature 6938) must be set to ON (Default = OFF)

- **PF79** (Feature 7264) must be set to ON (Default = OFF)

Feature 7752   **Edge-to-Edge Routing**

This feature is activated by software deployment.

Feature 8230   **MR to Feature 7264 - Tollfree Service Processing on Edge Switch With SD**

This feature is activated by software deployment.

B Acronyms and Abbreviations

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

Acronym/Abbreviation	Definition
2DSA	No. 2 Direct Services – ANI Based
2NCP	No. 2 Network Control Point
2NCPAS	2 Network Control Point Administration System
AAP	Announcement Administrative Process
AATOS	Alternate Access to Operator Services Signaling
ACD	Automatic Call Distributor
ACG	Automatic Call Gapping
ACG	Automatic Code Gap
ACK	Acknowledge
ACM	Address Complete Message
ACP	Action Control Point
ACV	Access Charge Verification
AD3	Additional Data 3
ADA	ANC Dial-Around
ADL	AT&T Digital Link
ADL2	AT&T Digital Link 2
ADL4	AT&T Digital Link 4

Acronym/Abbreviation	Definition
ADL5	AT&T Digital Link 5
ADL-V	AT&T Digital Link-Phase V
ADR	Alternate Destination Routing
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
ANI	Automatic Number Identification
ANICAR	Automatic Number Identification Call Attempt Record
ANI-TT	ANI Trigger Table
ANSI	American National Standards Institute
ANT	Alternate Number Transition
AP	Attached Processor
API	Attached Processor Interface
APN	Action Point Number
APS	Attached Processor System
AR	Automatic Routing
ARN	Advanced Remote Node
ARS	Automatic Route Selection
ASCIT	AT&T Service/Call ID Type
ASN	AT&T Switched Network
AT	Access Tandem
ATM	Asynchronous Transfer Mode
ATP	AT&T Trigger Platform
ATP	Alternate Transport Provider
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
BILLDATS	Billing Data Acquisition and Transfer System
BLC	Base Level Cycle
BLCNT	Billing Count

Acronym/Abbreviation	Definition
BLDS	Business Long Distance Service
BMD	Business Markets Division
BN	Billing Number
BSI	Backhaul Screening Indicator
BWM	Broadcast Warning Message
CAC	Carrier Access Code
CAC	Customized Announcement Capabilities
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
CAUCS	Centralized Announcement Update Control System
CBIS	Cincinnati Billing Information System
CC	Call Code
CC	Central Control
CC	Country Code
CCCV	Commercial Credit Card Validation
CCIS	Common Channel Interoffice Signaling
CCITT	International Telegraph and Telephone Consultative Committee
CCITT7	CCITT Signaling System No. 7
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
CdPN	Called Party Number
CDRP	Call Detail Recording Platform
CIC	Carrier Identification Code
CID	Carrier Identification
CIM	Call Irregularity Message
CIP	Calls in Progress
CIP	Carrier Identification Parameter
CIR	Call Irregularity Report
CLD	Consumer Long Distance
CLEC	Certified Local Exchange Carrier

Acronym/Abbreviation	Definition
CLF	Clear Forward
CLLI	Common Language Location Identifier
CMC	Cellular Mobile Carrier
CMD	Consumer Market Division
CN	Calling Number
CN	Charge Number
CNI	Common Network Interface
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
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
CR	Call Register
CRB	Crankback
CRI	Carrier Routing Index
CS	Carrier Solutions
CSC	Circuit Selection Capability
CSCI	Circuit Selection Capability Indicator
CSCR	Circuit Selection Capabilities Routing
CSI	Carrier Selection Information
CSMC	Consumer Services Management Center
CSMS	CMD Service Management Center
CSN	Carrier Solutions Nodal
CSRO	Customer Specific Routing Option
CW	Compare Word
DARICS	Data Acquisition and Reports, Integrated Communications 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

Acronym/Abbreviation	Definition
DEMS	Dynamic Engineering Mechanized System
DFS	Directory Function Server
DHNR	Dynamic Non-Hierarchical Routing
DID	Direct Inward Dialing
DIF	Digital Interface Frame
DL	Digital Link
DLN	Direct Link Node
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
DPM	Dual Ported Memory
DPSMO	Delete Permanent SD Mode of Operation
DS1	Digital Signal 1
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
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
EBAF	Extended Bellcore AMA Format
ECD	Equipment Configuration Data
ECOS	End-to-End Class of Service
ECR	Enhanced CIC Routing
EDP	Elimination of Dual Provisioning
EDR	Efficient Data Representation
EO	End Office
EOLN	End Office Local/Nodal

Acronym/Abbreviation	Definition
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
FCC	Federal Communications Commission
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
FG-C	Feature Group C
FG-D	Feature Group D
FHC	Final-Handling Code
FHT	Final Handling Treatment
FI	Feature ID
FITR	Forced Intertoll Routing
FO	Feature Options
FRF	Feature Request Form
FRS	Feature Requirement Specifications
FSD	Feature Specification Document
FVSR	Force Via Switch Routing
FVSRTT	FVSR Trigger Table
GAP	Generic Address Parameter
GETS	Government Emergency Telecommunications Service
GNFMC	Global Network Fraud Management Center
GOP	Generic Operations Parameter
GSDN	Global Software Defined Network
GSDS	Global Switched Digital Service
GSS	GTN Support System
GTD	Generic Transition Document

Acronym/Abbreviation	Definition
GTT	Global Title Translation
HAS	Hand-off AT&T Switch
HICAP	High Capacity
HOT	HICAP Originating Treatment
HU	High Usage
I/O	Input/Output
I800	International 800
IAM	Initial Address Message
IBSS	In-Band Supervisory Signaling
IBU	In-Band Unit
ICDR	International Call Detail Recording
ICIC	International Carrier ID Code
ICLD	International Consumer Long Distance
ICTRC	International Call Trouble Receipt
IDB	INWATS Database
IDDD	International Direct Distance Dialing
IE	Information Element
II	Information Indicator
II	Interexchange Identifier
ILD	International Long Distance
ILEC	Incumbent Local Exchange Company
INC	Industry Numbering Committee
INPA	Interchangeable NPA
INR	Intelligent Network Register
INRG	International Routing Group
INWATS	Inward Wide Area Telephone Service
IP	Internet Protocol
IPGW	IP Gateway
IR	ISDN Register
IRAS	Integrated Routing Assignment System
IRN	Integrated Ring Node
ISAIC	Improved Service Announcement & Information Collection
ISC	Incoming Signaling Characteristic
ISC	International Switching Center
ISDN	Integrated Services Digital Network
ISET	Inbound Services Emergency Translation
ISTAT	International Status
ISUP	ISDN User Part
IT	Internet Telephony
ITAMAC	International Transit, Accounting, Maintenance and Analysis of Calls

Acronym/Abbreviation	Definition
ITE	Installation Test Equipment
ITFDB	Industry Toll-Free Data Base
ITFS	International Toll Free Service (formerly I800)
ITN	Integrated Test Network
IT-T	International Telecommunications Union-Telecommunications
IVT	International Voice Transit
IWZ1	International World Zone 1
IXC	Interexchange Carrier
JIP	Jurisdiction Information Parameter
LACIDs	Logical Access Identifiers
LAN	Local Area Network
LANI	Local Automatic Number Identification
LATA	Local Access and Transport Area
LATT	Loop Around Transceiver Test
LCC	Local Carrier Connecting
LCC	Local Exchange Carrier Connecting
LCVT	Local Service Validation Test
LD	Long Distance
LDIT	Local Digit Interpreter Table
LDNC	Long Distance Nodal Concentration
LDS	Long Distance Service
LEC	Local Exchange Carrier
LERG	Local Exchange Routing Guide
LNP	Local Number Portability
LRN	Location Routing Number
LSP	Local Service Provider
LTD	Local/Toll Differentiation
LVL	Level
MAP	Mass Announcement Platform
MCC	Master Control Complex
MCS	Micro Control Store
MCT	Multiple Carrier Treatment
MDN	Miscellaneous Distribution Number
MDR	Multiple Destination Routing
MF	Multi-Frequency
MLSS	Machine Load and Service Summary
MML	huMan Machine Language
MMOC	Minicomputer Maintenance Operations Center
MOC	Maintenance Operations Center
MOSS	Modified Operator Services Signaling
MPS	Message Processing System

Acronym/Abbreviation	Definition
MR	Modification Request
MRII	Match Restriction Indicator Information
MRT	Multiple Routing Treatment
MSI	Market Segmentation Indicator
MSN	Miscellaneous Scanner Number
MTP	Message Transfer Part
MTP	Message Transfer Protocol
MUP	MCC Utility Processor
MW	Megaword
NAI	Network Access Interrupt
NAMACC	National AMA Control Center
NANP	North American Numbering Plan
NAP	Network Adjunct Platform
NCA	No Circuit Announcement
NCA	No Circuits Available
NCC	Network Control Center
NCP	Network Control Point
NCP&D	Network Capacity Planning & Delivery
NCS	Network Control Point
NDIG	Next Digit
NE	Non Emergency
NEMOS	Network Management Operations System
NESAC	National Electronic Systems Assistance Center
NESV	Network Edge Switch Vehicle
NFM	Network Fault Management (formerly TNM)
NI-2	National ISDN-2
NID	Network ID
NIS	Network Implementation Services
NN	Nation Number
NOC	Network Operations Center
NOC-INM	Network Operations Center-International Network Management
NOE	Network Operations Enterprise
NP	Node Processor
NPA	Numbering Plan Area
NPAC	Number Portability Administration Center
NPP	Network Provisioning Platform
NR	Non-Call Register
NRA	Network Remote Access
NRAMS	Network Remote Access Monitoring System
NRM	Network Recording Management
NRN	Network Routing Number

Acronym/Abbreviation	Definition
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
NTM	Non-Traditional Market
NVT	Network Verification Testing
NWM	Network Management
NWZ1	Non-World Zone 1
OAID	OSPS Access ID
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
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
OGT	Outgoing Trunk
OHD	Off-Hook Delay
OLI	Originating Line Identifier
OLP	Off-Line Processor
OOB	Out of Band
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
OTP	Operations Technical Plan
P.CarrierID	Primary Carrier ID
PABO	Protected, Disk-backed, API-Accessible, ODA-Generated
PAS	Public Announcement System

Acronym/Abbreviation	Definition
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
PDIT	Prefix/Feature Digit Interpreter Table
PDN	Pseudo-Destination Number
PDV	Pre-Defined Variable
PECC	Product Engineering Control Center
PI	Precedence Index
PIC	Presubscribed Inter-exchange Carrier
PLU	Positive Lookup Table
PMO	Present Mode of Operation
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
RA	Route Advance
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
RDB	Routing Data Block
RICS	Recorded Information Collection System

Acronym/Abbreviation	Definition
RLC	Release Complete Message
RN	Routing Number
RO	Remote Operations
RP	Redirecting Party
RPC	Regional Processing Center
RPI	Route Pattern Index
RSI	Route Selection Index
RTNR	Real-Time Network Routing
RTR	Real-Time Reliable
RUAS	Remote Utility Access System
RUT	Routine USEC Testing
SAFER	Split Access Flexible Egress Routing
SAN	Service Circuit System Announcement
SC	Structure Code
SCCP	Signaling Connection Control Protocol
SCP	Software Change Package
SCS	Service Circuit System
SCSI	Small Computer Systems Interface
SCU	Service Circuit Unit
SD	Segmentation Directory
SDDN	Software Defined Data Network
SDE	Software Development Environment
SDI	Switched Digital International
SDDN	Software Defined Data Network
SDN	Software Defined Network
SDN	Switched Digital Network
SDN	Software Defined Network
SDQ	SD Query
SDR	SD Response
SDS	Switched Digital Service
SDTT	Segmentation Directory Transition Type
SDX	Subsequent Digit Index
SG	Software Generation Data
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
SNAS	Signaling Network Administration System

Acronym/Abbreviation	Definition
SNET	Southern New England Telephone
SNOW-R	Service NOW-Routing
SNOW-T	Service NOW-Trunking
SOP-P	Signaling Operations Platform-Provisioning
SP	Service Processor
SPC	Switching and Permuting Circuit
SPSI	Service Processor Service Indicator
SPU	Signal Processing Unit
SS7	Signaling System 7
SSC	Special Service Code
SSN	Subsystem Number
SSO	Sub-System Overload
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
TAN	Trunk Appearance Number
TAS	Terminating AT&T Switch
TAR	Terminating Access Record
TBN	True Billing Number
TCAP	Transaction Capabilities Application Part
TCC	Technology Control Center
TCS	Transfer Connect Service
TEC	Terminal Equipment Center
TG	Trunk Group
TG-4	Translation Guide *4ESS*
TIM	Tandem NFM Integrator Module
TMR	Trunk Maintenance Register
TNM	Total Network Management
TNS	Transit Network Selection
TOD	Time of Day
TOP	Task Oriented Practice
TOT	Type of Trunk
TOW	Time of Week
TP	Target Party
TPC	Transport Capability
TQR	Test Query Register
TS	Time Slot
TSAA	Terminating Switched Access Arrangement

Acronym/Abbreviation	Definition
TSG	Trunk Subgroup
TSI	Time Slot Interchange
TSM	Tandem NFM Surveillance Module
TSN	Trunk Scanner Number
TT	Transition Type
TT	Transport Tariff
TT	Trigger Table
TTA	Terminating Traffic Architecture
TTUSFI	Transport Tariff Usage Sensitive Feature Indicator
TUP	Telephone User Part
TV	True Voice
UGTT	Universal Global Title Translation
UIFN	Universal International Freephone Number (Format = 800+8-digits)
UMIU	Unidentified Message Investigation Unit
US	Utility System
USDS	Universal Subscriber Data Structure
USDS	Universal Subscriber Data Service
USEC	Universal Services Echo Canceler
USI	User Service Information
UTA	Universal T1.5 Access
UUI	User to User
VAS	Via AT&T Switch
VCA	Vacant Code Announcement
VCR	Voicepath Cancellation Rate
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
WCS	Windowed Call Store
WEFOS	WATS Eight Hundred Family of Services
WS	Workstation
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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59	Software Reengineering	234-090-171AC
60	Disciplined Rubidium Oscillator	234-090-161AC
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65	Enhanced Service Provider Credit Checking Application	234-090-162AC
66	International FAX Preferred Routing	234-090-161AC
67	Sub-Account Billing	234-090-161AC
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72	TEST:DSIG for INWATS	234-090-152AC
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74	Brokers Hotline Call Setup Improvements	234-090-153AC
75	Conversant Voice Information System Call Setup Improvements	234-090-153AC
75	Transaction Request Parameter	234-090-153AC
80	3B20D Computer UNIX RTR Improvements	234-090-161AC
81	Digital Signal Zero-A Link Interface	234-090-171AC
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83	Preventive Cyclic Retransmission for CCS7 Links	234-090-171AC
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87	Discontinue Short Supervisory Transition AMA Records	234-090-161AC
89	Multiple Trunk Group Assignment-LEC	234-090-172AC
90	Forced Link Node Remove-LEC	234-090-162AC
91	PCP Code Transport	234-090-161AC
92	PCP Service Type Indicator & Access Type Indicator Transport	234-090-161AC
94	Recent Change of Protocol Timers and Parameters	234-090-171AC
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128	Switched Digital Service Between Direct-Connect and Switched Access Customers	234-090-154AC
129	Remote Measurement System-Gateway 2 Release 2	234-090-161AC
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149	Centralized Alternate Destination Call Redirection	234-090-154AC
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262	108 Test Line Termination Duration	234-090-162AC
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269	Regional Network Management System-4ESS Interface Improvements	234-090-154AC
274	TCAP Terminating Announcement Feature	234-090-162AC
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324c	ISUP Continuity Check Test Call-COT Unsuccessful	234-090-163AC
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354	Input Message TEST:DSIG Parameter Addition	234-090-172AC
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386	SCS-Announcement System Manager Plus	234-090-182AC
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404	SCS-4 Gigabyte Disk Drive	234-090-183AC
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435	NetMinder Support of Alternate Overflow Reroute	234-090-211AC
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442	AIN Dialed Number Trigger Expansion-Ph 0	234-090-211AC
443	AIN 800 Toll-Free Capability	234-090-213AC
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449	DMS D-Channel CINs	234-090-213AC
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Use Pursuant to Company instructions

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552	4ESS 3B APS Upgrade to RTR 21.31	234-090-251AC
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564i	Improved ISUP Message Header Reduction for API Capacity	234-090-261AC
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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
3520b	Remote Adjunct Call Handling (REACH)	234-090-181AC

Feature Number	Feature Name	PRD Release
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
3801	4E18 INPA Enhancements	234-090-181AC

Feature Number	Feature Name	PRD Release
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
4018	End-to-End Class Of Service/AP	234-090-201AC

Feature Number	Feature Name	PRD Release
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
4273	Verify Messages for Routing Table	234-090-184AC

Feature Number	Feature Name	PRD Release
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
4540	SDN Access to SDN-MR to Feature 3857	234-090-202AC

Feature Number	Feature Name	PRD Release
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
4769	Announcement Set B on SCS	234-090-214AC

Feature Number	Feature Name	PRD Release
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
4957	Per Announcement Information Data (PAID)	234-090-212AC

Feature Number	Feature Name	PRD Release
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
5222i	3B21D APS Upgrade—Software	234-090-231AC

Feature Number	Feature Name	PRD Release
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
5645	Local Service for Nodals Ph 2.1	234-090-224AC

Feature Number	Feature Name	PRD Release
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
6142	Additional Support for 4ESS Local for Nodal	234-090-233AC

Feature Number	Feature Name	PRD Release
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
6665	MR to Payphone Compensation, Phase 2	234-090-231AC

Feature Number	Feature Name	PRD Release
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
7285	ANC II/OLI Screening – Phase 1	234-090-243AC, Iss 2

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Feature Number	Feature Name	PRD Release
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
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
8114	CCITT7/CCS7 CPC Interworking for Pay Phone Calls	234-090-261AC
8230	MR to Feature 7264 - Tollfree Service Processing on Edge Switch With SD	234-090-262AC