

5ESS®-2000 Switch
LOCAL AREA SIGNALING SERVICES
5E11 And Later Software Releases

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Acknowledgment

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1. INTRODUCTION

1.1 PURPOSE

This manual provides information about the 5ESS®-2000 Switch Local Area Signaling Services (LASS) features in the 5E11 and later software releases. This information is primarily intended for service provider personnel engaged in engineering telephone service for business and residential customers, consultants, and others involved in product selection.

1.2 UPDATE INFORMATION

1.2.1 General

This document covers software releases 5E11 and later, and is being reissued to include new information for 5E12 and 5E13 software updates, and the 5E13 and later software releases.

Pages will be reissued as required to reflect new and/or changed information, and to correct errors. As the 5ESS®-2000 switch continues to evolve with new capabilities and technologies, this document will be updated to cover these future software releases.

This issue adds technical information concerning the following features:

- Alternate Local Service Provider (LSP) Routing (See "LASS Overview," Section 2 , and "Deny Automatic Callback Calls on Intralata PIC Calls," Chapter 28 .)
- Automatic Recall (AR)/Automatic Callback (AC) Destination Point Code (99-5E-7118) (See "Automatic Recall (AR)/Automatic Callback (AC) Destination Point Code," Section 4.2 .)
- Deny Automatic Callback Calls on IntraLATA PIC Calls - Per CIC Control (99-CP-3587.A) (See "Deny Automatic Callback Calls on Intralata PIC Calls," Section 28 .) This information was added as per IMR 651676.
- Global Recent Change Interaction with LASS AR (99-5E-4377) (See "Global Recent Change Interaction with LASS AR," Section 4.3 .)
- Internally Bridged Dual Service - Package 1 (See "LASS Customer-Originated Trace," Section 5 , LASS Individual Calling Line Identification," Section 6 , "LASS Bulk Calling Line Identification," Section 13 , "Analog Calling Name Delivery - Phase 0," Section 14 , "Output LASS Line History Block (OHB)," Section 18 , "Analog Calling Name Delivery - Phase 2," Section 21 , and "Line Time Slot Bridging and Automatic Callback/Automatic Recall Compatibility," Section 25 .)
- Internally Bridged Dual Service - Package 2 (See "LASS Customer-Originated Trace," Section 5 , LASS Individual Calling Line Identification," Section 6 , "LASS Bulk Calling Line Identification," Section 13 , "Analog Calling Name Delivery - Phase 0," Section 14 , "Output LASS Line History Block (OHB)," Section 18 , "Analog Calling Name Delivery - Phase 2," Section 21 , and "Line Time Slot Bridging and Automatic Callback/Automatic Recall Compatibility," Section 25 .)
- Internally Bridged Dual Service - Package 3 (See "LASS Customer-Originated Trace," Section 5 , LASS Individual Calling Line Identification," Section 6 , "LASS Bulk Calling Line Identification," Section 13 , "Analog Calling Name Delivery - Phase 0," Section 14 , "Output LASS Line History Block (OHB)," Section 18 , "Analog Calling Name Delivery - Phase 2," Section 21 , and "Line Time Slot Bridging and Automatic Callback/Automatic Recall Compatibility," Section 25 .)
- LASS Customer Originated Trace (See "User Operation," Section 5.2.3 .) This information was added as per IMR 647707.

- LASS Individual Calling Line Identification (See "Call Forwarding Busy Line All Calls," Section 6.3.32 .) This information was added as per IMR 666400.
- Originating Switch Calling Name (See "Originating Switch Calling Name," Section 29).

Also, the Initial LASS Features table was updated (as per IMR 649616) to show that 4-wire individual assignment of CND is a valid subscription feature (via feature 99-5E-4980). See Table 2-3 , "Initial LASS Features."

1.2.2 Lucent Technologies

As a result of the AT&T divestiture, the AT&T Network Systems division became Lucent Technologies, a separate and independent corporation. The 5ESS®-2000 switch and many other network and transmission products became products of Lucent Technologies. The marketing, sales, engineering, delivery, installation, support, and future development of these products are now provided by Lucent Technologies.

Therefore, the corporate name and logo on this document's cover, spine, and title page are changed from the AT&T brand to the Lucent Technologies brand. The AT&T name is being removed from the content (where appropriate), as well as from the 9-digit document order number.

Not all pages of this document are being reissued to make these changes; instead, the pages will be reissued over time as technical and other changes are required. Customers on standing order for this document may see references to the AT&T name on previous-issue pages. Customers receiving new orders for this document will see the references changed to the Lucent Technologies name throughout the document as appropriate. Exceptions may exist in software-influenced elements such as input/output messages, master control center screens, and recent change/verify screens. These elements will not be changed in this document until such time as they are changed in the software code.

Document updates will not be made specifically to remove historical references to AT&T, especially in cases where the Network Systems division of AT&T, now Lucent Technologies, provided the product or service in question.

1.2.3 Supported Software Releases

In accordance with the 5ESS®-2000 Switch Software Support Plan, the 5E10 software release will be rated Discontinued Availability (DA) as of November 13, 1998. The information supporting 5E10 and earlier is being removed over time, instead of concurrently, from all documentation.

If you are supporting offices that use a software release prior to 5E11 and you have a need for the information that is being removed, retain the associated pages as they are removed from the paper documents, or retain the earlier copy of the CD-ROM.

1.2.4 Terminology

Effective with the 5E9(1) software release, the name of the 5ESS® switch was changed to 5ESS®-2000 switch; therefore, the name 5ESS® switch is no longer valid. The name revision will be accomplished over time as other technical changes are required. In the interim, assume that any reference to the 5ESS® switch is also applicable to the 5ESS®-2000 switch. Note that this name change may not have been carried forward into software-influenced elements such as input/output messages, master control center screens, and recent change/verify screens.

National ISDN is an evolving platform in which new features will continue to be introduced for new revenue opportunities, improved operational efficiencies, and for support of specific applications. NI 1, NI 2, and NI 3 represent specific features as documented in Bellcore SRs 1937, 2120, and 2457. The industry is migrating to an additional terminology to more specifically denote the availability of National ISDN features: NI 95, NI 96, etc. A feature is included in a specific version (such as, NI 96) if it is available by the switch vendors by the first quarter of

the year.

As a result of the World Telecommunications Standardization Conference held March 1-12, 1993, the International Telegraph and Telephone Consultative Committee (CCITT) no longer exists as an organization under the International Telecommunication Union (ITU). According to the ITU, the CCITT is now referred to as the International Telecommunication Union - Telecommunication Standardization Sector (ITU-TS).

For new and revised Recommendations issued by the ITU-TS, the term "CCITT Recommendation X.xxx" will be replaced by the "ITU-T Recommendation X.xxx" designation. For a transition period from 1993 to 1997, if the Recommendation had a previous CCITT designation, the new name will include "(formerly CCITT Recommendation X.xxx)". Names of existing CCITT Recommendations will not change unless revised.

1.3 ORGANIZATION

This document is organized in sections as follows:

- Section 2 LASS OVERVIEW — This section contains the following information concerning all features covered in this document.
 - LASS Feature Definitions
 - Hardware and Software Engineering Information
 - LASS Forms and Views
 - Implementation Guidelines
 - LASS General Feature Administration
 - Required SS7 Data
 - Switch Replacement Issues
 - LASS Billing
 - LASS Traffic Measurements
 - Audits
 - Input/Output Messages
- Section 3 LASS AUTOMATIC CALLBACK — This section contains information specific to the Automatic Callback feature.
- Section 4 LASS AUTOMATIC RECALL — This section contains information specific to the Automatic Recall feature.
- Section 5 LASS CUSTOMER-ORIGINATED TRACE — This section contains information specific to the Customer-Originated Trace feature.
- Section 6 LASS INDIVIDUAL CALLING LINE IDENTIFICATION — This section contains information specific to the Individual Calling Line Identification feature.
- Section 7 LASS SCREEN LIST EDITING — This section contains information specific to the Screen List Editing feature.

- Section 8 LASS SELECTIVE CALL ACCEPTANCE — This section contains information specific to the Selective Call Acceptance feature.
- Section 9 LASS COMPUTER ACCESS RESTRICTION — This section contains information specific to the Computer Access Restriction feature.
- Section 10 LASS SELECTIVE CALL REJECTION — This section contains information specific to the Selective Call Rejection feature.
- Section 11 LASS SELECTIVE CALL FORWARDING — This section contains information specific to the Selective Call Forwarding feature.
- Section 12 LASS SELECTIVE DISTINCTIVE ALERT — This section contains information specific to the Selective Distinctive Alert feature.
- Section 13 LASS BULK CALLING LINE IDENTIFICATION — This section contains information specific to the Bulk Calling Line Identification feature.
- Section 14 ANALOG CALLING NAME DELIVERY - PHASE 0 — This section contains information specific to the Analog Calling Name Delivery - Phase 0 feature.
- Section 15 CALLING PARTY NUMBER PRESENTATION — This section contains information specific to the Calling Party Number Presentation feature.
- Section 16 LASS NPA SPLIT RESOLUTION — This section contains information specific to the LASS NPA Split Resolution feature.
- Section 17 UNIDENTIFIED CALL REJECTION — This section contains information specific to the Unidentified Call Rejection feature.
- Section 18 OUTPUT LASS LINE HISTORY BLOCK (OHB) — This section contains information specific to the Output LASS Line History Block feature.
- Section 19 AUTOMATIC RECALL AND CALLBACK WITH PRIVATE NUMBER INDICATION FOR AMA — This section contains information specific to the Automatic Recall and Callback with Private Number Indication for AMA feature.
- Section 20 CUTOVER ALTERNATE ROUTING — This section contains information specific to the Cutover Alternate Routing feature.
- Section 21 ANALOG CALLING NAME DELIVERY - PHASE 2 — This section contains information specific to the Analog Calling Name Delivery - Phase 2 feature.
- Section 22 PRIVATE OPTION FOR LAST INCOMING NUMBER — This section contains information specific to the Private Option for Last Incoming Number feature.
- Section 23 ANNOUNCEMENT AS ERROR TREATMENT FOR LASS ACCESS CODES — This section contains information specific to the Announcement as Error Treatment for LASS Access Codes feature.
- Section 24 AUTOMATIC CALLBACK BLOCK TO PRIVATE NUMBER — This section contains information specific to the Automatic Callback Block to Private Number feature.
- Section 25 LINE TIME SLOT BRIDGING AND AUTOMATIC CALLBACK/AUTOMATIC RECALL COMPATIBILITY — This section contains information specific to the Line Time Slot Bridging and Automatic Callback/Automatic Recall Compatibility feature.

- Section 26 CALLING PARTY NUMBER PRESENTATION FOR PBX HOTMOT — This section contains information specific to the Calling Party Number Presentation for PBX HOTMOT feature.
- Section 27 ALTERNATE LANGUAGE LASS ANNOUNCEMENT CAPABILITY — This section contains information specific to the Alternate Language LASS Announcement Capability feature.
- Section 28 DENY AUTOMATIC CALLBACK CALLS ON INTRALATA PIC CALLS — This section contains information specific to the Deny Automatic Callback Calls on IntraLATA PIC Calls feature.
- Section 29 ORIGINATING SWITCH CALLING NAME — This section contains information specific to the Originating Switch Calling Name feature, which modifies the existing Calling Name features to allow an originating 5ESS[®]-2000 switch to provide a calling party name for each call origination (for which a calling number is available) and deliver this name to the terminating party.

1.4 USER FEEDBACK

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1.5 DISTRIBUTION

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Customers not represented by a documentation coordinator and Lucent Technologies employees can order the documentation for the 5ESS[®]-2000 switch directly from the Lucent Technologies Customer Information Center. Proper billing information must be provided. These orders may be mailed to:

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1.6 TECHNICAL ASSISTANCE

Technical assistance for the 5ESS[®]-2000 switch can be obtained by calling the North American Regional Technical Assistance Center (NARTAC) at 1-800-225-RTAC. This telephone number is monitored 24 hours a day, 7 days a week. During regular business hours, your call will be answered by your local NARTAC. Outside of normal business hours, all calls will be answered at a centralized technical assistance center where service-affecting problems will be dispatched immediately to your local NARTAC. All other problems will be referred to your local NARTAC on the next regular business day.

1.7 REFERENCES

More information on LASS features can be found in the following Lucent Technologies documents:

- 201-519-101 — *13A Description and Operating Procedures, Common Systems*
- 201-519-301 — *13A SD97753-01 Operating, Testing and Trouble Analysis Procedures, Common Systems*
- 201-521-101 — *14A Description and Operating Procedures, Common Systems*
- 201-522-101 — *15A Description and Operating Procedures, Common Systems*
- 201-523-101 — *16A Description and Operating Procedures, Common Systems*
- 235-070-100 — *Administration and Engineering Guidelines*
- 235-080-100 — *Translations Guide TG-5*
- 235-100-125 — *5ESS[®] Switch System Description*
- 235-105-110 — *System Maintenance Requirements and Tools*
- 235-105-200 — *Precutover and Cutover Procedures*
- 235-105-210 — *Routine Operations and Maintenance Procedures*
- 235-105-231 — *Hardware Change Procedures - Growth*
- 235-105-2xx — *Software Release Retrofit Procedures*
- 235-105-331 — *Hardware Change Procedures - Degrowth*
- 235-105-500 — *Maintenance Reference Handbook*
- 235-118-2xx — *Recent Change Procedures*
- 235-118-2xx — *Recent Change Reference*
- 235-190-103 — *Business and Residence Feature Descriptions*
- 235-190-104 — *ISDN Feature Descriptions*
- 235-190-115 — *Local and Toll System Features*

- 235-190-120 — *Common Channel Signaling Service Features*
- 235-190-125 — *Advanced Services Platform, Release 0 and 0.1A*
- 235-190-126 — *Advanced Services Platform, Release 0.1B*
- 235-190-300 — *Billing Features and Specifications*
- 235-600-3xx — *ECD/SG Data Base Manual*
- 235-600-400 — *Audits Manual*
- 235-600-700 — *5ESS®-2000 Input Message Manual*
- 235-600-750 — *5ESS®-2000 Output Message Manual*
- 235-900-341 — *National ISDN Basic Rate Interface Specification*
- 235-900-342 — *ISDN Primary Rate Interface Specification*
- 235-900-343 — *Custom ISDN Basic Rate Interface Specification*
- 256-010-100 — *CCS Description*
- 256-010-101 — *CCS Fault Recognition and Recovery*
- 256-010-102 — *CCS Direct Signaling Description*
- 256-015-100 — *SS7 LEC Network Description*
- 256-015-300 — *SS7 LEC Network Operations, Administrations, and Maintenance*
- 533-700-105 — *5ESS® Switch Custom ISDN Services and Capabilities Planning*
- 533-700-106 — *5ESS® Switch National ISDN Services and Capabilities Planning*
- 533-700-115 — *Custom ISDN Terminal User Guide (Quick Reference Guide)*

NOTE 1: An "x" or "x"s in the last three positions of a release specific document number indicate the digits that change from release to release. Refer to 235-001-001, *Documentation Description and Ordering Guide* for the document number associated with each software release.

NOTE 2: This document also contains information concerning the Compact Digital Exchange (CDX) and the Very Compact Digital Exchange (VCDX), which are switching systems based on the 5ESS®-2000 switch. This document is a standard 5ESS®-2000 switch document that is also applicable to the CDX and VCDX switching systems. Information applicable only to CDX or VCDX may be found in the following manuals:

- 235-120-010, *Compact Digital Exchange (CDX) Reference Guide*
- 235-120-020, *Compact Digital Exchange (CDX) User's Guide*
- 235-120-110, *Very Compact Digital Exchange (VCDX) Reference Guide*
- 235-120-120, *Very Compact Digital Exchange (VCDX) User's Guide*

2. LASS OVERVIEW

2.1 SCOPE OF SECTION

Local Area Signaling Services (LASS) features are a group of central office features that use existing customer lines to provide end-users with call management capabilities. LASS features provide feature capabilities for both business and residence customers across central offices that have signaling system 7 (SS7) connectivity. LASS takes advantage of emerging networks to offer interswitch services that otherwise would be difficult to provide. These interswitch services are attractive because nearby switches can interwork with them to provide these services across the switches.

This section provides general information designed to provide guidelines and user information for the installation of the LASS features. The information contained in this section consists of the following:

- "LASS Feature Definitions", Section 2.2 : This section contains a brief definition of each of the LASS features.
- "Engineering", Section 2.3 : This section contains information on the required hardware, firmware, software, and memory.
- "LASS Forms and Views", Section 2.4 : This section contains a comprehensive listing of the recent change views and forms affected by the LASS features.
- "Implementation Guidelines", Section 2.5 : This section describes how to install the LASS features.
- "LASS General Feature Administration", Section 2.6 : This section describes feature construction and user access to the features.
- "Data", Section 2.7 : This section is a high-level description of the data populated by the major recent change views.
- "Switch Replacement Issues", Section 2.8 : This section identifies some considerations for 1A ESSTM to 5ESS[®] switch replacements including generally available assignments and class-of-service access.
- "LASS Billing", Section 2.9 : This section describes the LASS Automatic Message Accounting (AMA) records.
- "LASS Traffic Measurements", Section 2.10 : This section describes the traffic measurements for LASS features.
- "Audits", Section 2.11 : This section lists the audits for LASS.
- "Input/Output Messages", Section 2.12 : This section lists the input and output messages associated with LASS.

The general section is followed by individual descriptions of the LASS features.

These LASS features are originating terminal type features with the exception of Calling Number Delivery, which is a terminating directory number (DN) feature, and All-Call Privacy, which is an originating DN feature. These features consist of the following:

- (a) Automatic Callback (AC)
- (b) Automatic Recall (AR)
- (c) Customer-Originated Trace (COT)

(d) Individual Calling Line Identification (ICLID)

- Calling Number Delivery (CND)
- Directory Number Privacy (DNP)
 - Per-Call Privacy (PCP)
 - All-Call Privacy (ACP).

The following LASS features are call terminating DN-type features referred to as LASS Selective Features (LSF). These features consist of the following:

- Selective Call Acceptance (SCA)
- Computer Access Restriction (CAR)
- Selective Call Forwarding (SCF)
- Selective Call Rejection (SCR)
- Selective Distinctive Alert (SDA).

Each feature description includes the following:

- Feature operation
- Feature interactions
- Abnormal user/system interactions (error treatment)
- Limitations and restrictions
- Applications (covering detailed recent change information).

Other LASS features are enhancements and improvements to existing features. These features are as follows:

- Enhanced Two-Level Activation of Automatic Callback and Customer-Originated Trace
- Dual Timer Queuing and Related AC/AR Enhancements
- Screen List Editing (SLE) Compliance with Bellcore.

National ISDN support is available for all the LASS feature capabilities. Additionally, Automatic Recall for circuit-switched data calls on National ISDN terminals is supported.

The LASS Bulk Calling Line Identification (BCLID) feature is a terminating type feature that provides call-related information on incoming calls via a separate data link.

Other features developed for LASS are also discussed. These features are as follows:

- Analog Calling Name Delivery

(See "Analog Calling Name Delivery—Phase 0", Section 14 .) The Analog Calling Name Delivery (CNAM) feature is not supported by itself in the initial phase (phase 0). Only ICLID CND with CNAM is available in phase 0. In phase 2, a user may have only CNAM.

- **Calling Party Number Presentation**
(See "Calling Party Number Presentation", Section 15 .) The Calling Party Number Presentation (CPNP) feature enhances the existing Directory Number (DN) privacy features by modifying the Per-Call Privacy and All-Call Privacy features. This feature allows the service provider to assign privacy at the finest level of granularity without an office parameter override.
- **COT Data Link Features**
(See "Customer-Originated Trace", Section 2.2.3 .) The COT Data Link feature allows service providers to provide the COT feature without requiring a dedicated data link to print the trace messages. This software update allows the flexibility of sending the COT messages over an existing data link, if desired.
- **LASS Numbering Plan Area (NPA) Split Resolution**
(See "LASS NPA Split Resolution", Section \[spec lit].) The LASS features provide validation and screening based on the directory numbers (DNs). When DN's change due to a numbering plan area (NPA) split, some of the LASS features fail to function as the customer desires. The LASS NPA Split Resolution feature (LNPAS) causes LASS DN validation and screening to use both the old NPA and the new NPA involved in an NPA split to insure continuity in LASS feature operations.
- **Limited Two-Level Activation of AC and COT**
(See "Automatic Callback", Section 2.2.1 and "Customer-Originated Trace", Section 2.2.3 .) Limited Two-Level Activation of the Automatic Callback feature makes the dialing of an access code to activate the feature only an initial portion of feature activation. When a user dials the AC access code, an announcement indicating that the AC feature has been accessed along with the last incoming call directory number (LICDN) (if not marked private) is played. After being prompted by an announcement, a user may dial a "1" to finalize the request or hang up to cancel the request. Limited Two-Level Activation of the Automatic Callback feature is available for analog terminals only.
- **Enhanced Two-Level Activation of AC and COT.**
(See "Automatic Callback", Section 2.2.1 and "Customer-Originated Trace", Section 2.2.3 .) Enhanced Two-Level Activation of Automatic Callback feature makes the dialing of an access code to activate the feature only an initial portion of feature activation. After being prompted by an announcement, a user may dial a "1" to finalize the request or hang up to cancel the request. Enhanced Two-Level Activation of the Automatic Callback feature is available for both analog and ISDN terminals.
- **Removal of ISDN COT Agency Follow-Up Number**
(See "Customer-Originated Trace", Section 2.2.3 .) The Removal of ISDN Customer-Originated Trace Agency Follow-Up Number feature eliminates the requirement that an agency follow-up number must be specified by the service provider when providing the COT feature. A new default message is received when COT is invoked; a follow-up number is not displayed if none has been specified.
- **Unidentified Call Rejection**
(See "Unidentified Call Rejection", Section 17 .) The Unidentified Call Rejection (UCR) feature gives the called party the ability to reject calls if the calling number is marked private. The user only receives calls for which the identity of the calling party is available (the call terminates if the number is not available).
- **Output LASS Line History Block feature**
(See "Output LASS Line History Block", Section 18 .) provides service provider the means to request incoming or outgoing line history block (LHB) information for LASS features.
- **Automatic Recall and Callback With Private Number Indication for AMA**
(See "Automatic Recall and Callback with Private Number Indication for AMA", Section 19 .) provides the

5ESS® switch with the ability to indicate the privacy status of the destination number in the automatic message accounting (AMA) record when a LASS customer invokes AC or AR. This is a secured feature and is not activated until the purchaser has made the necessary arrangements with Lucent Technologies.

- Cutover Alternate Routing
(See "Cutover Alternate Routing", Section 20 .) feature alternately routes calls to inactive directory numbers when the 5ESS® switch is in the PRECUT or POSTCUT state even when the DNs are unassigned. This feature interacts with LASS features, AC, and AR, in addition to the screen list editing capability.
- Analog Calling Name Delivery - Phase 2
(See "Analog Calling Name Delivery - Phase 2", Section 21 .) feature provides the end-user with the name associated with the calling number to called analog users that have special customer premises equipment. CNAM 2 provides major enhancements to CNAM 0. This capability includes terminating usage-sensitive billing.
- Private Option for the Last Incoming Number
(See "Private Option for the Last Incoming Number", Section 22 .) For users who have not subscribed to either Individual Calling Line Identification (ICLID) Calling Number Delivery or Intra switch/Inter switch CPN/BN Optioning feature, the Private Option for Last Incoming Number (POLIN) feature ensures that the calling party number is not revealed and is always treated as private by the following features:
 - LASS Automatic Callback (One-Level Activation)
 - Two-Level Activation of Automatic Callback
 - LASS Automatic Recall
 - LASS Screen List Editing
 - Inspect for ISDN Terminals
- Announcement as Error Treatment for LASS Access Codes
(See "Announcement as Error Treatment for LASS Access Codes", Section 23 .) routes an analog user to an uninterruptible announcement when they dial any LASS access code and the user is denied access to the LASS feature.

The announcement as error treatment feature is provided for the following LASS feature access codes:

- Automatic Callback (AC)
 - Automatic Recall (AR)
 - Computer Access Restriction (CAR)
 - Customer Originated Trace (COT)
 - Selective Call Acceptance (SCA)
 - Selective Call Forwarding (SCF)
 - Selective Call Rejection (SCR)
 - Selective Distinctive Alert (SDA).
- The AC Block to Private Number
(See "Automatic Callback Block to Private Number Feature", Section 24 .) feature allows a switch to block

attempts to invoke AC towards a private number by routing the customer to a switch changeable rejection announcement.

- The LTSB and AC/AR Compatibility
(See "Line Time Slot Bridging and Automatic Callback/Automatic Recall Compatibility", Section 25 .) feature allows access to both AC and AR from LTSB lines with 1 DN (off-premises extensions). Access from a line is provided either by assigning AC or AR to the line, or by offering AC or AR on a generally-available basis for the entire switch.
- The Calling Party Number Presentation (CPNP) for PBX Hotel-Motel (PBX HOTMOT)
(See "Calling Party Number Presentation (CPNP) for PBX HOTMOT", Section 26 .) feature allows Hotel-Motel PBX lines to use the Per-Call-Privacy (PCP) access code.
- The Alternate Language LASS Announcement Capability
(See "Alternate Language LASS Announcement Capability", Section 27 .) feature offers LASS Digital Services Unit Model 2 - Recorded Announcement Frame (DSU2-RAF) interactive announcements in either of two languages on a per-line basis. The LASS Selective Features that support this special feature are: Selective Call Acceptance (SCA)/Computer Access Restriction (CAR), Selective Call Forwarding (SCF), Selective Call Rejection (SCR), Selective Distinctive Alert (SDA), 2-Level Automatic Callback (AC) and 2-Level Customer Originated Trace (COT).
- The Deny Automatic Callback Calls on IntraLATA PIC Calls
(See "Deny Automatic Callback Calls on IntraLATA PIC Calls", Section 28 .) feature provides blocking of Automatic Callback (AC) for IntraLATA toll calls that are not carried by the local exchange carrier (LEC) and are sent to private directory numbers (DN). The DN is private when the previous incoming call is received with an indication of privacy.

NOTE: As of the 5E12 and later software releases, the "Deny Automatic Callback on IntraLATA PIC Calls" feature also applies to Intra-LATA calls carried by the Presubscribed Local Carrier (PLC) that is non-LEC and gets provisioned by the Alternate Local Service Provider Routing (ALSPR) Feature, 99-CP-4031.

In addition to the information presented in this section, several other documents discuss the LASS features. Refer to **REFERENCES**, Section 1.7 for additional information.

2.2 LASS FEATURE DEFINITIONS

2.2.1 Automatic Callback

Activation of the Automatic Callback (AC) feature enables a calling terminal to automatically place a call to the last party to alert the calling terminal. If the call cannot complete immediately because the called DN is busy, the AC user is camped on to the called DN. The network monitors the busy/idle status of the called DN. When both the calling DN at the calling terminal and the called DN are idle, the calling terminal is given ringback alerting for analog and Custom ISDN. For Standard ISDN, only the called DN needs to be idle for the customer to receive notification. If the ringback/notification is answered, then the called DN is alerted.

The AC feature can be made generally available to all users in an office or can be available only to users that subscribe to it.

Limited Two-Level Activation of the Automatic Callback feature makes the dialing of an access code to activate the feature only an initial portion of feature activation. When a user dials the AC access code, an announcement indicating that the AC feature has been accessed along with the last incoming call directory number (LICDN) (if not marked private) is played. After being prompted by an announcement, a user may dial a "1" to finalize the request or hang up to cancel the request. Limited Two-Level Activation of the Automatic Callback feature is available for analog

terminals only.

Enhanced Two-Level Activation of Automatic Callback feature makes the dialing of an access code to activate the feature only an initial portion of feature activation. After being prompted by an announcement, a user may dial a "1" to finalize the request or hang up to cancel the request. Enhanced Two-Level Activation of the Automatic Callback feature is available for both analog and ISDN terminals.

An AMA record is created for each Two-Level Activation whenever the LICDN is voiced back or the privacy announcement is given.

The **Private Option for Last Incoming Number (POLIN)** feature ensures that the calling party number is not revealed and is treated as private by LASS Automatic Callback, Automatic Recall, and Screen List Editing features. This feature provides a per-office option allowing service providers to have the LICDN, which is stored in a line's incoming line history block, considered private when AC/AR or SLE tries to retrieve it and voice it back or display it to the user. The POLIN feature does not affect analog users of AC or users of Two-Level Activation AC.

Note that when POLIN is assigned ICLID, Two-Level Activation of AC should not be assigned.

The **Dual Timer Queuing and Related AC/AR Enhancements** feature adds additional capabilities to the existing AC feature. These additional capabilities consist of the following:

- AC activations towards lines with Call Forwarding Variable (CFV), Call Forwarding Incoming Only (CFIO), Call Forwarding In A Group (CFIAG), Call Forwarding Night Service (CFNS), Selective Call Forwarding (SCF), Selective Call Acceptance (SCA) with forwarding, or Computer Access Restrictions with forwarding active receive a short-term denial announcement. Currently, the 5ESS[®] switch provides short-term denial consisting of reorder.
- Dual Timer Queuing Activation allows a caller to maintain his/her queue position when a reactivation request is made.
- AC Reactivations provide an AMA recording of activations and reactivations, separately. If a reactivation is initiated by a subscriber, an AMA billing record is created.
- AC Concurrent Activation Limit and Line Queue Size Limit provides a concurrent activation limit of up to 30 requests per line. This allows an originating subscriber to have up to 30 AC requests and 30 AR requests active, simultaneously. Additionally, this feature provides a queue size of up to 20 positions per terminating DN. A called DN may not have more than 20 queue requests for AC and AR requests active, simultaneously.
- AC Activation Requests Towards an Multiline Hunt Group with Queuing, having either an idle member or an empty queue position, are considered idle. If every member or empty basic queue position of the hunt group is busy, and every queue position is busy, the call camps on the next available queue position.
- The originating switch has the capability to reinitialize scanning if a comparison of the feature timer and an office parameter (REINIT SCAN) finds that time remaining on the feature timer is greater than the office parameter.

2.2.2 Automatic Recall

Activation of the Automatic Recall (AR) feature enables a calling terminal to automatically place a call to the last party called from the calling terminal. If the call cannot complete immediately because the called DN is busy, the AR user is camped on to the called DN. The network monitors the busy/idle status of the called DN. When both the calling DN at the calling terminal and the called DN are idle, the calling terminal is given ringback alerting. If the ringback is answered, then the called DN is alerted.

The AR feature can be made generally available to all users in an office or can be available only to users that

subscribe to it.

The **Private Option for Last Incoming Number (POLIN)** feature ensures that the calling party number is not revealed and is treated as private by Automatic Recall. For AR, POLIN only blocks a number when its is copied from the incoming line history block (ILHB) to the outgoing line history block (OLHB). This feature provides a per-office option, allowing service providers to have the last incoming call directory number (LICDN) considered private when AR tries to retrieve it.

The **Dual Timer Queuing and Related AC/AR Enhancements** feature adds additional capabilities to the existing AR features. These additional capabilities consist of the following:

- AR activations towards lines with CFV, CFIO, CFIAG, CFNS, SCF, SCA with forwarding, or Computer Access Restrictions with forwarding active receive a short-term denial announcement. Currently, the 5ESS[®] switch provides short-term denial consisting of reorder.
- Dual Timer Queuing Activation allows a caller to maintain his/her queue position when a reactivation request is made.
- AR Reactivations provide an AMA recording of activations and reactivations, separately. If a reactivation is initiated by a subscriber, an AMA billing record is created.
- AR Concurrent Activation Limit and Line Queue Size Limit provides a concurrent activation limit of up to 30 requests per line. This allows an originating subscriber to have up to 30 AC requests and 30 AR requests active, simultaneously. Additionally, this feature provides a queue size of up to 20 positions per terminating DN. A called DN may not have more than 20 queue requests for AC and AR requests active, simultaneously.
- AR Activation Requests Towards an MLHG with Queuing, having either an idle member or an empty queue position, are considered idle. If every member of the hunt group is busy and every basic queue position is busy, the call camps on the next available queue position.
- The originating switch has the capability to reinitialize scanning if a comparison of the feature timer and an office parameter (REINIT SCAN) finds that time remaining on the feature timer is greater than the office parameter.
- National ISDN support is available for all the LASS feature capabilities. Additionally, Automatic Recall for circuit-switched data calls on National ISDN terminals is supported.

2.2.3 Customer-Originated Trace

The Customer-Originated Trace (COT) feature provides an end-user the ability to trace the last incoming call by dialing an access code or by pressing the feature button. The call trace is delivered over a data link to an authorized agency after the customer invokes COT. Follow-up instructions, which notify the customer how to contact the agency about the trace, are given to the customer through an announcement or a display message.

The COT feature can be made generally available to all users in an office or can be available to users that subscribe to it.

Limited Two-Level Activation of the Customer-Originated Trace feature makes the dialing of an access code to activate the feature only an initial portion of feature activation. After being prompted by an announcement, a user may dial a "1" to finalize the request or hang up to cancel the request. Limited Two-Level Activation of the Customer-Originated Trace feature is available for analog terminals only.

Enhanced Two-Level Activation of the Customer-Originated Trace feature makes the dialing of an access code to activate the feature only an initial portion of feature activation. After being prompted by an announcement, a user may dial a "1" to finalize the request or hang up to cancel the request. Enhanced Two-Level Activation of the

Customer-Originated Trace feature is available for both analog and ISDN terminals.

The **COT Data Link** feature allows service providers to provide the COT feature without requiring a dedicated data link to print the trace messages. This software update allows the flexibility of sending the COT messages over an existing data link, if desired. In addition, with this feature, the COT message buffer has been increased from 100 to 300 messages.

The **Removal of ISDN Customer-Originated Trace Agency Follow-Up Number** feature eliminates the requirement that an agency follow-up number must be specified by the service provider when providing the COT feature. A new default message is received when COT is invoked; a follow-up number is not displayed if none has been specified.

2.2.4 Individual Calling Line Identification

The Individual Calling Line Identification (ICLID) feature delivers the calling party's directory number to analog lines, Basic Rate Interfaces (BRIs), and Primary Rate Interfaces (PRIs) on voice calls. All callers on the switch can prevent delivery of their directory number to the person they called, if they desire. The ICLID feature, therefore, consists of two distinct features as follows:

Calling Number Delivery (CND)	- The customer (the called party) receives the calling party's number on an incoming call.
Directory Number Privacy (DNP)	- The customer (the calling party) prevents or allows delivery of his/her directory number (DN) to the terminating station set.

The CND feature is made available only to users that subscribe to it. The feature billing can be either flat rate or usage sensitive. Usage-sensitive ICLID CND can be turned on/off via dial code and/or ISDN feature button. Analog customers must be equipped with an analog display unit or CPE with display capability, and ISDN customers must be equipped with an ISDN station set with display capability to display the calling party information that ICLID delivers.

There are two types of DNP: All-Call Privacy (ACP) and Per-Call Privacy (PCP).

When ACP is assigned to the analog or BRI customer and a call is made, the DN of the originator is marked "private" and is not sent to the terminating party. If ACP is not assigned to the customer and a call is made, the DN of the originator is marked "public" and is sent to the terminating party.

The PCP allows an analog or BRI customer that is assigned ACP to make the originating DN "public" for a single call and, therefore, send his/her DN to the terminating party. Conversely, it allows an analog or BRI customer that is not assigned ACP to make his/her originating DN "private" for a single call and not send his/her DN to the terminating party. Notice that this change only lasts for the duration of the call and does not permanently change privacy.

The PCP can be made generally available to all users in an office or can be available to users that subscribe to it.

The **Limited Intragroup ICLID** feature allows the calling DN to be displayed at the terminating station set when calls originate and terminate within the same terminal group. This feature is an optioned feature. For additional information, refer to 235-190-104, Custom ISDN Feature Descriptions.

2.2.5 Screen List Editing

Screen List Editing (SLE) is provided to those customers who have access to any of the LASS Selective features. These features allow business and residence users to create, modify, or review lists of telephone numbers associated with each screening feature to which they have access. Calls from numbers on the list are given special treatment by the LASS Selective features. Each feature has its own list; screen list editing allows users to create and modify these lists. Screen list editing is not a feature, but a capability that is the foundation for LASS Selective features.

The SLE capability interactively guides users in editing screening lists. A set of interactive recorded announcements is used. For custom ISDN, display messages are provided in addition to announcements for stations with display capability. A list of the default announcements and their associated display messages can be found in "System Operation", Section 7.6, for SLE. These announcements and ISDN messages can be customized.

The **LASS Screen List Editing Compliance with Bellcore** feature provides alignment of the user interface for screen list editing with the Bellcore requirements in the TR-TSY-000220 specifications. Compliance involves changes to the wording of existing announcements and display messages, and functional changes which include dialing 0, 0*, 08, 08*, 08#, 09, 09*, or 09# after the user dials an asterisk or star (*), or 11 to remove DN's from the screening list.

2.2.6 Selective Call Acceptance

The SCA feature allows a customer to preselect incoming calls which are accepted (allowed to complete). Customers can create a list of directory numbers which define the calling parties that can complete calls. Calls received that are not on the specified list receive a denial announcement or are forwarded. This feature is mutually exclusive with the Computer Access Restriction feature. The SCA uses the SLE capability to create or change the list.

The SCA feature can be made generally available to all users in an office or can be available to users that subscribe to it.

2.2.7 Computer Access Restriction

The CAR feature provides a user the same capability as SCA, but it is intended to restrict dial-up access to computers. This feature increases the security of the computer network. The CAR feature uses the same user interface as SCA, and is intended for use with analog data calls controlling computer access of data (modem to modem) calls. This feature is mutually exclusive with the Selective Call Acceptance feature.

The CAR feature is only available to users that subscribe to it.

2.2.8 Selective Call Rejection

The SCR feature provides a customer with the capability of not being alerted by calls from a preselected DN list. The SCR allows customers to create a list of directory numbers which define the calling parties for whom calls are connected to a rejection announcement. The SCR uses the SLE capability to create or change the list.

The SCR feature can be made generally available to all users in an office or can be available to users that subscribe to it.

2.2.9 Selective Call Forwarding

The SCF feature provides a customer the capability to preselect incoming calls which are call forwarded. Customers can create a list of directory numbers defining which calling parties have their calls forwarded to a specified DN. The SCF uses the SLE capability to create or change the list.

The SCF feature can be made generally available to all users in an office or can be available to users that subscribe to it.

2.2.10 Selective Distinctive Alert

The SDA feature provides customers the capability to preselect incoming calls that receive distinctive alerting. Customers can create a list of directory numbers of calling parties that are to receive distinctive alerting at their terminal. The SDA uses the SLE capability to create or change the list.

The SDA feature can be made generally available to all users in an office or can be available to users that subscribe to it.

2.2.11 Bulk Calling Line Identification

The Bulk Calling Line Identification (BCLID) feature provides call-related information on incoming calls for BRCS/Centrex, Multiline Hunt Group (MLHG), and PBX customers. The BCLID feature provides data only for calls from outside BRCS/Centrex Group, MLHG, or PBX. PBX customers must either have Direct Inward Dialing (DID) capability or be part of an MLHG. This information includes the calling and called party directory number, the time the call was received, the calling line's multistatus indicator (indicating whether the true calling party DN is identified), and the called line's busy/idle status.

2.2.12 Analog Calling Name Delivery - Phase 0

The Analog Calling Name Delivery (CNAM) feature, is a terminating line option feature that provides the end-user with a name associated with a calling number. The CNAM feature is directly related to the Individual Calling Line Identification (ICLID) Local Area Signaling Services (LASS) Calling Number Delivery (CND) feature. A customer may subscribe to ICLID CND, or ICLID CND and CNAM, which delivers the calling party number or the calling party number and name to the customer premises equipment (CPE).

2.2.13 Calling Party Number Presentation

The Calling Party Number Presentation (CPNP) feature, enhances the existing Directory Number (DN) features by modifying the Per-Call Privacy and All-Call Privacy features. This feature allows the service provider to assign privacy at the finest level of granularity without an office parameter override.

2.2.14 NPA Split Number Resolution

The LASS NPA Split Resolution (LNPAS) feature provides LASS DN validation and screening on either the old Number Plan Area (NPA) or the new NPA during an NPA split.

The term NPA split refers to the period of time when an NPA serving an area is being divided into two or more NPAs. An NPA split occurs when the demand for telephone numbers in an area served by the NPA is larger than the supply of numbers. The existing NPA is referred to as the old NPA, while an NPA that is being introduced is referred to as a new NPA. After the split, some of the NXXs in the area are in the old NPA and some of them are in the new NPA(s).

Validation and screening for LASS is normally done on a 10-digit DN. During an NPA split, this validation and screening is disrupted as offices gradually convert DNs to the new NPA. Without the LNPAS feature, gradual conversion of data in the offices causes the Automatic Recall (AR) feature, Automatic Callback (AC) feature, and LASS Selective Features (LSF) to stop working when calls take place between offices that have not been converted to recognize the newly created NPA.

2.2.15 Unidentified Call Rejection

The LASS Unidentified Call Rejection feature routes calls with the calling party number marked as private directly to an announcement. Typically, a 13A/14A/15A/16A announcement states, "You have attempted to reach a party which is not accepting calls marked private." When a caller invokes DN privacy to prevent his/her number from being revealed, the called party who has ICLID calling number delivery is simply informed that the calling number is private. This feature gives the called party the ability to reject calls if the calling number has been marked as private. Calls for which the calling party number is not available or is not marked as private are not affected by this feature. The Unidentified Call Rejection feature is available to business and residential analog users only. A customer can activate or deactivate this feature via a dialed code.

2.2.16 Output LASS Line History Block

The Output LASS Line History Block feature provides service provider the means to request incoming or outgoing line history block (LHB) information for LASS features. There are two line history blocks, an incoming line history block (ILHB) and an outgoing line history block (OLHB). The ILHB contains the directory number of the last incoming call to a particular terminal and stores information for AC, COT, and the LASS selective features. The OLHB contains the dialed digits of the last outgoing call from a particular terminal and stores information for the AR feature.

2.2.17 Automatic Recall and Callback With Private Number Indication for AMA

The Automatic Recall and Callback With Private Number Indication for AMA feature provides the 5ESS[®] switch with the ability to indicate the privacy status of the destination number in the automatic message accounting (AMA) record when a LASS customer invokes AC or AR. This feature allows the billing organization to decide whether to exclude the called number from the billing record sent to the originating customer.

2.2.18 Cutover Alternate Routing

The Cutover Alternate Routing feature alternately routes calls to inactive directory numbers when the 5ESS[®] switch is in the PRECUT or POSTCUT state even when the DNs are unassigned. This feature interacts with LASS features, AC, and AR, in addition to the screen list editing capability.

2.2.19 Analog Calling Name Delivery - Phase 2

The Analog Calling Name Delivery - Phase 2 (CNAM 2) feature provides the end-user with the name associated with the calling number to called analog users that have special customer premises equipment. CNAM 2 provides major enhancements to CNAM 0. These enhancements include enabling the call originator to invoke three new privacy features [Name Privacy (NAP), Name and Number Privacy (NNP), and Name and Number Display Allowed (NNDA)] for both analog and ISDN lines. An additional enhancement provides for usage-sensitive billing of the originator for invocation of the privacy features, and the terminator for delivery of the name and/or number information. Usage-sensitive billing for the originator is provided. Terminating usage-sensitive billing is also available. Another enhancement enables the 5ESS[®] switch to control its queries to the SS7 Network Names Data Base when the SS7 network is congested.

2.2.20 Private Option for Last Incoming Number (POLIN)

The Private Option for Last Incoming Number (POLIN) is a secured and optioned feature that ensures that the calling party number is not revealed and is treated as private by LASS Automatic Callback, Automatic Recall, and Screen List Editing features. This feature provides a per-office option allowing service providers to have the last incoming call directory number (LICDN), which is stored in a line's incoming line history block, considered private when SLE tries to retrieve it and voice it back or display it to the user.

2.2.21 Announcement as Error Treatment for LASS Access Codes

The Announcement as Error Treatment for LASS Access Codes feature routes an analog user to an uninterruptible announcement when they dial any LASS access code and the user is denied access to the LASS feature.

The announcement as error treatment feature is provided for Automatic Callback, Automatic Recall, Computer Access Restriction, Customer Originated Trace, Selective Acceptance, Selective Call Forwarding, Selective Call Rejection, and Selective Distinctive Alert LASS feature access codes.

Currently, the 5ESS[®]-2000 switch gives reorder tone when a user that is denied access dials a LASS access code.

The Announcement as Error Treatment for LASS Access Codes feature is a transparency feature having the option

of operating in a 1A ESSTM switch mode or a 5ESS[®]-2000 switch mode.

On the 5ESS[®]-2000 switch, only analog users will be provided access to this transparency feature. ISDN users will not be given the announcement.

2.2.22 AC Block to Private Number

The AC Block to Private Number feature allows a switch to block attempts to invoke AC towards a private number by routing the customer to a switch changeable rejection announcement.

This feature is a special feature and is secured. It requires a special purchase and a password for usage.

The AC Block to Private Number feature was developed so that customers can comply with requests by the regulatory commission to block the use of AC to return calls to private numbers.

2.2.23 LTSB and AC/AR Compatibility

The LTSB and AC/AR Compatibility feature allows access to both AC and AR from LTSB lines with 1 DN (off-premises extensions). Access from a line is provided either by assigning AC or AR to the line or by offering AC or AR on a generally-available basis for the entire switch.

The Line Time Slot Bridging feature allows for either:

- Two independent analog lines associated with a single DN (LTSB-1 DN), or,
- Two independent analog lines with separate DNs associated with each other (LTSB-2 DN).

In either case, the lines must be served by the same switch. LTSB can be used to provide an off-premises extension. It also supports conversion from Universal to Integrated SLC[®] Carrier as well as cable transfers.

Automatic Callback and Automatic Recall are LASS features.

- Automatic Callback allows the user to call back the number of the last call to have alerted the user.
- Automatic Recall allows the user to recall the number of the last call made.

The two LTSB lines will be treated independently regarding activations of AC or AR.

This feature does not allow access to AC or AR from LTSB lines with 2 DNs (two bridged lines), either via subscription or when these features are made generally available.

This feature does not affect the interaction of any other features with Line Time Slot Bridging.

This feature allows access to both AC and AR as described in this feature document. This feature also allows access from LTSB lines with 1 DN as described in 235-190-103, *Business and Residence Feature Descriptions*.

2.2.24 Calling Party Number Presentation (CPNP) for PBX Hotel-Motel (PBX HOTMOT)

The Calling Party Number Presentation (CPNP) for PBX Hotel-Motel (PBX HOTMOT) feature allows Hotel-Motel PBX lines to use the Per-Call-Privacy (PCP) access code. This is an addition to the existing CPNP feature.

2.2.25 Alternate Language LASS Announcement Capability

The Alternate Language Local Area Signaling Services (LASS) Announcement Capability feature offers LASS Digital

Services Unit Model 2 - Recorded Announcement Frame (DSU2-RAF) interactive announcements in either of two languages on a per-line basis.

2.2.26 Deny Automatic Callback Calls on IntraLATA PIC Calls

The Deny Automatic Callback Calls on IntraLATA PIC Calls feature provides blocking of Automatic Callback (AC) for IntraLATA toll calls that are not carried by the local exchange carrier (LEC) and are sent to private directory numbers (DN). The DN is private when the previous incoming call is received with an indication of privacy. The Deny Automatic Callback Calls on IntraLATA PIC Calls feature is available as a software update for the 5E10 software release and for the Beginning Managed Introduction (BMI) of the 5E11 and later software releases.

The Deny Automatic Callback on IntraLATA PIC Calls - Per CIC (Carrier Identification Code) Control is a feature enhancement which replaces the Deny Automatic Callback on IntraLATA PIC Calls - Basic Feature. This enhanced version of the feature is available as a software update for the 5E10 and 5E11 software releases, and for the BMI of the 5E12 and later software releases.

When the Deny Automatic Callback on IntraLATA PIC Calls - Per CIC Control feature is installed, AC will also be allowed for calls carried by those non-LEC carriers for which there is an indication, on a per CIC basis, that the blocking should not apply.

For more information, see Chapter 28, "Deny Automatic Callback Calls on IntraLATA PIC Calls."

NOTE: As of the 5E12 and later software releases, the "Deny Automatic Callback on IntraLATA PIC Calls" feature also applies to IntraLATA calls carried by the Presubscribed Local Carrier (PLC) that is non-LEC and gets provisioned by the Alternate Local Service Provider Routing (ALSPR) Feature, 99-CP-4031.

2.3 ENGINEERING

2.3.1 General

This section contains information about areas that need to be considered when deploying LASS. It is not intended to be an implementation guide. Detailed information on engineering, if applicable, is provided in each of the documents supplied.

2.3.2 Hardware

2.3.2.1 SS7 Signaling Hardware

If the LASS features are being offered as interswitch services over a Regional Bell Operating Company (RBOC) network, each office in the network must have SS7 signaling capability. For a 5ESS[®] switch, a common network interface (CNI) ring must be equipped with two 56 kbps SS7 data links. Additional transaction capability application part (TCAP) messages are required to receive data about DNs which are recalled or called back, as well as DNs to be entered on the screening list. The CNI ring is limited to five link pairs, digital or analog. See 235-190-120, *Common Channel Signaling Service Features*, for more information. The CNI ring is not needed for intraswitch LASS calls.

2.3.2.2 DSU2 Tone Transceivers

All switching modules (SMs) supporting lines to customers that subscribe to the analog version of the ICLID feature must be equipped with a Model 2 Digital Service Unit (DSU2). At least five tone transceivers must be equipped on these units. This can be done using RC/V View 20.21. The engineering rules for the transceivers are given in 235-060-110, *5ESS[®] Switch Engineering Procedures, Volume 4, Switching Module Engineering*.

The tone transceivers are needed to provide frequency shift key (FSK) signaling from the office to the display box

attached to the customer's analog phone.

2.3.2.3 DSU2-RAF

The existing announcement system, Digital Service Unit 2-Recorded Announcement Function (DSU2-RAF), is used by the LASS SLE to collect digits and to provide announcements, prompts, and confirmation tones.

A minimum of two DSU2-RAF-BRCS service groups are required. The DSU2 service groups, used for automatic customer station rearrangement (ACSR) and remote access to call forwarding (RACF), are also used for LASS Screen List Editing. The quantity of service groups required is an engineering consideration. For Two-Level AC and COT, circuit packs TN833 and TN1053 are required. For LASS Screen List Editing service groups, all three circuit packs (TN833, TN1053, and TN1054) are required.

2.3.2.4 SLC[®] Carrier System Channel Units

For information concerning which SLC[®] carriers work with ICLID and SDA and the appropriate packs required, refer to 256-015-300, *SS7 Operation, Administration, and Maintenance*.

2.3.2.5 Announcement Trunks

The LASS features require four additional recorded announcements, if the Unidentified Call Rejection (UCR) feature is not offered, or five additional announcements if the UCR feature is offered. The LASS features require five additional recorded announcements, if the UCR feature is not offered, or seven additional announcements, if the UCR feature is offered. Announcement trunks must be wired from trunk units in the SMs to the 13A/14A/15A announcement unit(s).

2.3.2.6 13A/14A/15A/16A Announcement Channels

Because of the need to support nine different announcements, a supplementary 13A, 14A, 15A or 16A announcement unit may be needed. Additional recorded announcement channels (four) are required for the SCA, CAR, and SCR features. These announcements are used for harsh and gentle announcements for originators of DN(s) that are not accepted for SCR, and for denial announcements for originators of DN(s) not accepted for SCA or CAR. See the following documents:

- 201-519-101, *13A-Description and Operating Procedures, Common Systems, Issue 3*
- 201-519-301, *13A SD97753-01 Operating, Testing, and Trouble Analysis Procedures, Common Systems, Issue 2*
- 201-521-101, *14A Announcement System Description and Operating Procedures, Common Systems.*
- 201-522-101, *15A Description and Operating Procedures, Common Systems*
- 201-523-101, *16A Description and Operating Procedures, Common Systems*

It is also possible to use the same recorded announcement for several LASS features, in which case not all 13 channels may be necessary. Suggested wording for these announcements can be found in the Bellcore Class Technical References.

2.3.2.7 COT Data Link and Printer

A 1200-bps (or higher speed) asynchronous modem should be connected to an input/output processor (IOP) Teletypewriter TN-74, and to a line ending at the security agency where the COT printer is located. See 235-105-231, *Hardware Procedures—Growth*, for more information.

The printer could also be located in the office, in which case the modems may not be necessary, provided RS232C requirements can be met.

The COT Data Link transparency feature allows service providers to offer the COT feature without requiring a dedicated data link to print the trace messages. This feature also allows the flexibility of sending the COT messages over an existing data link, if desired.

2.3.3 Memory Allocation

2.3.3.1 Line History Block Memory

A line history block is a data block assigned to a customer's terminal for retention of an incoming or an outgoing DN. The AC, AR, COT, and LASS Selective features require line history blocks which use dynamic office dependent data (ODD) memory.

Incoming Line History Blocks — The AC, COT, and LASS Selective features require an incoming line history block (ILHB) which stores information about the last calling party. Every termination to a terminal which has an associated ILHB updates it with the calling DN. As a result, the ILHB always stores the full DN, regardless if the call is an intragroup call and is dialed via an extension.

Outgoing Line History Block — The AR feature requires an outgoing line history block (OLHB) which stores information about the last called party.

From the dynamic ODD memory engineering point of view, 150 kilobytes need to be reserved for the line history blocks for an SM of 4K lines before AC, AR, COT, or LASS Selective features are made available to the user.

An input message **OP:RELSpace** can be utilized to find the current size for the line history relations for the SM (**AN_ILHB**, **IS_ILHB**, **AN_OLHB**, and **IS_OLHB**). This input message is useful in determining whether growth of dynamic ODD memory is needed when changing LASS feature access option from subscription (flat rate) to generally available (usage sensitive). In this case, the line history blocks that have been allocated for subscribed customers should be counted as part of the 150 kilobytes. The difference between the result from the **OP:RELSpace** and 150 kilobytes should be counted as the extra memory needed for line history blocks.

An input message **OP:ODD** can be utilized to find out the available dynamic ODD memory for the SM. An input message **ST:UODDGRW** can be utilized to grow dynamic ODD memory.

Further information about these input messages is included in the Input/Output Message Manual, 235-600-700 and 235-600-750.

2.3.3.2 ICLID Calling Number Delivery Data

Each DN that is assigned an ICLID CND (that is, line identification) feature is assigned 16 bytes of dynamic data. Call processing information, including the ICLID CND usage-sensitive billing counts, is kept here.

2.3.3.3 LASS Selective Features Data

2.3.3.3.1 General

Logical termination (ltm) relations are the key in associating LASS Selective features to the customer's DN. These relations hold the index to their associated screen list; that is, the sca_idx attribute in relation SCA_LTM is the key to that user's SCA screen list. The LASS Selective features assignment is based on the customer's DN. Pictorial representations of the data layout for these associated logical termination or "ltm" relations are as follows:

SCA_LTM

ltm_type	ltm_idx	sca_idx	gen_avail	bs_rg_ind	sca_nat	car	fwd_dn

SCF_LTM

ltm_type	ltm_idx	scf_idx	gen_avail	bs_rg_ind	fwd_dn

SCR_LTM

ltm_type	ltm_idx	scr_idx	gen_avail	harsh

SDA_LTM

ltm_type	ltm_idx	sda_idx	gen_avail

These relations use ltm_idx and ltm_type as keys to associate the LSF features with the customer's DN. For example, if a customer has the LSF SCA feature assigned, there must be exactly one tuple in the SCA_LTM relation for this customer with the customer's ltm_idx and ltm_type as keys. These relations are also created to hold line-based user's options for termination treatments, index for accessing their screen list, and subscription (flat rate) or general availability (usage sensitive) indication.

The following assumptions have been made for easy calculation of the memory usage:

- Feature penetration is based on the 5E9 software release Feature Penetration Models for Large Metropolitan Offices.
- The feature penetration is 8 percent for each LASS Selective feature.
- 65 percent of the lines are individual lines; 35 percent of the lines are multiline hunt group lines.
- All the SCA users are individuals lines; all the CAR users are multiline hunt group lines.

The SM ODD size for these relations can be estimated as follows:

SCA_LTM and SCF_LTM

$4000 \text{ lines/SM} \times 8\% \times 65\% \times 1 \text{ tuple/line} \times 44 \text{ bytes/tuple} = 9152 \text{ bytes}$

SCR_LTM and SDA_LTM

$4000 \text{ lines/SM} \times 8\% \times 65\% \times 1 \text{ tuple/line} \times 8 \text{ bytes/tuple} = 1664 \text{ bytes}$

There are 12 relations that represent the SLE screen list. Of these 12, they break into three categories: subscription (Flat Rate), generally available (usage sensitive), and multiline hunt group. In each category, there exists one screen relation for each feature. These relations are as follows:

RELATION NAME	TYPE	FEATURE
RLgensca	Generally Available	SCA
RLgenscf	Generally Available	SCF
RLgenscr	Generally Available	SCR
RLgensda	Generally Available	SDA
RLlsfsca	Subscription	SCA/CAR
RLlsfscf	Subscription	SCF
RLlsfscr	Subscription	SCR
RLlsfsda	Subscription	SDA
RLlsfhca	Multiline Hunt Group	SCA/CAR
RLlsfhcf	Multiline Hunt Group	SCF
RLlsfhcr	Multiline Hunt Group	SCR
RLlsfhda	Multiline Hunt Group	SDA

Pictorial representations of the data layout for the screen lists are presented in "System Operation", Section 7.6 . However, for more specific information, please refer to the poprules.

2.3.3.3.2 Individual Screen List

One tuple per subscribed feature is allocated regardless of activation when a feature is assigned via recent change. Screening lists for generally available users are dynamically allocated or deallocated through Screen List Editing.

While the Screen List Editing capability is required to voice back the screen list entry exactly the same way the customer entered it, the LSF terminating feature requires DN's in order to match with the incoming call DN's. As a resolution, DN's are stored in the relation even if a customer enters an extension. When a customer enters an extension, the corresponding DN and this extension are stored on the screening list (in two consecutive DN fields) for voice-back purposes. The DN has DN_NUNXT in the ext_dn field, which indicates the extension is stored in the next DN slot. The entered extension has NUEXT in the ext_dn field. A private DN on the screen list is marked by setting the ext_dn field to DN_PRIV and is not echoed back to the user during an SLE session. DN_SEVEN and DN_TEN in the ext_dn field are used to indicate whether a user has entered a 7- or 10-digit DN. The ext_dn field is used for voice-back purposes during an SLE session.

The LSF features support up to 31 DN's on each screen list. Considering both memory and real-time efficiency, each tuple is designed to hold up to 6 DN's. In most cases, no more than 6 tuples are allocated to store 31 DN's. However, since an extension entry takes two DN positions (the extension and its corresponding 10-digit DN), up to 11 tuples are allocated as a worst case if all entries are extensions.

Three to six DN's are stored for each LSF user. The SM ODD size for these relations can be estimated as follows:

$$4000 \text{ lines} \times 8\% \times 65\% \times 1 \text{ tuple/line} \times 48 \text{ bytes/tuple} = 9984 \text{ bytes}$$

A screen list for a given multiline hunt group may exist simultaneously on multiple SM's. When updating the screen list of the lead DN of a multiline hunt group, SLE updates data on the current switching module and the module where the hunt member resides. In the SM where member 1 of the hunt group exists, there are two screen lists which apply to the hunt group. The standard edit list (LSFSCA, LSFSCF, LSFSCR, LSFSDA) looks like any other list for an individual DN subscription user. The other list (LSFHCA, LSFHCF, LSFHCR, LSFHDA) is specially constructed to take up less space than the normal list. The multiline hunt group list has a different structure from the individual line screen list. Its maximum size is also 31 entries. When SLE accesses the standard list, it searches the multiline hunt group list for an equivalent entry and updates it as well.

Based on the 5E9 software release, Feature Penetration Models for Large Metropolitan Offices, the following additional assumptions can be made:

- Average 43 MLHG's per SM.
- All the SCA users are individuals lines; all the CAR users are multiline hunt group lines.
- 30 DN's stored in the list for each MLHG.

The SM ODD size for these relations can be estimated as follows:

LSFHCF, LSFHCR and LSFHDA (8% feature penetration)

$$43 \text{ MLHG's} \times 8\% \times 196 \text{ bytes/tuple} = 674 \text{ bytes}$$

LSFHCA (15% feature penetration)

$$43 \text{ MLHG's} \times 15\% \times 196 \text{ bytes/tuple} = 1264 \text{ bytes}$$

2.3.3.3.3 List Size

The maximum number of DN's a user may have on a screening list for a particular feature is defined as office parameters [RC View 8.21 (SCA MAX SIZE, SCF MAX SIZE, SCR MAX SIZE, SDA MAX SIZE, and CAR MAX

SIZE)]. **A user is not allowed to add DNs beyond the office limits.**

When the office reduces the maximum, there may be users who have more DNs than the new maximum number. Therefore, Screen List Editing and Recent Change do not allow those users to add further entries to the list until they first remove enough DNs to reduce their list size to below the new maximum. There is no mechanism to determine the largest list in an office.

2.3.4 Software

The LASS features for non-ISDN customers are available in all SM configurations (basic, standard, and loaded).

The LASS features for ISDN customers are available only in SMs configured for ISDN (loaded SMs).

For information on SM configurations, see 235-070-100, *Administration and Engineering Guidelines*, and 235-105-2xx, *Software Release Retrofit Procedures*.

2.4 LASS FORMS AND VIEWS

This section provides a comprehensive listing of those recent change and/or office data assembler (ODA) forms that are new for the LASS features or have been modified to support LASS. In addition, existing forms that may be required to administer and implement LASS are also provided.

Table 2-1 included in this section contains a list of existing forms that were created for the LASS feature, forms that were modified to support LASS implementation, and forms that have not been explicitly modified for LASS, but may be necessary for implementation purposes.

Detailed information on the affected RC views can be found in "Data", Section 2.7, in this overview, and in the individual LASS feature descriptions. In addition, refer to 235-118-2xx, *Recent Change Procedures*, and 235-080-100, *5ESS®- 2000 Switch Translations Guide*.

Table 2-1 RC/ODA Office Records

VIEW NO.	FORM	VIEW NAME	OFF. REC.	DESCRIPTION
1.6	line	RC LINE0	5109-1,2,3	Composite Line
1.8	linefa	RBRASG_TN		BRCS Assignment—TN View
1.10		RLNCP2		Line Copy (Line Assignment)
1.11	linefa	RFA_TN	5112	BRCS Feature Assignment (Line Assignment)
1.12	linefa	RACT_TN		BRCS Feature Activation (Line Assignment)
1.47	lsaclpa	RLSACLPA	5970-2	AC Line Parameter
1.48	lsarlpa	RLSARLPA	5971-2	AR Line Parameter
4.1	lcc	RC_LCC	5306	Line Class Code
4.19	athfcos	RATHFCOS	5619-4	Authorization Code Feature Class of Service Parameter
4.48	lssl	RLSSL	5981A-1,-2 5981-1, -2	LSF Screening List
5.1	tkgrp	RC_TKGP	5200 5202-2/3/4	Trunk Group
5.5	trunk	RC_TRK1	5204-1,2	Trunk Features and Assignment
8.1	ofcopt	RC_PARAM	5509	Office Options
8.17	dsapp	RC_DSAPP	5537	Direct Signaling Application
8.18	lassfa	RLASSFA	5973 a	LASS Feature Access
8.19	lassck	RLASSCK	5946 a	Choke List
8.20	lasspfx	RLASSPFX	5947 a	LASS Prefix Exception List
8.21	lassop	RLASSOP	5945 a	LASS Office Parameters
8.22	sfsys	RC_SFU	5713	Secured Feature Upgrade

8.60	anndg	RC ANNDG	5532	Announcement Digit Inflection Scheme
8.61	annhd	RC ANNHD	5531	Announcement Header Phrase List
8.62	anntr	RC ANNTR	5533	Announcement Trailer Phrase List
8.63	phrase	RC PHRASE	5534	Announcement Phrase List
8.64	annapl	RC ANNAPL	5529	Announcement Application SM List
8.65	dispmg	RLDISPMG	5980	Display Message
9.1	das	RC DAS	5300-1	Digit Analysis Selector
9.2	pdit	RC PDIT	5300-2	Prefix/Feature Digit Interpreter Table
9.3	ldit	RC LDIT	5300-3/5	Local Digit Interpreter Table
9.10	ipdgp	RIDDEF	56014	Individual Dialing PlanGroup Definition
9.13	idpdca	RIDDCA	5601-1/2	Individualized Dialing Plan Dialed Code Assignment
9.26	idprcm	RIDPRICM	5601-11	IDP Reverse Code Assignment
9.27	idprdca	RIDPRDCA	5601-12	IDP Reverse Intercom Range
10.1	fixrt	RC FIXRT	5301-1	Fixed Route (Routing)
10.2	rtidx	RC RTIDX	5314	Route Index (Routing)
10.10	rar	RC SCRIN	5301	Screening (Charging)
12.2	clustr	RCLSTR	e5600	Cluster Definition
12.5	cfggrp	RC CFGGRP	5964	Configuration Group Definition
12.43	dispfd	RDISPFD	5965	Display and Privacy (PCP) Feature Definition
12.44	lidfd	RLIDFD	5966	Line Identification (CND) Feature Definition
12.47	lsacfd	RLSACFD	5970-1	AC Feature Definition
12.48	lsarfd	RLSARFD	5971-1	AR Feature Definition
12.49	lscotfd	RLSCOTFD	5972	COT Feature Definition
12.54	lscarfd	RLSCARFD	5979	CAR Feature Definition
12.55	lsscafd	RLSSCAFD	5975	SCA Feature Definition
12.56	lsscfd	RLSSCFD	5976	SCF Feature Definition
12.57	lsscrfd	RLSSCRFD	5977	SCR Feature Definition
12.58	lssdafd	RLSSDAFD	5978	SDA Feature Definition
15.9		RC CLUST		Cluster Member Table
15.10		RC SST		Subsystem Information
15.11		RC CNIGTT		Global Title Translation
20.21	eqds2p	RC EQDS2	5740	Digital Service Unit 2 Pack Equipage
23.2	dsl	RC_DSL	5900-1/2/3 5900a1-a5 5900b1-b5	Digital Subscriber Line
23.8		RBRI TN		DSL/BRCS Assignment— TN View
23.30		RDS2CP1		OE Line Copy
Notes:				
a. This office record is utilized for retrofit purposes only.				

2.5 IMPLEMENTATION GUIDELINES

This section gives the sequence of steps recommended for installation of the LASS features in a 5ESS®- 2000 switch. Some of the steps only apply to a single feature and, therefore, may be skipped if that feature is not being installed.

- (1) If the LASS features are offered as interswitch services, verify that SS7 ISDN User Part (ISUP) trunk signaling is operational and used between all offices in the network. This major step is a prerequisite for the operation of interoffice LASS. interswitch calling line information. See 235-190-120, *Common Channel Signaling Service Features*, for additional information.
- (2) If LASS features are offered as interswitch services, populate LASS SS7 TCAP data for direct interoffice signaling throughout the network. Not required for ICLID or COT. Prerequisite: Previous step. See "SS7 Data", Section 2.7.1, in this overview for details.
- (3) Determine if the COT data link mode of operation is dedicated or nondedicated. In the dedicated mode of operation and COT messages are sent to TTY45; in the nondedicated mode of operation, COT messages are sent to what is specified on the classdef form (160). Use the SET:COT input message to set the mode of operation. If the mode of operation is dedicated, perform COT Data Link Growth Procedures (needed only for COT). See 235-105-231, *Hardware Change Procedures— Growth*. If the mode of operation is nondedicated,

set up the assignment on the Equipment Configuration Data Base View [160].

- (4) Initialize the ULARP process in the AM by typing **INIT:ULARP** at the MCC. This starts the COT *UNIX*[®] system process (AScotSys) (needed only for COT).
- (5) Equip and record 13A/14A/15A or 16A announcement channels. See the following documents:
 - 201-519-101, *5ESS[®] - 2000 13A Description and Operating Procedures, Common Systems*
 - 201-519-301, *13A SD97753-01 Operating, Testing, and Trouble Analysis*
 - 201-521-101, *14A Description and Operating Procedures, Common Systems.*
 - 201-522-101, *15A Description and Operating Procedures, Common Systems*
 - 201-523-101, *16A Description and Operating Procedures, Common Systems*
- (6) Build the required number of new LASS announcement trunks and associated routing data using RC Views 5.2, 5.5, and 10.2 as follows:
 - Nine for AC/AR/COT features
 - Four for CAR/SCA/SCR features
 - One for UCR feature
 - One for dual timer activation of AC/AR.

On RC View 10.2, the route type is specified (that is, when routing to an announcement for the office, the route type specified must be "announcement"). See 235-080-100, *Switch Translations Guide, Division 3*.

- (7) Equip DSU2-RAF to provide announcements, prompts, and confirmation tones for the LASS Selective features and for COT and AC Two-Level Activations. See "Screen List Editing", Section 2.2.5, in this overview and 235-105-231, *Hardware Change Procedures—Growth*.

Equip DSU2 boards with tone transceivers in all SMs that support analog ICLID CND customers (needed only for analog ICLID). See "Engineering", Section 2.3.

- (8) Customize announcements by populating, modifying, and verifying announcement phrases and headers (RC Views 8.64, 8.60, 8.61, 8.62, 8.63, 8.65) and build the fixed route indexes (2LEVEL, SLE) for the announcements (RC View 10.1).
- (9) Perform dynamic ODD line history block sizing checks. See "Memory Allocation", Section 2.3.3.1, of this overview.
- (10) Populate Office Privacy Parameter View (View 8.1). See "DN Privacy Office Option", Section 2.7.2.2, of this overview.
- (11) Define any required LASS constructed features not supplied by the ODA generated ODD, using the following RC/V Views, as applicable:
 - 12.43 - Display and Privacy
 - 12.44 - ICLID

- 12.47 - AC
- 12.48 - AR
- 12.49 - COT
- 12.54 - CAR
- 12.55 - SCA
- 12.56 - SCF
- 12.57 - SCR
- 12.58 - SDA.
- 12.62 - BCLID
- Populate the LASS Office Parameters View (View 8.21). Prerequisite: Definition of LASS features that are to be used as generally available (usage sensitive) features when not using the default office generally available (usage sensitive) features. See "Data", Section 2.7 , of this overview for more information.
- Populate AC/AR Choke List (View 8.19) (needed only for AC and AR). See "Automatic Callback", Section 2.2.1 , and "Automatic Recall", Section 2.2.2 , for more information.
- Populate the Secured Feature Upgrade View (View 8.22) needed for Limited Two-Level Activations of AC and COT, POLIN, UCR, and Removal of COT Agency Follow-Up Number features. Determine the SLE interface for the announcements and displays. This view sets the transparency feature optioning (TFOS) bit and the security bit used to provide LASS special feature assignment. Obtain the password attribute from the Lucent Technologies Secured Feature Administrator.
- Populate implied Numbering Plan Area (NPA) fields in Local Digit Interpreter Table (LDIT) forms (View 9.3) (needed only for AC, AR and SLE). See "Data", Section 2.7 , for more information.
- Populate the LASS Prefix Exception list (View 8.20) (needed only for AC and SLE). See "Automatic Callback", Section 2.2.1 , and "Screen List Editing", Section 2.2.5 , for more information.
- Populate AC Reverse Intercom tables (Views 9.26 and 9.27) (needed only for AC). See "Automatic Callback", Section 2.2.1 , for more information.
- Define LASS feature access codes in Primary Digit Interpreter (PDIT) View (View 9.2)
- Define LASS feature access codes for Individualized Dialing Plan (IDP) customers (View 9.13). These access codes must be defined in the IDP.
- Add LASS feature buttons to button configurations of ISDN customers (View 12.5).
- If any LASS feature is being made generally available set to NO, the corresponding allow field for any DN that the customer has requested be denied the feature (Views 1.6 and 23.2).
- Add LASS features to Feature Clusters and BRCS Feature Groups (BFGs) that need them (Views 12.2, 12.9).
- Populate the BCLID group parameters using RC View 4.62. This parameter data includes the BCLID group, the Business Customer Identification Number (BCID), the Applications Processor Identification (AP SITE ID), the Alternate Applications Processor Identification (ALT AP SITE ID), and the BCLID

Group Active (GRP ACTIVE).

- Assign features and line parameters to lines that subscribe to them. (Views 1.6, 1.8, 1.11, and 23.8. Views 1.47, and 1.48 for customized feature parameters).
- Assign features and line parameters to a BCLID group using RC View 1.62. RC View 1.62 provides for feature line parameter assignment keyed by Telephone Number (TN), Office Equipment Number (OE) plus Party (PTY), or Multiline Hunt Group (MLHG) plus Member (MEMB) for an assigned BCLID feature.
- Turn the features on by updating the LASS Access Options View (View 8.18). See "LASS Feature Access", Section 2.7.2.3, in this overview for additional information.
- Build the screening list(s). The screening lists for the LASS Selective features can be built interactively during an SLE session or can be built using RC View 4.48.
- If an IDP customer desires to enter a star (*), a number sign (#), or both, as part of an extension list entry or an RTN during an SLE session, a field, SLE SYMBOL, must be set in the customers IDP Group Definition View, View 9.10.
- To assign the BCLID feature to a trunk group, use RC View 5.1. RC View 5.4 can be used to assign a BRCS feature to the trunk group. If a trunk group needs additional members, RC View 5.5 can be used to assign new members. If the trunk group contains a terminal group. RC View 5.11 can be used to assign a terminal group feature to a trunk group member.

2.6 LASS GENERAL FEATURE ADMINISTRATION

2.6.1 General

There are two ways to administer LASS features: subscription and generally available. Not all LASS features can be accessed both ways.

(1) Subscription features:

- All-Call Privacy
- Automatic Callback
- Automatic Recall
- Calling Number Delivery
- Customer-Originated Trace
- Per-Call Privacy
- Computer Access Restriction
- Selective Call Acceptance
- Selective Call Forwarding
- Selective Call Rejection
- Selective Distinctive Alert

- Bulk Calling Line Identification

(2) Generally Available features:

- Automatic Callback
- Automatic Recall
- Customer-Originated Trace
- Per-Call Privacy
- Selective Call Acceptance
- Selective Call Forwarding
- Selective Call Rejection
- Selective Distinctive Alert

For All-Call Privacy, the feature is assigned via the Line and DSL assignment views and forms. See "ICLID", Section 2.2.4 , and 235-080-100, *5ESS® Switch Translations Guide*, for more details. The following paragraph and succeeding sections on generally available and subscription access apply only to those LASS features that can be made generally available (AC, AR, COT, PCP, SCA, SCF, SCR, and SDA).

Each of the LASS features has a Wild Card feature definition. It is recommended that the usage sensitive feature be used for general availability. See Table 2-2 for a list of the preconstructed LASS features.

Table 2-2 LASS Preconstructed Features

FEATURE	FEATURE NAME	FEATURE DESCRIPTION
/COT*	Customer-Orig Trace	Wild Card
/COT1	Customer-Orig Trace	Flat Rate
/COTGA	Customer-Orig Trace	Usage Sensitive
/DI*	Display And Privacy	Wild Card
/DIDLX	Display And Privacy	Deluxe Display Feature
/DIDNP	Display And Privacy	Per Call Privacy
/DIINSP	Display And Privacy	Inspect Feature
/DITD	Display And Privacy	Time and Date Feature
/DIGA	Display And Privacy	Usage Sensitive
/LAC*	Automatic Callback	Wild Card
/LAC1	Automatic Callback	Flat Rate
/LACGA	Automatic Callback	Usage Sensitive
/LAR*	Automatic Recall	Wild Card
/LAR1	Automatic Recall	Flat Rate - Voice Only
/LAR1D	Automatic Recall	Flat Rate - Circuit-Switched Data Only
/LARGAD	Automatic Recall	Usage Sensitive - Circuit-Switched Data Only
/LARGA	Automatic Recall	Usage Sensitive - Voice Only
/LAR1VD	Automatic Recall	Flat Rate - Voice or Circuit-Switched Data
/LARGAVD	Automatic Recall	Usage Sensitive - Voice or Circuit-Switched Data
/LI*	ICLID	Wild Card
/LICNDA	ICLID	CND - All Terminals - Flat Rate
/LICNDP	ICLID	CND - Prim Terminal only - Flat Rate
/LIDLXA	ICLID	CND - All Terminals & OCLID - Flat Rate
/LIDLXP	ICLID	CND - Prim Terminal only & OCLID - Flat Rate

/LIDADA	ICLID	CND All Terminals Act & Deact - Usage Sensitive
/LIDADA0	ICLID	CND All Terms Act/Deact & OCLID - Usage Sensitive
/LIDADP	ICLID	CND Prim Terminal Act & Deact - Usage Sensitive
/LIDADPO	ICLID	CND Prim Term Act/Deact & OCLID - Usage Sensitive
/LIOCLID	OCLID	Outgoing Call ID Feature
/SA*	Selective Call Acceptance	Wild Card
/SCAFR	Selective Call Acceptance	Flat Rate
/SCAGA	Selective Call Acceptance	Usage Sensitive
/SA*	Computer Access Restriction	Wild Card
/CARFR	Computer Access Restriction	Flat Rate
/CARUS	Computer Access Restriction	Usage Sensitive
/SF*	Selective Call Forwarding	Wild Card
/SCFFR	Selective Call Forwarding	Flat Rate
/SCFFRR	Selective Call Forwarding	Flat Rate Ringing (Ping Ring)
/SCFUS	Selective Call Forwarding	Usage Sensitive
/SCFGA	Selective Call Forwarding	Usage Sensitive (Ping Ring)
/SJ*	Selective Call Rejection	Wild Card
/SCRFRG	Selective Call Rejection	Flat Rate Gentle
/SCRFRH	Selective Call Rejection	Flat Rate Harsh
/SCRUSH	Selective Call Rejection	Usage Sensitive Harsh
/SCRGA	Selective Call Rejection	Usage Sensitive
/SD*	Selective Distinctive Alert	Wild Card
/SDAFR	Selective Distinctive Alert	Flat Rate
/SDAGA	Selective Distinctive Alert	Usage Sensitive

However, the feature that is used for general availability can be any feature defined in the office (except the Wild Card feature). This parameter is set on the Office Parameter View 8.21. For information on the specific Wild Card and Preconstructed features, see the individual feature sections in this document and 235-080-100, *5ESS® Switch Translations Guide*.

2.6.2 Access to the Feature

The craftsperson is able to indicate how access to each LASS feature is allowed and restricted on RC View 8.18. Each feature can be individually set to the desired access type (AC, AR, COT, PCP, SCA, SCF, SCR, and SDA fields). An access value of "GENAVAIL" indicates that the feature is generally available to all applicable users in the SM. An access value of "SUBSCR" indicates that the feature can be accessed via BRCS subscription only. For detailed information on RC View 8.18, refer to "LASS Feature Access", Section 2.7.2.3.

2.6.3 Line Type Assignments and Restrictions

The types of lines that are automatically allowed access, when the feature access office option for the AC, AR, COT, or PCP is set to generally available, are indicated with G (GENAVAIL) in Table 2-3.

Table 2-3 Initial LASS Features

LINE TYPES	COT	AR/AC	CND ^a	PCP	ACP ^a
Individual	G/S	G/S	S	G/S	S
4-Wire Individual	G/S	G/S	S	G/S	S
ISDN BRI ^b	G/S	G/S	S	G/S	S
ISDN PRI	D	D	S	D	S
Attendant	G/S	G/S	S	G/S	S
ISDN Attendant	G/S	G/S	S	G/S	S
PBX Line	G/S	G/S	S	G/S	S
911	D	D	S	G/S	S
Charge-A-Call	D	D	D	D	S
Stand-Alone Test Line	D	D	D	D	S
TLWS Talk/Local Monitor Phone	D	D	D	G/S	S
Hotel/Motel	D	D	D	D	S
COIN	D	D	D	D	S

Two-Party	D	D	D	D	S
Multi-Party	D	D	D	D	S
MLHG	G/S	G/S	S	G/S	S
LTSB (1 DN)	G	D	D	G	S
LTSB (2 DN)	D	D	D	D	S
PBX Trunk	D	D	D	D	S
Secondary Only DN—Non Shared	NA	NA	S	NA	S
Coinless Public Telephones	D	D	D	D	S
Notes:					
a. Not accessible as a generally available feature.					
b. ISDN stations supporting multiple calls.					

The line types that can be allowed access to the AC, AR, COT, PCP, CND, and ACP subscription features are marked with S (subscription). The line types that are permanently denied access to both the generally available and subscription features are marked D (denied). The line types that are assigned as a terminal feature are marked NA (not applicable).

The appropriate ILHB and OLHB memory blocks are automatically assigned to the "G" classes of service whenever the feature access office options are set to GENAVAIL. Technicians may deny these accesses on a line-by-line basis with the appropriate RC Line Assignment View.

2.6.4 Line Type Assignments and Restrictions

The types of lines that are automatically allowed access when the feature access office option for the SCA, SCF, SCR, SDA is set to generally available are indicated with G (GENAVAIL) in Table 2-4. The line types that can be allowed access to the CAR, SCA, SCF, SCR, SDA, subscription features are marked with S (subscription). The classes of service that are permanently denied access to both the generally available and subscription features are marked D (denied).

Table 2-4 LASS Features

LINE TYPES	CAR ^a	SCA	SCF	SCR	SDA
Individual Analog	S	G/S	G/S	G/S	G/S
4-Wire Individual (analog)	S	G/S	G/S	G/S	D
ISDN BRI ^b	S	G/S	G/S	G/S	G/S
ISDN PRI	D	D	D	D	D
Attendant	D	D	D	D	D
MLHG	S	S	S	S	S
LTSB (1 DN)	S	G/S	G/S	G/S	G/S
LTSB (2 DN)	D	D	D	D	D
ISDN Attendant	D	D	D	D	D
PBX Line	S	G/S	G/S	G/S	G/S
PBX Trunk	D	D	D	D	D
911	D	D	D	D	D
Charge-A-Call	D	D	D	D	D
Stand-Alone Test Line	D	D	D	D	D
Secondary Only DN—Non Shared	S	S	S	S	S
TLWS Talk/Monitor Phone	D	D	D	D	D
Hotel/Motel	D	D	D	D	D
COIN	D	D	D	D	D
Two-Party	D	D	D	D	D
Multi-Party	D	D	D	D	D
Coinless Public Telephones	D	D	D	D	D
Notes:					
a. Not accessible as a generally available feature.					
b. ISDN stations supporting multiple calls.					

2.6.5 Access by the Customer

2.6.5.1 General

The LASS features can be offered to customers as a BRCS subscription feature on a per-DN basis or per-terminal basis as described in "Scope of Section", Section 2.1. They can also be offered to a set of users based on class of service without a service order through the "generally available" (usage sensitive) capability (refer to Table 2-4). These features may also be offered in a BRCS feature group (BFG) or in feature clusters.

See "Line and DSL Assignment Views", Section 2.7.2.10, for more details.

2.6.5.2 Assumptions About CPE

Both touch-tone (DTMF) and rotary dial analog stations are supported by LASS.

The ISDN multibutton stations that follow Part V of the 235-900-341, *National ISDN BRI Specification*, are also supported (types A, B, C, D, and ATT). These stations, which support multiple call appearances, may also provide feature button and display capabilities. (The *LASS Feature Description* sections contain further feature button and display interactions and restrictions.) The type E (basic data) terminal is not supported by LASS features. The ISDN stations that support only Part IV of the BRI Specification are not supported by LASS.

2.7 DATA

This section discusses data population considered critical to the proper operation of the LASS features. These issues are: LASS SS7 TCAP data, implied NPA data, LASS office parameters, and LASS feature access data. Additional information can be found in the 5ESS® switch recent change documentation listed at the beginning of this document, in "Scope of Section", Section 2.1, as well as in the individual feature descriptions.

2.7.1 SS7 Data

2.7.1.1 Background Information

This section is provided to define some of the terminology necessary to describe the SS7 data required to support LASS.

2.7.1.1.1 LASS Network

A LASS network consists of several end offices interconnected by trunks that use SS7 ISUP signaling. The offices are also connected to signal transfer points (STPs) through 56-kbps SS7 signaling links. The network may also include tandem offices that use SS7 ISUP signaling. A more detailed description of SS7 networks is given in 235-190-120, *Common Channel Signaling Service Features*, for 5ESS® switch networks.

Subsystem information must be consistent throughout the network. For detailed information on consistency, refer to 256-015-200, *SS7 Network Data Base and Routing*. Global title translations must be set up on the STP. If these translations are missing, SS7 discovers it and sends a failure code in the "reason" field indicating there is no global title translation.

2.7.1.1.2 Trunk Signaling and Direct Signaling (ISUP and TCAP)

It is common to distinguish between two kinds of SS7 signaling messages: trunk signaling messages and direct signaling messages.

Trunk signaling messages are associated with circuits (trunks). These messages are used for interoffice call setup and tear-down procedures and for trunk maintenance activities. The SS7 protocol used for these messages is called ISDN User Part (ISUP). Note that these messages are used to set up calls for analog or ISDN customers. The name ISDN User Part only stresses that this protocol provides a complete mapping between SS7 interoffice signaling messages and ISDN messages.

Direct signaling messages are exchanged between members of an SS7 network to provide information not immediately associated with a call or circuit. The LASS features use these messages to exchange information about customer lines connected to different offices. Some examples of the type of information exchanged are the busy/idle status of a line, originating or terminating restrictions, call forwarding status, etc. The SS7 protocol used for direct signaling is called Transaction Capability Application Part (TCAP).

An office may handle messages for more than one kind of direct signaling application. For example, LASS and SSP800 are two different direct signaling applications supported by a 5ESS[®] switch. The SS7 messages use a subsystem number to identify the different applications.

2.7.1.1.3 Point Codes

In an SS7 network, such as is required for interoffice LASS, each office in the network is assigned an identifying number called the point code. This assignment applies not only to end offices, but also to the signal transfer points (STPs) that perform some of the SS7 routing and translation functions, and to any tandem offices that are part of the network. A point code is a 27-bit quantity normally displayed as a string of nine digits. When the point code is displayed in this form, the left-most three digits are referred to as the network part of the point code, the middle three digits are referred to as the cluster part of the point code and the right-most digits are referred to as the cluster member part of the point code.

2.7.1.1.4 Routing Messages by Point Code

If the point code of the office to which an SS7 message is destined is known, the sending office specifies this point code when submitting the message to the SS7 network. This is known as "routing by point code." It is used for routing SS7 ISUP trunk signaling messages and also for routing the responses to some of the direct signaling (TCAP) messages used by LASS.

2.7.1.1.5 Routing with Global Title Translation

For certain messages, the sending office may not know the point code of the destination office. Such is the case for LASS direct signaling "queries" sent to obtain information about the status of a directory number (DN). What is known instead is a 10-digit DN and the direct signaling application that is sending the message (for our discussion, the application is LASS). Such messages are directed to offices capable of determining the point code of the destination office. A global title translation is performed by these intermediate offices. The office sends ten digits to be used for global title routing. The output of this translation is the point code of the end office for the DN in question, and the subsystem number that characterizes the direct signaling application (LASS) in that office. After the translation has been performed, the message is forwarded from the translating office to the destination office.

Global title translation for LASS can be performed by the STPs serving the end office that launches TCAP "queries." It is also possible to specify alternate point codes that perform global title translation (see "Global Title Translation Capability Codes (View 15.11)", Section 2.7.1.6). Such point codes are "called capability codes, alias point codes."

2.7.1.2 General Information

The SS7 data to support LASS exists not only in the AM ODD, but also in the common network interface (CNI) data base. The CNI data base is separate from the ODD and is not currently populated by the ODA process. The data base must be populated through recent change views after the CNI has been initialized. See 235-190-120, Common Channel Signaling Service Features, for more information on general CNI procedures.

In a 5ESS[®] switch, SS7 ISUP trunk signaling is a prerequisite for the operation of LASS as an interswitch service. The data population needed for ISUP is not discussed in this document. It is presented in 235-190-120, Common Channel Signaling Service Features. Here, we discuss the additions to SS7 data needed to support interoffice LASS.

The COT and ICLID features do not need any additional SS7 data. They work interoffice as long as SS7 ISUP is used for all trunk signaling in the network. The AC and AR features, on the other hand, also use direct signaling provided by SS7 TCAP, and additional data in the ODD and the CNI data base is required for this purpose. Such data is also needed to handle DN validation requests from a 1A ESSTM switch that supports the LASS Selective features. (The LASS Selective features are not part of the first offering of LASS in a 5ESS[®] switch). The data can be inserted independently of any other LASS data. However, it must be consistent with correlated data present in the STPs and in the other offices of the network.

2.7.1.3 Preparation

Make sure that the STPs, or capability codes that perform global title translations for the LASS translation type, have entries in their data bases for global title translation of all lines connected to end offices in the network.

Before populating data in the 5ESS[®] switch, the following information must be obtained from the LASS network administration:

- (1) Value of the LASS global title translation type to be used in the network.
- (2) Value of the subsystem number assigned to LASS in this office.
- (3) Any capability codes or alias point codes to be used for LASS global title translations.

2.7.1.4 LASS Subsystem Number for This Office (View 15.10)

Insert a form with a key equal to the subsystem number assigned to LASS in the office. This number must be consistent with the one the STPs have assigned to LASS in the office.

Additionally, this view is used to assign subsystem information for the CNAM subsystem number.

2.7.1.5 LASS Direct Signaling Application (View 8.17)

The LASS translation type is unique across the network; the end offices and the offices that perform the global title translations (typically the STPs themselves) must agree on its value. It is populated by means of View 8.17 with a key of LASS. This view also requires the subsystem number, which must be identical to the one used in View 15.10. If the switch queries the STP with a translation type that the STP does not recognize, the originating switch prints a craft assert on the receive-only printer. The RC View 8.17 can be used to correct the problem.

2.7.1.6 Global Title Translation Capability Codes (View 15.11)

If capability codes (also known as alias point codes) are used to perform global title translation for LASS, a form should be inserted in View 15.11. The key should be the translation type specified in View 8.17 for LASS. The other two fields are the selected capability codes.

2.7.1.7 Cluster Member Routing Data (View 15.9)

If the STPs are expected to perform the global title translations, an entry for each of the STPs must be made in View 15.9. The keys for these entries are the network and cluster of the STPs' point codes. The FLAG field should be set to LS and the LINK SET values to the values defined for the corresponding 56 kbps links on View 15.2 (LINK SET field of View 15.2).

If entries that declare capability codes for the LASS translation type have been made in View 15.11, each of those point codes must have an entry with matching network and cluster values in View 15.9. In this case, the FLAG should be set to RPOPC_C, and the LINK SET value should be equal to the COMBINED LINK SET field used for the two 56 kbps links in View 15.2.

There must also be an entry in View 15.9 for the network and cluster of each end office in the network. These entries are expected to be already present given that ISUP trunk signaling between the offices is a prerequisite for interoffice LASS. A possible exception is the situation where two offices are connected through a tandem. In this case, there may not be a cluster member entry for the far office. It should be added because AC/AR expects to exchange point code-routed TCAP messages between the two offices. Such messages do not go through the tandem.

2.7.2 Additional Critical Switch Data

In addition to SS7 data, there is other new data that is shared by the LASS feature, or old data that is being used by the LASS features. The details of this data are in the following sections.

2.7.2.1 Dialing Plan [RC Views 1.6, 4.1, 8.1, 8.20, 9.1, 9.2, 9.3, 10.2, and 10.10]

It is important for the LASS features that the Local Digit Interpreter Table (LDIT) -- Office Record #5300-3/5, RC View 9.3 implied NPA field be correctly filled out. This data along with the DEFAULT NPA (View 8.1), the LCC of the user [Views 1.6, 4.1, 9.1], and the screening and routing data (Views 10.2, 10.10) defines the dialing plan of the user.

NOTE: On RC View 10.2, make sure that all announcement route indexes specify "announcement" rather than "trunk" in the RT DES TYP field.

Automatic Callback needs the data to determine, from the NPA-NXX-XXXX in the ILHB, how the AC user would dial that DN directly; that is, the digit trees of the user are built so that the user dials NXX-XXXX, 1+NXX-XXXX, or all ten digits. (The LASSPFX data is used to decide how to "dial" the ten digits — with a 1+ or not.) See "Implementation", Section 3.6, for further information.

Automatic Recall needs the data to derive the NPA for 7-digit DNs. See "Implementation", Section 4.1.6, for further information.

Recent Change (RC) View 9.1, the Digit Analysis Selector view, contains a PDIT attribute to interpret feature access codes. The PDIT attribute is an access to RC View 9.2, Prefix/Feature Digit View, which contains the call type indicator (FEATURE) and a PDIT action field. The PDIT action field must contain a unique identifier for an SLE activation sequence. The SLE capability provides two sets of announcements, depending on the type of customer premises equipment used to access the SLE session. One set of announcements is used for SLE sessions activated from a touch-tone phone using the */# keys. The other set of announcements is used for SLE sessions that are activated from either a touch-tone phone or a dial pulse phone using the 11/12 substitute key codes. The PDIT action field on RC View 9.2 must contain a unique identifier, LSFSYM, for activations with the */# key, or LSFNOSYM for activations using the 11/12 substitute key code.

Screen List Editing needs the data populated from LDIT to determine that the DN on the list is valid. See "Screen List Editing", Section 2.2.5, for additional information.

A general rule-of-thumb for filling in the Implied NPA field on the LDIT form is as follows: For every LDIT, if the incoming digits are an NXX (meaning the user can dial the DN as a 7-digit number) where the NPA for that NXX is NOT the network management (NM) default NPA, the implied NPA field on the LDIT form must be filled in. If no data is found for an NXX, the NPA for that NXX is assumed to be the NM default NPA for the office. The NM default NPA is the DEFAULT NPA on Office Record #5509; RC View 8.1.

For the case of a split NXX hundreds group, RC/V View 4.14 (HUNDREDS GROUP ASSIGNMENT) can be populated with a routing SM and a route index. If a DN_TRAN tuple is not found for the DN, the switch will use the route index to route that call.

2.7.2.2 DN Privacy Office Option (RC View 8.1)

The DN Privacy Office Option that is the "master" switch for controlling privacy in the office is found as "DN PRIV" on RC View 8.1. A value of "N" allows Privacy features to work normally. A value of "Y" overrides Privacy features and all calls are treated as private. The default value is "N."

CAUTION: Systems with the Unidentified Call Rejection feature must have the "master" switch (DN PRIV field) set to N to receive calls.

2.7.2.3 LASS Feature Access (RC View 8.18)

The LASS Feature Access View (View 8.18) provides LASS feature access option specification on a per-SM basis.

NOTE: It is recommended that all SMs and the AM should have the same feature access option for a given feature.

On this view, each of the features that can be made generally available (usage sensitive) has a field which indicates how it can be accessed. The features that are allowed generally available (usage sensitive) are AC, AR, COT, PCP, SCA, SCR, SCF, and SDA. There are five access values as follows:

- **UNAVAIL:** This value means that the generally available feature cannot be accessed from any terminal/DN in the SM regardless of class of service. It also means that no user with a subscription (flat rate) feature assigned can access that feature. In this case, there are no assigned incoming line history blocks (ILHB) or outgoing line history blocks (OLHB). If the option has never been changed from UNAVAIL, no memory has been allocated for ILHBs or OLHBs.
- **GENAVAIL:** This value means that terminals/DNs with an allowed class of service in the SM can be used to access the generally available (usage sensitive) feature specified on RC View 8.21 (Office Record #5945 LASSOP) in the "GA FEAT" field for the specific feature (AC, AR, COT, PCP, SCA, SCR, SCF, or SDA).

If either AC, COT, SCA, SCR, SCF, or SDA is "GENAVAIL," then an ILHB is assigned to every terminal that has the respective "ALW" flag set to "Y" (on the Line and DSL Views).

If the access state is generally available (usage sensitive), this does not prohibit a user from subscribing to the feature.

If Automatic Recall is "GENAVAIL," then an OLHB is assigned to every terminal that has the "AR ALW" flag set to "Y" (on the Line and DSL Views).

The "ALW" flag is described in "LINE and DSL Assignment Views", Section 2.7.2.10 .

- **SUBSCR:** This value means that only those customers that subscribe to a LASS feature can use the feature. When a customer subscribes to AC, COT, or the LASS Selective features (including CAR), an ILHB is assigned to the terminal. When a customer subscribes to AR, an OLHB is assigned to the terminal. When a customer subscribes to the LASS Selective features, the feature is assigned where the DN is primary.
- **TEMPUNAVAIL:** This value makes the generally available (usage Sensitive) feature temporarily unavailable; that is, to temporarily "turn off" the generally available (Usage Sensitive) feature and all subscription (flat rate) feature usages WITHOUT unassigning the ILHBs (for AC, COT, and the LASS Selective features) or the OLHBs (for AR).
- **LASSDEF:** This value is used to change the access option of an SM or all the SMs to the office default value indicated by the AM access option. The AM access option can be determined by reviewing RC View 8.18 with "ALL" for SM number. This value is used to change the SMs to the AM value, but does not appear as the value of the access option for the specific feature. See the following sections for more details on use of "ALL" and "LASSDEF".

When an office initially comes up, the access options default to "UNAVAIL" in the AM and in all the SMs. Also,

during an SM growth, the access options default to "UNAVAIL." The features can then be made available, using either "GENAVAIL" or "SUBSCR" following the engineering and implementation guidelines described in "Engineering", Section 2.3, and "Implementation Guidelines", Section 2.5.

The RC View 8.18 has the capability of updating the access mode option for one or more LASS features for all the appropriate SMs in the office by allowing the key value of "ALL" to be specified. A value of "ALL" also updates the office default access in the AM for each of the features as specified on the view.

By using both the "ALL" key and "LASSDEF" for a given feature access, the access option for that feature in all of the SMs will be changed to the office default value. Using a specific SM number and "LASSDEF" changes the access option of the specified feature in that SM to that of the office default. A trivial update does not cause any change in the access option.

An example of a trivial update is: Using the "ALL" key, if the fields AC and AR are currently "GENAVAIL" on View 8.18 and if fields COT and PCP are updated to "GENAVAIL", then the access options for only COT and PCP are updated to "GENAVAIL" in all SMs. The status of AC and AR does not undergo any change.

Recommendation: All SMs and the AM or CMP should have the same feature access option for a given feature. For example, if AR is to be offered as a generally available (usage sensitive) feature, set AR to "GENAVAIL" in every SM and in the AM as described previously.

If an SM fails to update, a message indicating a failure is printed on the RC screen. In addition, a message is printed on the ROP indicating the failing SM number and the number of ILHBs or OLHBs that were inserted before the failure occurred. In most cases, execution of the view continues until attempts to update all SMs have been completed. Two LASS-specific reasons for an SM to fail such an update are: (1) the LASS loadable package is not loaded in the SM and (2) there is insufficient dynamic ODD memory to allocate all the required line history blocks.

Inter-SM consistency of LASS Selective feature (LSF) access options between SMs is necessary for proper LSF termination treatment of calls made to the main DNs and hunt DNs of multiline hunt groups (MLHGs) with LASS Selective features (SCR, SCA, CAR, SCF, SDA) assigned. LASS Selective feature screening, consisting of checks for the activation status of LASS Selective features and checks for matches of originating DNs with DNs on LSF screening lists, depends upon the values of the access options of the LASS Selective features.

If the access option for a particular LASS Selective feature has a value of SUBSCRIPTION or GENAVAIL, screening for that feature is performed for calls made to DNs with the feature assigned. If the access option has a value of UNAVAILABLE or TEMPUNAVAIL, screening is not done and terminating calls are not subject to any special terminating treatment provided by the particular LASS Selective feature.

For calls made to non-MLHG DNs and no-hunt DNs of MLHGs, the access options for the LASS Selective features are checked in the terminating SMs prior to the possibility of LSF screening. For calls made to the main DNs and individual hunt DNs of MLHGs, the access options of the LASS Selective features are checked in the "hunting SM of the MLHG" prior to LSF screening. In an MLHG, LSF screening lists are controlled by "member number one" of the MLHG. If member number one of an MLHG is located on an SM different from the hunting SM for the MLHG and the access option for a LASS Selective feature has a value of SUBSCRIPTION or GENAVAIL on the SM of member number one, but a value of UNAVAILABLE or TEMPUNAVAIL on the hunting SM, screening is not done.

For proper operation of the LASS Selective features on an MLHG, it is mandatory that the values of the LSF access options on the hunting SM of the MLHG be consistent with the values of the LSF access options on the SM of member number one of the MLHG. If the SM of member one of the MLHG has a value of SUBSCRIPTION or GENAVAIL for an LSF access parameter, the hunting SM for the MLHG also must have a value of SUBSCRIPTION or GENAVAIL for that same LSF access parameter.

The LSF screening operations do not differentiate between the LSF access parameter values of SUBSCRIPTION and GENAVAIL or between access parameter values of UNAVAILABLE and TEMPUNAVAIL. SUBSCRIPTION or GENAVAIL allows LSF screening while UNAVAILABLE and TEMPUNAVAIL prevent LSF screening.

The LASS Feature Access View (RC View 8.18) is also used when a customer changes access to the LASS features from GENAVAIL to SUBSCRIPTION. Changing this state results in the printing of an RCWARN output message on the ROP instructing the user to run the generally available (usage sensitive) static data cleanup audit. This audit is used to remove all the GENAVAIL screening lists. Therefore, if a customer desires to retain screening lists, he/she should subscribe to the LSF feature before running the audit.

The Screening Index Parameter Assignment View (View 8.24) implements the association of privacy to a screening index. This view is used in conjunction with RC View 4.1, Line Class Code. Use View 8.24 to assign privacy to the screening index, and build the line class code on View 4.1.

The LASS NPA Split Resolution View (View 8.25) adds/deletes or changes data in the NPA split table.

2.7.2.4 LASS Screen List Editing (RC View 4.48)

The LASS Screen List Editing line parameters view allows 5ESS® switch owners to create, update, delete, or review a screening list associated with an LSF feature and a line. This view is provided to assist in populating and/or verifying the lists (that is, where a customer cannot edit the list due to the terminate-only nature of a line). Most customers use the interactive screen list editing functions to administer their list(s). The attributes associated with this view are as follows:

- **TN** — 7-digit telephone number of the user.
- **MLHG** — Multiline hunt group number.
- **MEMB** — Multiline hunt group member number.
- **FEATURE** — Feature ID name same as in the feature definition.
- **FEATURE TYPE** — Feature type (SCA, CAR, SCF, SCR, SDA). This is represented by the 6 most significant bits of the feature ID. If MTYPE = SCA and CAR attribute in RLsf_cf = yes, CAR is displayed in the FEAT TYPE field. This is a display field only.
- **FWDTODN** — Forward-to DN for SCA/CAR or SCF. This is up to a 32-digit DN (remote TN to which calls are forwarded).
- **MAX LST SIZE** — The office-specified maximum potential list size for TN screening entries (3-31). This is a display field only.
- **NAT** — Nonacceptance (rejection) treatment for SCA or CAR. The range of values are **ANNC** (announcement), **FWD** (forward), or **NULL**.
- **ACC MODE** — The access mode for this feature. Access can be generally available or subscribed. This is a display field only.
- **BSRING** — Base station ringing for SCF indicates if ping ring is applied to a called line when a call is forwarded. Valid entries are **Yes** or **No**. The default is taken from the constructed feature.
- **HARSH TRMT** — Harsh (or gentle) announcement given to SCR rejected calls. Valid entries are **Yes** or **No**. The default is taken from the constructed feature.
- **LST ACT** — This attribute indicates if a feature is active or not. Valid entries are **Yes** or **No**. The default is **No**.
- **TN** — This attribute (on the second screen) is displayed as a 10-digit telephone number. This can represent a 7- or 10-digit DN or extension.
- **X** — This attribute (on the second screen) indicates if the TN voiced back is an extension. This is a display field

only.

- **P** — This attribute (on the second screen) indicates if the TN is a private number. Valid entries are **Yes** or **No**. The default is **No**.
- **DEL LST** — This attribute removes all entries from screening lists. Valid entries are **Yes** or **No**. The default is **No**.

NOTE: No validation occurs on DNs and forward-to DNs, except for a forward-to (circle) self-check.

2.7.2.5 IDP Group Definition (RC View 9.10)

A field (SLE SYMBOL) was added to the IDP Group Definition View that indicates if an end customer is allowed to enter a * (star), a # (number sign), or **none** as an RTN or part of an extension list entry in an SLE session. Default is **none**.

2.7.2.6 LASS Office Parameters (RC View 8.21)

The LASS Office Parameters (LASSOP) View (RC View 8.21, Office Record #5945) provides the global office values for administering the LASS features keyed by office ID. The attributes associated with this view are as follows:

CUST ORIG TRACE

- **AGENCY** — This parameter is the 10-digit DN that the COT user should call to find information regarding the trace. The default is null. This field must have a TN entered before COT can be made available on View 8.18. Additionally, this field is not required if the Removal of ISDN Customer-Originated Trace Agency Follow-Up Number is assigned.
- **COT GA FEAT** — This parameter contains the COT feature name for generally available (usage Sensitive) feature access. The default is "/COTGA".
- **ACTIVATE RTI** — This parameter contains a feature activated announcement confirmation route index. The valid range of route index values is 0-3617. The default is "0".
- **TRC NA RTI** — This parameter contains a route index for the trace not available announcement. The valid range of route index values is 0-3617. The default is "0".
- **NO RESRC RTI** — This parameter contains an announcement route index that indicates the COT buffer is full. The valid range of route index values is 0-3617. The default is "0".
- **COT ACT LVL** — This parameter specifies whether the COT features in the office will use the original 1-level activation where the feature runs automatically upon receiving the proper dial code, or the new 2-level activation which prompts the user to verify that they want to use the feature. Valid values are 1 or 2. The default value is "1".
- **COT WAIT TIME** — This parameter indicates the amount of time in seconds in which the user must respond to the interactive recorded announcement prompt when using two-level activation. Valid values are 1-15. The default value is "7".
- **COT MAX TIMEOUT** — This parameter indicates the number of times a user is allowed to time-out following the interactive recorded announcements when using two-level activation. Valid values are 1-5. The default value is "3".
- **COT MAX ERRS** — This parameter indicates the number of times a user is allowed to enter incorrect digits in

response to the interactive recorded announcements using two-level activation. Valid values are 1-5. The default value is "3".

- **COT COST** — This parameter is the end user cost of tracing a call. It is in the form of X dollars and Y cents. The range of X and Y is 0 to 99 (0.0 is a valid cost). There is a "null" indication associated with this parameter. The default is "null".

INDIV CLG LINE ID

- **PRI PRVT** — This parameter indicates whether the 5ESS[®] switch delivers private DNs to PRIs. Valid entries are Yes or No. The default is "Y".
- **PCP GA FEAT** — This parameter contains the PCP feature name for generally available (usage sensitive) feature access. The default is "/DIGA".

AUTOMATIC CALLBACK AND AUTOMATIC RECALL

- **B/I SCAN** — This parameter indicates the busy/idle status scan rate before AC and AR ringback. The range of values for this parameter is 45-120 seconds in 15-second intervals. The default is 60 seconds.
- **TIMEOUT** — This parameter is used to indicate the AC and AR feature time-out interval when scanning is being performed. The length of scanning can be from 15-45 minutes in 1-minute intervals. The default is 30 minutes. Since AC/AR deletes timed-out activations every 7 minutes, the actual time-out interval can vary from the value of this parameter to this parameter value plus 7 minutes.
- **SCAN MODE** — This parameter is used to indicate the first choice of scanning for the office for busy/idle status for AC and AR. ORIG (originating) and TERM (terminating) are the choices of scanning. This parameter only has significance when the switch is acting as an originating switch. The default is TERM.
- **TCAP** — This parameter is used to indicate the wait period for a response to TCAP messages. The wait period is from 1 to 10 seconds in increments of 1 second. The default is 3 seconds.
- **RNGBK TYPE** — This parameter is *not* applicable for National ISDN. It indicates the distinctive ringing pattern used for ringback for AC and AR when the generally available (usage sensitive) feature is being used. The possible values are "A," "B," "C", and "D". The default is type "C" ringing.

NOTE: For 4-wire terminals, the ringing type is hard-coded to type "F". Also for ISAT attendants, the ringing type is internally fixed (hard coded) to type A.

- **RNG CYCLE** — This parameter is *not* applicable for National ISDN. It is used to indicate the number of ring cycles for ringback. From 2 to 7 cycles are available. The default is 4 cycles.

NOTE: The 5ESS[®] switch does not control the duration of a ringing cycle from an ISDN terminal. A ringing cycle is assumed to be 5.2 seconds; therefore, ringback alerting is 5.2 X RNG CYCLE seconds. For example, if the ring cycle is 4, an ISDN terminal would ring for 20.8 seconds.

- **MAX RNGBK** — This parameter is *not* applicable for National ISDN. It is used by AC and AR to indicate the maximum number of ringback attempts per activation. It can range in value from 1 to 12 ringbacks. The default is 1.
- **RNGBK WAIT** — This parameter is *not* applicable for National ISDN. It specifies the period of time that the switch should wait after a ringback timer expiration before resuming scanning (either originating scanning or terminating scanning). The range of values for this parameter is 0 and from 3 to 12 minutes in increments of 15 seconds. The suggested value is 5 minutes when multiple ringback attempts are specified on "MAX RNGBK". If

"MAX RNGBK" is 1, "RNGBK WAIT" must be 0. The default is 0.

- **AC TO COIN** — This parameter is an office option that indicates whether Automatic Callback activations toward coin lines are allowed. Possible entries include "Y" or "N" with a suggested entry of "Y". If set to "Y", activations toward coin lines are allowed. If set to "N", activations are denied and the user is given long-term denial treatment. The default is "Y".
- **AC TN UNIQ IGN** — This parameter is an office option indicating whether Automatic Callback activations toward nonunique lines are allowed. Possible entries are "Y" or "N", with a suggested entry of "N". If set to "Y", the uniqueness indicator is ignored. If set to "N", the uniqueness indicator in the ILHB must be checked. If it is not unique, the Automatic Callback activation attempt fails. The default is "N". (See "LASS Automatic Callback", Section 3, for a discussion of uniqueness.)
- **AC GA FEAT** — This parameter contains the AC feature name for generally available feature access. The default is /LACGA.
- **AR GA FEAT** — This parameter contains the AR feature name for generally available feature access. The default is /LARGA.
- **AC CNFRM RTI** — This parameter is the Automatic Callback confirmation announcement route index. The valid range of route index values is 0-3617. The default is "0".
- **AR CNFRM RTI** — This parameter is the Automatic Recall confirmation announcement route index. The valid range of route index values is 0-3617. The default is "0".
- **LNG TRM DNY RTI** — This parameter is the shared Automatic Recall and Automatic Callback long-term denial announcement route index. The valid range of route index values is 0-3617. The default is "0".
- **AC CNCL RTI** — This parameter is the Automatic Callback feature cancellation announcement route index. The valid range of route index values is 0-3617. The default is "0".
- **AR CNCL RTI** — This parameter is the Automatic Recall feature cancellation announcement route index. The valid range of route index values is 0-3617. The default is "0".
- **PTY BUSY RTI** — This parameter is the Automatic Recall and Automatic Callback route index for the called party busy announcement. The valid range of route index values is 0-3617. The default is "0".
- **INTER LATA AC AR** — This parameter for AC and AR indicates if camp-ons to inter-LATA DNs are permitted. Valid entries are Yes or No. The default is "N".
- **AC ACT LVL** — This parameter specifies if the AC activation is a one-level or two-level activation. Valid values are 1 or 2. The default value is "1".
- **AC WAIT TIME** — This parameter indicates the amount of time in seconds in which the user must respond to the interactive recorded announcement prompt when using two-level activation. Valid values are 1-15. The default value is "7".
- **AC MAX TIMEOUT** — This parameter indicates the number of times a user is allowed to time out following the interactive recorded announcements when using two-level activation. Valid values are 1-5. The default value is "3".
- **AC MAX ERRS** — This parameter indicates the number of times a user is allowed to enter incorrect digits in response to the interactive recorded announcements using two-level activation. Valid values are 1-5. The default value is "3".
- **AC VOICE BACK** — This parameter indicates whether or not the date and time of the last call should be voiced

back to the user. The possible values of this parameter are **Yes** and **No**. **Yes** indicates that the date and time should be voiced back. The default is "Y".

- **REINIT SCAN** — This parameter is a threshold value used to indicate if the originating office should reinitiate scanning after terminating scanning has been completed. If a scan should be reinitiated due to some event occurring (for example, an AC reactivation), the amount of time remaining on the timer set by the TIMEOUT parameter must be greater than this threshold value. Valid values are between 0 and 300 seconds, in increments of 15 seconds. The default value is 300.
- **CF ACTIVE DNY RTI** — This parameter contains the route index for the AC/AR Call Forwarding Active denial announcement from the 13A/14A recorded announcement facility. This announcement is played when an AC/AR activation fails because the line that was activated has Call Forwarding active. Valid values are between 0 and 3617 (this value must be defined on the RTIDX form). If zero is used in this field, the 5ESS[®] switch gives the default treatment of reorder tone. The default value is "0".
- **AC ORIG CAMP LIM** — This parameter defines the number of Automatic Callback camp-ons that can be originated by a single port. When this parameter limit is reached, the customer is denied additional camp-ons and reorder tone is returned when an attempt exceeds the limit. Valid values are between 1 and 30. The default value is "10".
- **AR ORIG CAMP LIM** — This parameter defines the number of Automatic Recall camp-ons that can be originated by a single port. When this parameter limit is reached, the customer is denied additional camp-ons and reorder tone is returned when an attempt exceeds the limit. Valid values are between 1 and 30. The default value is "10".
- **TERM CAMP LIM** — This parameter defines the number of LASS Automatic Callback and Automatic Recall camp-ons that are allowed against a single terminating port. When this parameter limit is reached, the customer is denied additional camp-ons and reorder tone is returned when an attempt exceeds the limit. Valid values are between 1 and 20. The default value is "10".
- **MAX CAMP TIME** — This parameter indicates the length of time that a LASS Automatic Callback or Automatic Recall camp-on can remain active. A single camp-on remains active for the interval specified by the TIMEOUT parameter. A camp-on can be reactivated by the originator before this timer expires. However, it cannot be reactivated beyond the value specified by this parameter. A customer can create a new activation that can be placed at the end of the existing list of camp-ons. Valid values are between 120 and 240 minutes in 15 minute intervals. The default value is "180".

NOTE: For consistent operation of AC and AR for the customer, set "B/I SCAN," "TIMEOUT," and "RNG CYCLE" to the same values throughout the LASS network.

SCREEN LIST EDITING

- **INTER LATA SCREEN** — This parameter indicates whether an inter-LATA DN is a valid screen list entry. Possible entries are **Yes** or **No**. The default is "N".
- **MAX ERROR RETRY** — This parameter indicates the maximum number of retry attempts after an error when editing the screening list in an SLE session. Valid values are 0-4 (inclusive). The default value is "4".
- **RESP WAIT TIME** — This parameter indicates the wait time for interswitch SS7 TCAP validation response during an SLE session. Valid values are 1-10 seconds. The default is "10".
- **VALIDATE LIST ENTRY** — This parameter determines if the office requires SS7 TCAP validation of customer-entered TNs before allowing them on the screening list. Valid entries are **Yes** or **No**. The default is Y.

- **USE BELLCORE SLE** — This parameter indicates which SLE interface should be provided: **Y** indicates Bellcore SLE interface, **N** indicates Lucent Technologies SLE interface. Default is **N**.

SELECTIVE CALL ACCEPTANCE

- **SCA MAX SIZE** — This parameter indicates the maximum number of entries that can be on an SCA screening list. Valid values are 3-31. The default is "6".
- **SCA REJ RTI** — This parameter indicates the office routing index used for the rejection treatment announcement for SCA. Valid values are 0-3617. The default value is "0".
- **SCA REJ BILL** — This parameter determines whether or not to bill for SCA reject treatment. The valid entries are **Yes** or **No**. The default is "N".
- **SCA GA FEAT** — This parameter contains the SCA feature name to be used for generally available (usage sensitive) SCA. Default is "/SCAGA".

COMPUTER ACCESS RESTRICTION

- **CAR MAX SIZE** — This parameter indicates the maximum number of entries that can be on a CAR screening list. Valid values are 3-31. The default is "6".
- **CAR REJ RTI** — This parameter indicates the office routing index used for the rejection treatment announcement for CAR. Valid values are 0-3617. The default value is "0".
- **CAR REJ BILL** — This parameter determines whether or not to bill for CAR reject treatment. The valid entries are **Yes** or **No**. The default is "N".

SELECTIVE CALL REJECTION

- **SCR MAX SIZE** — This parameter indicates the maximum number of entries that can be on an SCR screening list. Valid values are 3-31. The default is "6".
- **HARSH RTI** — This parameter defines the office routing index to be used for the "Harsh" announcement for SCR. Valid values are 0-3617. The default value is "0".
- **HARSH BILL** — This parameter determines whether or not to bill for the "Harsh" rejection treatment. Valid entries are **Yes** or **No**. The default is "N".
- **GENTLE RTI** — This parameter defines the office routing index to be used for the "Gentle" announcement for SCR. Valid values are 0-3617. The default value is "0".
- **GENTLE BILL** — This parameter determines whether or not to bill for the "Gentle" rejection treatment. Valid entries are **Yes** or **No**. The default is "N".
- **SCR GA FEAT** — This parameter contains the SCR feature name to be used for generally available (usage sensitive) SCR. The default is "/SCRGA".

SELECTIVE DISTINCTIVE ALERT

- **SDA MAX SIZE** — This parameter indicates the maximum number of entries that can be on an SDA screening list. Valid values are 3-31. The default is "6".

- **SDA GA FEAT** — This parameter contains the SDA feature name to be used for generally available (usage sensitive) SDA. The default is "/SDAGA".

SELECTIVE CALL FORWARDING

- **SCF MAX SIZE** — This parameter indicates the maximum number of entries that can be on an SCF screening list. Valid values are 3-31. The default is "6".
- **SCF GA FEAT** — This parameter contains the SCF feature name to be used for generally available (usage sensitive) SCF. The default is "/SCFGA".

FORWARDING TREATMENT

- **FORWARDING MAX** — This parameter determines the maximum number of times the call can be forwarded intra-office from one station to another station. Valid values are 1-32. Default is "5". This parameter applies to the number of times a call is sequentially forwarded by any forwarding feature. This parameter is checked when a call is sequentially forwarded by SCF, SCA, or CAR. Note that the maximum number of forwardings allowed for a call may decrease but never increase as the call moves from one station to another. This may occur because of the possible differences in the forwarding limits for parameters of various forwarding features during multiple forwardings of a call. For a call being forwarded in any particular office, the FORWARDING MAX parameter for that office becomes inapplicable and does not affect the call whenever it is forwarded to another office.
- **SIM INTER OFC FWD** — This parameter determines the number of calls that can be simultaneously forwarded interoffice from a single port by a single LSF forwarding feature (SCA, SCF or CAR). Valid values are 0-99. The default value is "1". This parameter applies to the number of concurrently active calls that have been forwarded interoffice from a single base station by a single LSF feature which may be SCF, SCA, or CAR.
- **SIM INTRA OFC FWD** This parameter determines the number of calls that can be forwarded simultaneously intra-office from a single port by a single LSF forwarding feature (SCA, SCF or CAR). Valid values are 0-99. The default value is "99". This parameter applies to the number of concurrently active calls that have been forwarded intra-office from a single base station by a single LSF feature which may be SCF, SCA, or CAR.

BULK CALLING LINE IDENTIFICATION

- **BILLING CYCLE** — This parameter specifies if the BCLID billing cycle is 1, 2, 3, 4, 6, 8, 12 or 24 hours long. The default value is 24 hours.

2.7.2.7 Secured Feature Upgrade (RC View 8.22)

The Secured Feature Upgrade View (View 8.22) provides feature security. To activate secured features, contact the Lucent Technologies Secured Feature Administrator for assistance. In a new start office, the Secured Feature Administrator activates a secured feature through ODA. In an existing office, the Secured Feature Administrator provides instructions including the necessary password (PASSWD) for using this recent change view to activate the features. Some examples of secured features are two-level activation of Automatic Callback/Customer-Originated Trace, POLIN, UCR, Removal of the COT Agency, Analog Calling Name Delivery (CNAM), Calling Number Presentation (CPNP), and LASS NPA Split Resolution (LNPAS). The feature parameter attributes associated with this view consist of the following:

- **FEATURE ID** — This parameter is the Secured Feature identification number. It will be a number between 0 and 499. This number can be found in 235-118-2xx, Recent Change Reference.

- **MODULE** — This parameter identifies the Secured Feature Processor Number. Contact the Lucent Technologies Secured Feature Administrator for the usage of AUD, RDY, and OFC.

Enter processor: 1 to 193, CMP, AUD, RDY, or OFC where:

1-192	=	Switching Module
193	=	Administrative Module
CMP	=	Communication Module Processor
AUD	=	Audit
RDY	=	Ready
OFC	=	Office.

For Two-Level Automatic Callback, COT, POLIN and UCR, enter OFC. There is no default value.

- **PASSWD** — This field is used to specify the secured feature password required to activate or deactivate a secured feature. A special password must be obtained from the Lucent Technologies Secured Feature Administrator in order to activate features. The general password 'DEACT' may be used to deactivate any special feature. Reactivating the special feature requires a password from the Secured Feature Administrator.

Enter up to 8 characters to activate, or 'DEACT' to deactivate the feature. Obtain the password from the Lucent Technologies Secured Feature Administrator.

- **ACTIVE** — This parameter is used to determine the feature activation status. Enter **Yes** or **No**. The default value is "N".

2.7.2.8 Optioned Features View (RC View 8.31)

Recent Change View 8.31, Optioned Features, allows activation and deactivation of Optioned Features. This view was created to differentiate Optioned Features from Secured Features. Secured Features are described on the Secured Feature Upgrade View (8.22).

After the feature is activated, the transparency feature optioning (TFOS) bit is set to provide access to options used to enable special features. Setting the TFOS bit does not require assistance from the Lucent Technologies feature administrator, but it depends on a feature in the 5ESS[®] switch. The TFOS bit determines whether a customer has two-level activation of Automatic Callback/Customer-Originated Trace, POLIN, Limited Intragroup Individual Calling Line Identification (LIGI), recording and charging for Unidentified Call Rejection announcement, the BQPN option of the Analog Calling Name Delivery feature, the options of NPA split resolution feature and the capability to interface with the announcements and displays Use Bellcore SLE Interface feature. The feature parameter attributes associated with this view consist of the following:

- **FEATURE ID** — This parameter is the Optioned Feature Identification number. Optioned Feature IDs are used to allow the service provider to select feature operation. Optioned Feature IDs are applicable for transparency features, secured features, or fixes that require software optioning. Optioned Feature IDs can be activated or deactivated by the user without assistance from Lucent Technologies.

Enter a number from 500 to 755 or 900. This number can be found in 235-118-2xx, Recent Change Reference.

- **MODULE** — This parameter identifies the Optioned Feature Processor Number. Optioned Feature IDs can be administered on a per-switching module basis or per-office basis by use of this field. Note that the value of 'AUD' is valid only for the review operation and the value of 'CMP' is valid only when the FEATURE ID is 900.

Enter processor: 1 to 192, AUD, CMP, or OFC where:

1-192	=	Switching Module
CMP	=	Communication Module Processor
AUD	=	Audit
OFC	=	Office.

For Two-Level Automatic Callback, COT, POLIN and UCR, enter OFC. There is no default value.

- **ACTIVE** — This parameter is used to determine the feature activation status. When a processor number is specified in the **MODULE** field, an active status of 'Y' indicates that the feature is active in that processor and a status of 'N' indicates that the feature is not active in that processor. When 'OFC' is specified in the **MODULE** field, an active status of 'Y' indicates that the feature is active in the entire office and a status of 'N' indicates that the feature is not active in the entire office but may be active in one or more processors. Enter **Yes** or **No**. The default value is "N".

2.7.2.9 Display Message View

Recent Change View 8.65, Display Message, contains all of the ISDN display messages for LASS features. These display messages are used by call processing when the customer using the LASS feature has an ISDN terminal with display capability. The attributes associated with this view are as follows:

- **DISP TYPE** — This parameter indicates the display message type. Valid entries are AC, INSP (inspect), COT, and SLE.
- **DISP ID** — This parameter indicates the display identification number. This number is the same as the announcement number (1 through 189). Valid entries are numbers from 1 to 255.
- **MESSAGE** — This parameter is the 1 to 40 character message that is displayed.

2.7.2.10 Line and DSL Assignment Views

The following Line and DSL Assignment Views have been modified to include one "ALW" flag for each LASS feature which can be generally available (usage sensitive):

RC Views 23.2 and 1.6. The field names for the "ALW" flag are as follows:

- Automatic Callback: "AC ALW"
- Automatic Recall: "AR ALW"
- Customer-Originated Trace: "COT ALW"
- Per-Call Privacy: "PCP ALW"
- Selective Call Acceptance: "SCA GA ALW"
- Selective Call Forwarding: "SCF GA ALW"
- Selective Call Rejection: "SCR GA ALW"
- Selective Distinctive Alert: "SDA GA ALW."

The generally available (usage sensitive) feature can only be accessed by nonsubscribing users when the access value for the feature is "GENAVAIL." Then, if a user is allowed to access the generally available (usage sensitive) LASS feature, the "ALW" flag for that feature is set to "Y". See "LASS General Feature Administration", Section 2.6, for the line types that are allowed access to the features. See the following discussion for RC administration of the "ALW" flags.

When a LASS feature is generally available (usage sensitive), being allowed access to the generally available (usage sensitive) LASS features does not require POTS lines to be BRCS lines (that is, the "BRCS" field on the Line

Assignment and DSL Assignment RC Views can be "N"), but it does require plain old digital service (PODS) (ISDN) lines to be BRCS lines.

Subscribing to a LASS feature is the same as subscribing to any BRCS feature. If a LASS feature is subscribed to, the line is marked as BRCS.

A user can subscribe to a specific LASS feature regardless of the value of the access type for that kind of LASS feature (that is, on RC View 8.18). For example, if the access option for AR is "GENAVAIL" and if the user has subscribed to an AR feature, the specific subscription (flat rate) feature is used, not the generally available (Usage Sensitive) one. However, if the access option is "UNAVAIL" or "TEMPUNAVAIL," the subscription (flat rate) feature cannot be used by the customer. The "ALW" flag for the user does not need to be set to "Y" before the user can access a subscription (flat rate) LASS feature. When a user subscribes to a LASS feature, RC sets the related "ALW" flag to "Y" for AC, AR, COT, and PCP.

CAUTION: For AC, AR, COT, and PCP, if a subscription (flat rate) LASS feature is removed from a customer, the related "ALW" flag for that customer is "Y". Even if it was "N" before the customer subscribed to the LASS feature. If access to the generally available (usage sensitive) feature is not wanted, the "ALW" flag must be specifically set to "N" via service order after the subscription (flat rate) feature is removed.

LASS "ALW" and "GA ALW" fields administered by RC are as follows:

- The LASS "ALW" fields automatically get updated to "Y" in the following cases:
 - An analog or ISDN line is inserted with a service class supported by LASS.
 - A line is updated from an invalid to a service class supported by LASS.
 - A line time slot bridging (LTSB) line is converted to a non-LTSB line (AC and AR).
 - An ISDN PODS [A, B, C, D, and ATT (AC, AR, COT, and PCP)] line is given a valid term type and a single line appearance. ATT (attendant) lines cannot have LSF features.
 - A line is assigned the feature via subscription (flat rate) for AC, AR, COT, and PCP.
- The LASS "ALW" bits automatically get updated to "N" in the following cases:
 - An analog or ISDN line is inserted with a service class not supported by LASS.
 - A line is updated from a LASS supported to a LASS nonsupported service class.
 - A non-LTSB line is converted to an LTSB line (AC and AR).
 - A Custom ISDN line is converted to PODS (A, B, C, D, and ATT).
 - The AC, AR, COT, and PCP "ALW" allow fields are changed to **No** for a line with a service class not supported by LASS.
- The LASS "ALW" flags can also be set to "N" for specific terminals where the customer does not want access to the feature even though the class of service of the terminal is allowed. This is done by the craftsperson on the appropriate Line or DSL Assignment View.
- An error is displayed in the following cases:
 - The "ALW" fields for LASS Selective features SCA, SCF, SCR, and SDA are changed to "Y" for a line with service class not supported by LASS.

- The AC and AR "ALW" fields are changed to "Y" for an LTSB line.
- The "ALW" fields are changed to "Y" for a PODS line.
- The "ALW" fields are changed from "N" to "Y" when there is a subscription (flat rate) feature assigned to the terminal for AC, AR, COT, and PCP. "GA ALW" is not changed in this case.

- Line moves and copies are as follows:

Whenever a line is moved or copied from an SM that has a LASS feature access option of GENAVAIL to another SM without the GENAVAIL access, a message is printed on the ROP warning the customer that the LASS feature is not generally available on the destination SM. For Screen List features on a line copy, the screening list contents are not copied.

2.8 SWITCH REPLACEMENT ISSUES

For detailed information concerning switch replacement issues, refer to 235-190-120, Common Channel Signaling Service Features.

2.8.1 LASS Feature Mapping

2.8.1.1 Generally Available (Usage Sensitive)

"Data", Section 2.7, describes the way in which the technicians can administer the feature access office options for LASS features. The access options are changeable via Recent Change View 8.18. When replacing an existing office (for example, the 1A ESSTM switch) which has supported LASS features via generally available access, the access values for AC, AR, COT, PCP, SCA, SCR, SCF, and SDA default to UNAVAIL.

2.8.1.2 Subscription (Flat Rate)

When replacing an existing office, the access values for AC, AR, COT, PCP, SCA, SCR, SCF, and SDA default to UNAVAIL. General switch replacement procedures should be followed for administering LASS subscription (flat rate) feature access. Users who have the features on the 1A ESSTM switch via subscription (flat rate) can be assigned the equivalent 5ESS[®] switch feature with identical options via ODA procedures. The feature access office options can be changed after office initialization via RC View 8.18, and the appropriate memory blocks are then allocated, provided sufficient memory has been engineered.

2.8.2 LASS Class-of-Service Access

Tables 2-3 and 2-4 provide a summary of the line types that are automatically allowed or denied access to LASS features when the respective feature access office option is set to GENAVAIL. Technicians may go in and deny the allowable class-of-service access on a line-by-line basis with the appropriate RC view. There is no capability to deny the LASS features on a class-of-service basis with one recent change field or setting.

2.8.3 Intragroup Filtering Options

For the AR and AC features, the following two filtering options are allowed:

- (1) Assigning the features as unrestricted, which allows users unrestricted use of the features.
- (2) Intragroup restricted, which prevents users from activating the features toward parties outside of their centrex or business group.

These options can be specified via RC Views 12.47 and 12.48, or via the equivalent ODA forms.

There is no capability to restrict users from activating the features toward parties within their centrex or business group while allowing activations toward parties outside of their group.

2.8.4 Screen List Editing DN Validation Queries

The LASS package supports responses to SLE TCAP DN validation queries. These queries could be sent from surrounding offices which have SLE capabilities in service.

2.8.5 Distinctive Ringing Pattern Defaults

The AR/AC distinctive ringing pattern defaults to ringing pattern C in order to be transparent with the 1A ESSTM switch. For LASS Selective Distinctive Alert, the ringing pattern for analog users is pattern G. The ringing for pattern G is 0.3 second on a 0.2 second off, 1 second on and 0.2 second off, 0.3 second on and 4 seconds off. For ISDN users, the signal information element is populated with pattern #2.

2.9 LASS BILLING

2.9.1 LASS Structure Code 01030

A LASS customer can be billed on a subscription (flat rate) or generally available (usage sensitive) basis only. A new LASS structure code for usage sensitive billing has been defined. The *Automatic Message Accounting* sections contain more information for each of the LASS features. The following layout depicts the new LASS structure code (01030). LASS AMA Record Format Structure Code 01030 (AMA Record for AC, AR, COT, PCP, SLE, SCR, SCF, and SDA Events)

Information	Table Number	Number of Characters
1. Call Type	1	4
2. Sensor Type	2	4
3. Sensor Identification	3	8
4. Recording Office Type	4	4
5. Recording Office Identification	5	8
6. Date	6	6
7. Service Feature ^a	415	4
8. Activating NPA	13	4
9. Activating Directory Number	14	8
10. Far-End Overseas Indicator	15	2
11. Far-End NPA ^b	16	6
12. Far-End Directory Number ^b	17	8
13. Time	18	8
14. Elapsed Time	19	10
15. LASS Function	330	4
16. Feature Status	331	4
17. Screen List Size for SCF	B.2	4
18. Screen List Size for SCR	B.2	4
19. Screen List Size for SDA	B.2	4

AMA Record	Service Feature Code	AMA Record	Service Feature Code
AC React-Delayed Process	32	AC Busy Ringback	64
AR React-Delayed Process	33	AR busy Ringback	65
AC React-Busy Ringback	34	AC Time-Out	66
AR React-Busy Ringback	35	AR Time-Out	67
AC React-Time-out	36	AC Deactivation	68
AR React-Time-out	37	AR Deactivation	69
AC React-Deactivation	38	COT Activation	70
AR Reactivation Deactivation	39	SCF Editing	71
Total Separation SCF	52	SCR Editing	72

SLE Daily Continuation II	53	SDA Editing	73
AC Immediate Processing	60	SLE Daily Continuation I	74
AR Immediate Processing	61	OE Privacy Access (PCP)	75
AC Delayed Processing	62	SCF Single Activation	76
AR Delayed Processing	63	AC 2 Level Activation	95
Notes:			
a. Service features for AC, AR, COT, PCP, SLE, SCR, SCF, and SDA Events			
b. For SCF feature activation/deactivation via a feature button, these fields are populated with all "fs" if the forward-to DN is not a full 10-digit DN.			

2.9.2 AMA Structure Code 09015

AMA Structure Code 09015 is used for both LASS BCLID and LASS ICLID. To distinguish between the two features, the call types are different. The call type for BCLID is 331, and the call type for ICLID is 332.

The CND maintains counts per DN data on CND usage. The data is collected and formatted for usage sensitive customers every 24 hours. Sometimes, it is necessary to generate a billing record before the 24-hour collect request (for CND count overflow and for the Automatic Customer Station Rearrangement feature).

The counts that are maintained include the following:

- The count of available DNs delivered
- The count of unavailable and private DN indicators delivered.

This data is preserved over selective initializations.

The layout of the structure code for daily CND usage is as follows:

Structure Code 09015

(Daily AMA Record for Usage Sensitive CND Subscribers)

Information	Table Number	Number of Characters
1. Call Type	1	4
2. Sensor Type	2	4
3. Sensor Identification	3	8
4. Recording Office Type	4	4
5. Recording Office Identification	5	8
6. Date	6	6
7. Time	18	8
8. NPA	13	4
9. Directory Number	14	8
10. Count of Available DNs	B.3	6
11. Count of Unavailable & Private DNs	B.3	6
12. NPA	13	4
13. Directory Number	14	8
14. Count of Available DNs	B.3	6
15. Count of Unavailable & Private DNs	B.3	6
16. NPA	13	4
17. Directory Number	14	8
18. Count of Available DNs	B.3	6
19. Count of Unavailable & Private DNs	B.3	6

Call Codes Recorded	Corresponding Call Types
331 - BCLID	
332 - ICLID	52

Note that this structure code allows for packing three CND subscribers into one AMA record.

For more information covering the LASS ICLID feature description, see "Billing", Section 6.8.2 . For more information covering the LASS BCLID feature description, see "Billing", Section 13.7.2 .

2.9.3 CAR/SCA AMA Structure Code 1360

An event record using a new structure code, 1360, is created for each access to the SCA/CAR screening list that results in a change in the feature status or an edit of the SCR/CAR screening list. Additionally, a continuation record with the same structure code is made daily (3:07 a.m.) for each customer with an SCA/CAR screening list. The following layout depicts Structure Code 1360. LASS AMA Record Format for SCA and CAR Structure Code 1360 Call Code 330

Information	Table Number	Number of Characters
1. Call Type	1	4
2. Sensor Type	2	4
3. Sensor Identification	3	8
4. Recording Office Type	4	4
5. Recording Office Identification	5	8
6. Date	6	6
7. Service Feature	415	4
8. Activating NPA	13	4
9. Activating Directory Number	14	8
10. Far-End Overseas Indicator	15	2
11. Far-End NPA ^a	16	6
12. Far-End Directory Number ^a	17	8
13. Time	18	8
14. Elapsed Time	19	10
15. LASS Function	330	4
16. LASS Status Option II	394	4
17. Screen List Size for SCA	B.2	4
18. Screen List Size for CAR	B.2	4
19. Screen List Size for Reserved	B.2	4
20. Screen List Size for Reserved	B.2	4
21. Screen List Size for Reserved	B.2	4
22. Screen List Size for Reserved	B.2	4
23. Screen List Size for Reserved	B.2	4

AMA Record	Service	AMA Record	Service
AC React-Delayed Process	32	AR Busy Ringback	65
AR React-Delayed Process	33	AC Time-Out	66
AC React-Busy Ringback	34	AR Time-Out	67
AR React-Busy Ringback	35	AC Deactivation	68
AC React-Time-out	36	AR Deactivation	69
AR React-Time-out	37	COT Activation	70
AC React-Deactivation	38	SCF Editing	71
AR Reactivation Deactivation	39	SCR Editing	72
Total Separation SCF	52	SDA Editing	73
SLE Daily Continuation II	53	SLE Daily Continuation I	74
AC Immediate Processing	60	OE Privacy Access (PCP)	75
AR Immediate Processing	61	SCF Single Activation	76
AC Delayed Processing	62	AC 2 Level Activation	95
AR Delayed Processing	63	SCA	79
AC Busy Ringback	64	CAR	99
Notes:			
a. For SCF feature activation/deactivation via a feature button, these fields are populated with all "fs" if the forward-to DN is not a full 10-digit DN.			

2.10 LASS TRAFFIC MEASUREMENTS

The following traffic sections have been added or modified for LASS.

2.10.1 Section 72

For ICLID CND, the number of messages with DNs sent to customers is reported in the 30-Minute Traffic

Measurements Report (TRF30), Section 72, ISDN BRCS AND LASS ANALOG OFFICE TOTALS.

2.10.2 Section 76

A new section, Section 76, has been added to the 30-Minute Traffic Measurements Report (TRF30) for the LASS features. Each specific *Measurements* section of this document contains more information for each of the LASS features.

2.11 AUDITS

LASS introduces eleven audits: ANILHB, ANOLHB, ISILHB, ISOLHB, FCLINE, CNDDATA, DBCND, ICLIDIDX, BCLGCNT, BCLLCNT, CNAMDATA. These audits run as part of the normal routine audit cycle as well as when requested at the MCC, or when scheduled via an assert. These audits do not run in direct mode as a result of an assert. See 235-600-400, Audits Manual, for more information.

LASS features use the ANILHB and ISILHB audits in addition to four audits which follow. These four audits verify the ODD for the LASS Selective features.

- **BRCS Static Data Audit** — Requests an audit of the Business and Residence Customer Services relations to check for split translations in static office dependent data. The format of the audit is as follows:

MML

EXC: AUD=SODD, RELATION=BRCS_REL, SM=b [&&c] ;

The translations in the static office dependent data are examined by specifying BRCS-to-PORT(BP), PORT-to-BRCS(PB), or ALL. This audit verifies the consistency between the relations SCA_LTM/SCF_LTM/SCR_LTM/SDA_LTM and DN_FEATS.

- **ISDN Static Data Audit** — Requests an audit of the ISDN relations to check for split translations in static office-dependent data. The format of the audit is as follows:

MML

EXC: AUD=SODD, RELATION=IS_LINE, SM=b [&&c] ;

The "RELATION" option reads every tuple in IS_LINE and, if there is a BFG assigned, it verifies if SCA_LTM/SCF_LTM/SCR_LTM/SDA_LTM exists and is populated inside a BFG.

- **Line Static Data Audit** — Requests an audit of the line relations to check for split translations in the static office dependent data. The format of the audit is as follows:

MML

EXC: AUD=SODD, RELATION=FC_LINE, SM=b [&&c] ;

The "RELATION" option reads every tuple in FC_LINE and, if there is a BFG assigned, it verifies if SCA_LTM/SCF_LTM/SCR_LTM/SDA_LTM exists and is populated inside a BFG.

- **Generally Available Static Data Cleanup Audit** — Requests an audit to remove all of the generally available screen lists. This audit is used after the access mode for a LASS Selective feature is changed from GENAVAIL to SUBSCR (View 8.18). This audit removes all LSF screen lists which are not attached to a subscribed feature. The format of the audit is as follows:

MML

EXC: SODD:LSF, {SCR|SCA|SCF|SDA} [, SM=b [&&c]], OUTFILE=d;

2.12 INPUT/OUTPUT MESSAGES

The following input/output messages have been added for LASS:

- **OP:RELSpace** is a new input message introduced by LASS. This input message is useful for finding the relation size of any static or dynamic relation. "Line History Block Memory", Section 2.3.3.1, discusses how this input message should be used for LASS.

- **OP:LASSRQST** is a new input message added specifically for LASS. This input message allows the craftsperson to manually validate a DN for entering on a screening list. Validation must follow a specific format.
- **OP:COT-STATUS** is a COT input message used to request the mode of operation (dedicated, nondedicated), the priority of messages, and the number of messages in the COT message buffer.
- **REPT:COT-MANUAL** is a COT output message that reports that a defensive check failure (assert) has occurred in a LASS COT feature that requires manual action. Refer to the Input/Output Message Manual for additional information.
- **REPT:COT,BUFFER** is a COT output message that reports the LASS COT trace buffer is 50 or 100 percent full. Refer to the Input/Output Message Manual for additional information.
- **SET:COT** is a COT input message used to request changes changes in the mode or operation or the priority of COT messages. This command allows the device that COT messages are sent to be a dedicated (TTY45) channel, or be sent to the device specified on the classdef form (nondedicated). This message will also allow the priority of the messages sent to the classdef form be changed.

3. LASS AUTOMATIC CALLBACK

3.1 GENERAL

3.1.1 Definition

The Automatic Callback (AC) feature enables a user to automatically place a call to the last incoming calling directory number (LICDN) of the terminal. The LICDN is defined as the address of the last party that called. Automatic Callback feature activation enables an end-user to automatically call back the last incoming calling directory number currently associated with the end-user's terminal.

If the call cannot be completed immediately [because the called directory number (DN) is busy], then the Automatic Callback feature enables the calling terminal to camp-on to the LICDN. When both the calling DN at the calling terminal and the LICDN are found to be idle, the calling terminal is given Automatic Callback ringback (Custom ISDN) or notification (National ISDN) alerting. If the ringback/notification is answered, then the LICDN is alerted.

For ISDN, idle at the calling terminal is defined as an available voice B-channel and an available originating call appearance associated with the calling DN. Idle at the called terminal is defined as an available terminating call appearance at the called DN and an available voice B-channel.

Limited Two-Level Activation of the Automatic Callback feature makes the dialing of an access code to activate the feature only an initial step of feature activation. When a user dials the AC access code, an announcement indicating that the AC feature has been accessed along with the LICDN (if not marked private) is played. After being prompted by an announcement, a user may dial a "1" to finalize the request or hang up to cancel the request. Limited Two-Level Activation of the Automatic Callback feature is available for analog terminals only.

Enhanced Two-Level Activation of Automatic Callback feature makes the dialing of an access code to activate the feature only an initial step of feature activation. After being prompted by an announcement, a user may dial a "1" to finalize the request or hang up to cancel the request. Enhanced Two-Level Activation of the Automatic Callback feature is available for both analog and ISDN terminals.

NOTE: Display interactions apply to Custom ISDN *only*.

This feature should not be confused with Automatic Callback-Calling (ACBC).

This feature is equivalent to Bellcore's Class Automatic Recall feature, TR-TSY-000227, and is available only on circuit-switched voice calls.

3.1.2 Economic Worth

The economic worth to the telephone company is in the terms of revenue generation and ease of implementation. The Local Area Signaling Services (LASS) features use existing customer lines to provide end-users with call management capabilities. These features are based on the delivery of calling party number via the local signaling network. The revenue-generating LASS features are available for both residence and business customers.

3.1.3 Availability

The LASS Automatic Callback feature is a member of the LASS Automatic Callback feature group.

Limited Two-Level Activation of Automatic Callback is a secured and optioned feature. Only analog terminals are supported by the Limited Two-Level Activation of the Automatic Callback feature.

NOTE: Display interactions apply to Custom ISDN *only*.

Enhanced Two-Level Activation of Automatic Callback supports Analog and both Custom ISDN and National ISDN terminals.

The **Private Option for Last Incoming Number (POLIN)** is a secured and optioned feature that ensures that the calling party number is not revealed and is treated as private by LASS Automatic Callback, Automatic Recall, and Screen List Editing features. This feature provides a per-office option allowing service providers to have the last incoming call directory number (LICDN) which is stored in a line's incoming line history block considered private when AC/AR or SLE try to retrieve it and voice it back or display it to the user. The POLIN feature does not affect analog users of AC.

The **Dual Timer Queuing and Related AC/AR Enhancements** feature adds additional capabilities to the existing AC feature. These additional capabilities are as follows:

- Callers that activate AC to lines with forwarding active are routed to a short-term denial announcement (call forwarding). This feature applies to Call Forwarding Variable (CFV), Call Forwarding Incoming Only (CFIO), Call Forwarding In A Group (CFIAG), Call Forwarding Night Service (CFNS), Selective Call Forwarding (SCF), Selective Call Acceptance (SCA) with forwarding, or Computer Access Restriction (CAR).
- Dual Timer Queuing Activation allows a caller to maintain his/her queue position when a reactivation request is made.
- AC Reactivations provide an AMA recording of activation and reactivation separately. If a reactivation is initiated by a subscriber, an AMA billing record is created.
- AC Concurrent Activation Limit and Line Queue Size Limit provides a concurrent activation limit of up to 30 requests per line.
- AC Activation Requests Towards an MLHG with Queuing, having either an idle member or an empty basic queue position, are considered idle.
- The originating scanning rate interval is modified. Previously, the originating scanning rate was set at 45 to 120 seconds in 15-second intervals. With the Dual Timer Queuing and Related Enhancements feature, the originating scanning rate is extended to 30 to 120 seconds in 15-second intervals.
- The originating switch has the capability to reinitialize scanning if a comparison of the feature timer and an office parameter (REINIT SCAN) finds that time remaining on the feature timer is greater than the office parameter.

The Limited Intragroup ICLID (LIGI) feature allows the calling DN to be displayed at the terminating station set when calls originate and terminate within the same terminal group. This feature is an optioned feature. For additional information, refer to 235-190-104, *5ESS[®] Switch ISDN Feature Descriptions*.

3.1.4 Feature Application

The Automatic Callback feature is provided on a per-line basis.

3.2 USER PERSPECTIVE

3.2.1 User Profile

Business and residence customers that desire to automatically return the last incoming call to continue a conversation are the likely candidates for this service. If the call cannot be completed because the called party is busy, the line is camped-on.

For analog and Custom ISDN, when both stations become idle, the calling party is given ringback ringing. Upon answering, the called station will be rung.

For National ISDN, when the called party becomes idle, the calling party receives notification. If the calling party originates, the notification will be answered, and the called station will be rung.

3.2.2 Customer Premises Equipment

The type of customer premises equipment (CPE) expected to be the most widely used with Automatic Callback is an analog station set. Both dual tone multifrequency (DTMF) and dial pulse (DP) sets are supported.

Other CPE supporting AC are ISDN types A, B, C, and D terminals with and without display capability, and ISDN types A, B, C, and D terminals with and without an AC feature button.

For two-level activations of AC, type C terminals must support in-band signaling; that is, terminals must be able to respond to interactive announcements via in-band DTMF signals when the 5ESS[®] switch informs the CPE that further information is available in band. The CPE must respond in band using DTMF signals. Also, National ISDN must support in-band signaling for two-level activation of AC. See 235-900-341, *National ISDN Basic Rate Interface Specification*. ISDN Basic Call terminals are not supported.

3.2.3 User Operation

3.2.3.1 Invoking the Feature

The Automatic Callback feature allows the subscriber to automatically call back the last calling party. An end-user may activate Automatic Callback by going off-hook and using the Automatic Callback feature to automatically place a call to the LICDN.

One-Level Activation: One-Level Activation is available for both analog and ISDN users. The end-user with an analog terminal goes off-hook and dials the Automatic Callback feature access code. The end-user with an ISDN terminal goes off-hook, selects an idle call appearance, and then may dial the Automatic Callback access code; or else, the end-user may depress the Automatic Callback feature button and then press the call appearance button again.

Two-Level Activation: For **Limited** Two-Level Activation, the analog users go off-hook and dial the AC access code. Instead of activating Automatic Callback immediately, the user hears an interruptible announcement indicating that the Automatic Callback feature has been accessed along with the LICDN (if not private). If the LICDN is marked private, the LICDN is not repeated, and the announcement indicates that it is private. The user is prompted to enter a "1" to continue feature activation, or hang up to discontinue activation. If a user dials something other than "1," or does nothing, another announcement is heard prompting the user to dial "1" or hang up. When the user dials a "1" after hearing the announcement, the Automatic Callback feature is activated. The user is allowed to dial incorrectly up to three times or dial nothing up to three times after hearing the announcement. After three attempts, if the user dials incorrectly or dials nothing, whichever comes first, the user hears a noninterruptible announcement with instructions to hang up, look at written instructions, and try again later. The AC feature is not activated.

Enhanced Two-Level Activation of AC is available to both analog and ISDN users. The end-user with an analog terminal goes off-hook and dials the Automatic Callback feature access code. The end-user with an ISDN terminal goes off-hook, selects an idle call appearance, and then may either dial the Automatic Callback access code or depress the Automatic Callback feature button. Instead of activating Automatic Callback immediately, the user hears an interruptible announcement indicating that the Automatic Callback feature has been accessed along with the LICDN (if not private). If the LICDN is marked private, the LICDN is not repeated, and the announcement indicates that it is private. An office parameter (AC VOICE BACK) may be set indicating that the date and time of the last incoming call be voiced back to the user in the announcement also. The user is prompted to enter a "1" to continue feature activation, or hang up to discontinue activation. If a user dials nothing within a specified number of seconds

[(AC WAIT TIME) 1-15 seconds] or something other than "1," another announcement is heard prompting the user to dial "1," or hang up. When the user dials a "1" after hearing the announcement, the Automatic Callback feature is activated. The number of times a user is allowed to dial incorrectly is determined by an office parameter (AC MAX ERRS). Additionally, the number of times a user is allowed to dial nothing following an announcement is determined by an office parameter (AC MAX TIMEOUT). After exceeding these number of attempts, if the user dials incorrectly or does not dial anything, whichever comes first, the user hears a non-interruptible announcement with instructions to hang up, look at written instructions, and try again later. The AC feature is not activated.

Activation Complete: When the feature is activated, either with the One-Level or Two-Level Activation procedure, if the called DN is found to be idle during the activation attempt, audible alerting is returned, the calling DN is alerted, and no camp-on is necessary. The end-user receives a confirmation announcement if the called DN is busy, indicating that activation of the Automatic Callback feature was successful and that network camp-on to the called DN has occurred. If network resources are temporarily unavailable, or if the called address has an active feature that denies camp-on at this time, the end-user receives either a reorder tone (short-term denial) or a Call Forwarding announcement. If the called DN is on a terminating switch that does not have SS7 (transaction capability) connectivity with the originating switch or if camp-ons toward the called address are not allowed, the end-user receives an announcement (long-term denial).

Dual Timer Queuing Activation allows a caller to maintain his/her queue position when a reactivation request is made.

With the Dual Timer and Related AC Enhancements feature, if the user's activation exceeded the AC concurrent activation limit or queue size limit, the call results in short-term denial (reorder). This feature limits concurrent activation of AC requests which may be active concurrently to 30. The queue size limit is 20 positions per terminating DN, thus eliminating a potential of a single line using all the resources. Therefore, an originating subscriber may have up to 30 AC requests active, and a calling DN may have no more than 20 requests simultaneously active. These limits are office parameters which can be set using RC View 8.21.

If an AC request is activated towards a line with Call Forwarding Variable, Call Forwarding Incoming Only, Call Forwarding Within a Group, Call Forwarding Night Service, Selective Call Forwarding, or Computer Access Restriction with forwarding active, the user may receive a short-term denial "Call Forwarding Denial Announcement."

Confirmation of feature activation on an ISDN set consists of an announcement indicating AC is invoked and a lighted AC feature button lamp, if available. Also, for Custom ISDN only, a display message will display the called DN (if not private), the call type indicator, and the date and time of the last incoming call. [This information is stored in an area of memory called the incoming line history block (ILHB)]. If the POLIN feature is assigned and active, the display message indicates that the called DN is a private number. The called party number is not revealed. Confirmation of feature activation on an ISDN station set may also include lighting the lamp associated with the Automatic Callback feature button and keeping the lamp in a steady lighted state throughout the activation. Immediate call setup does not affect the lamp that remains in the state it was in before an activation attempt. For Custom ISDN only, short-term denial or long-term denial causes the lamp to flash on rejection and return to the state it was in before the activation attempt.

If network camp-on to the called DN has occurred and the called DN is found to be idle, the calling terminal receives ringback alerting (analog and Custom ISDN) or notification (National ISDN). Note that, for analog and Custom ISDN, the calling terminal also must be idle. If the user has display capabilities, a display message displaying the called DN (if not private) is provided with ringback. However, if the number in the incoming line history block is private, or if the POLIN feature is assigned and active, the display message provided along with alerting indicates that the ringback is for a private number. The called party number is not revealed.

3.2.3.2 Canceling the Feature

The end-user may cancel Automatic Callback Activation at any time during the Delayed Processing Phase. The user with an analog terminal cancels Automatic Callback Activation by going off-hook and dialing the Automatic Callback feature cancellation code. The user with an ISDN terminal may either go off-hook and dial the Automatic Callback

feature cancellation code or depress the Automatic Callback cancel button (either while on-hook or off-hook). Note that the Automatic Callback activation button must be separate from the cancel button.

If the end-user requests Automatic Callback cancellation, then all Automatic Callback activations associated with the terminal will be canceled. An Automatic Callback feature cancellation announcement will be returned to the end-user (if the user deactivated the feature while off-hook) and the Automatic Callback feature button lamp goes off.

3.2.4 Operational Limitations

A maximum of 256 terminating Automatic Callback, Automatic Recall, Automatic Callback-Calling, and Ringback Queuing camp-ons can be supported per switching module. This total (256) includes the number of terminals that have requested camp-on and the number of terminals that are being camped-on. A given terminal may request unlimited camp-ons subject to switch resources. A maximum of 64 originating Automatic Callback/Automatic Recall requests is available per SM. Users attempting to exceed these limits will receive short-term denial.

The Automatic Callback feature requires that interswitch calls use SS7 connectivity. If Transaction Capability Applications Part (TCAP) messages cannot be exchanged between the end offices, interswitch camp-on protocol cannot be followed and service will be denied to the user.

The TCAP Improvements for a Switch Spanning Multiple LATAs feature permits lines (or groups of lines) to be assigned a LATA NUMBER different from the default LATA NUMBER associated with the office. This feature allows a LATA NUMBER to be associated with a subscriber. The assigned LATA NUMBER will be used to select the appropriate signaling link based on the Signal Transfer Point (STP) for LASS services or will be used to populate the SSP 800 TCAP query to the Service Control Point (SCP). This feature is available in the 5E11 software release. For more information and a complete description of this feature, refer to 235-190-120, *Common Channel Signaling Service Features*.

Calls cannot be originated from or terminated to an analog user during a Two-Level Activation session until it is completed. Switchhook flashes during a Two-Level Activation session, while a user is connected to an announcement, are interpreted as disconnects. This is true regardless if the user has features assigned that utilize flash capabilities.

The AC Concurrent Activation Limit and Line Queue Size Limit feature provides a concurrent activation limit of up to 30 requests per line. This allows an originating subscriber to have up to 30 AC requests and 30 AR requests active, simultaneously. Additionally, this feature provides a queue size of up to 20 positions per terminating DN. A called DN may not have more than 20 queue requests for AC and AR requests active, simultaneously.

3.3 INTERACTIONS

3.3.1 General Rules

Unless otherwise noted, feature interactions apply to Automatic Callback. The interactions between Automatic Callback and other features are described in terms of originating feature interactions and terminating feature interactions. An originating interaction is when the Automatic Callback user is the originating party, while a terminating interaction is when the Automatic Callback user is the terminating party on a call.

Ringling usually refers to terminating a call; however, in this Interactions section, ringback ringling is considered originating because it is an Automatic Callback origination. Camp-ons are considered originating also because camp-ons are an Automatic Callback origination.

The ILHB is updated whenever a terminal is alerted with either ringling or call waiting tone for a new incoming call.

If the called party subsequently becomes busy again after answering ringback ringling or notification (for National ISDN), the AC user hears the busy answering-back announcement. In addition, the user's incoming line group history block is updated to the called party's number.

The Automatic Callback feature also updates the outgoing line history block, after ringback, with the DN which caused the AC ringback for delayed call setups when the AC user answers ringback.

Limited Two-Level Activation of AC is a secured and optioned feature available via a software update.

As mentioned previously, only analog terminals are supported for the Limited Two-Level Activation of Automatic Callback. Switchhook flashes are interpreted as disconnects during Two-Level Activations of AC. Multiway features (Call Hold, ISDN, and Shared Analog features) cannot be accessed during a Limited Two-Level Activation session and are blocked. Users that attempt to activate Multiway features receive disconnect. (If the first leg of the call is AC and a user flashes his/her switchhook to activate Multiway, disconnect is received). However, after activation is completed and the call is set up or in a stable state, normal flash capabilities apply.

Enhanced Two-Level Activations of AC supports Custom ISDN terminals and National ISDN terminals.

NOTE: Display interactions apply to Custom ISDN *only*.

The information displayed to users with display capabilities (Custom ISDN only) depends on the display mode of the data sent and the precedence level of the mode. For example, Two-Level AC display information is sent in the miscellaneous mode. The incoming call identification display, and One-Level displays (confirmation, and ringback ringing) for AC are sent in the normal mode.

Feature interactions with AC consist of the following "parts." How a feature interacts depends on what "part" or phase of the AC call is being processed. The different phases are as follows:

- **Activation:** A distinction is made between One-Level and Two-Level Activation because a One-Level Activation sequence does not involve the RAF announcements. The interaction of features during the 13A, 14A, 15A, or 16A or RAF announcements for Two-Level are more obvious to the user. Therefore, the interactions during the activation session are specified in the relevant feature sections.
- **Camp-On Busy/Idle Status Monitoring:** While the 5ESS[®] switch is monitoring the busy/idle status of the AC user and the camped-on party, interactions with features like Call Waiting or Additional Call Offering (ACO) are important. These interactions are specified under the relevant features.
- **Ringback Ringing (Analog and Custom ISDN):** Ringback ringing is not treated the same as normal alerting with ringing. Features (such as, Call Pickup) interact with ringback ringing differently than with normal ringing. These interactions are specified under the relevant features.
- **Ringback Notification (National ISDN):** The AC user is treated as the originator for the call. Therefore, all originating interactions with other features should apply.
- **Call Completions (Immediate or After Ringback) or Completion to the 13A, 14A 15A, or 16A Announcements or Reorder:** Once the call is set up, it is treated the same as a call dialed directly by the user. Feature interactions are normal; because this is true, the interactions will not be explicitly stated.

3.3.2 800 Service [Also Known as Inward Wide Area Telecommunications Service (INWATS)]

The 800 Service feature provides inward service from one or more predetermined areas at a rate based on expected usage.

NOTE: The 800 Service feature is not limited to the 800 NPA if the switch has implemented a toll-free treatment feature that allows additional toll-free Service Access Codes (SAC) such as 888 or 877.

Originating/Terminating: No interaction.

3.3.3 800 Service Simulated Facilities Group

The 800 Service Simulated Facilities Group feature can restrict the number of simultaneous INWATS calls through software, rather than by the physical size of a dedicated trunk group.

Originating/Terminating: No interaction.

3.3.4 900 Services

The 900 Service provides inward service from one or more predetermined areas at a rate based on expected usage.

Originating/Terminating: No interaction.

3.3.5 Account Codes [Electronic Tandem Switching (ETS) Optional Account Codes]

The Account Codes (ACCT) feature allows the customer to add an account code to an automatic message accounting (AMA) or message detail recording (MDR) record for customer allocation of telecommunication charges.

Originating: If an Automatic Callback attempt is made with a valid entry in the incoming line history block (ILHB), but account code (ACCT) input is later required to route the call, then the end-user will be prompted for the ACCT code. When the user is prompted for an ACCT code depends on the type of call. For intraswitch calls to a busy or idle station, the user is prompted for a code after the Automatic Callback access code is dialed. Interswitch calls to an idle station are also handled in this manner. However, interswitch calls to a busy station will be prompted for an ACCT code after ringback.

The ACCT information used with an Automatic Callback activation will be saved for subsequent inclusion in AMA/MDR records.

Terminating: No interaction.

3.3.6 Add-On/Consultation Hold-Incoming Only

Add-On/Consultation Hold-Incoming Only is a terminal group variation of the Three-Way Calling feature. It provides three-way calling restricted to incoming direct inward dialed (DID) calls.

Originating: A user can put a call on hold and then, following receipt of dial tone, use One-Level Automatic Callback or Two-Level Activation procedures. If a user hangs up while in an Automatic Callback activation session, they are rung back by the Call Hold feature and connected to the party on hold.

A Two-Level Activation session cannot be placed on hold. Switchhook flashes will be treated as disconnects during an activation.

For One-Level Activation, analog users can invoke Add-On/Consultation Hold-Incoming Only.

For ISDN users, transfer or conference button depressions are rejected, and attempts result in standard denial signals being given for those call appearances. Parties on hold remain on hold.

Terminating: No interaction.

3.3.7 Advanced Services Platform

Advanced Services Platform (ASP) provides a platform of service-independent capabilities on a 5ESS® switch allowing the switch to interact with external network elements. Only the Dialed Number Trigger (DNT) and Shared Interoffice Trunk Trigger ASP subfeatures are available for National ISDN. For the Shared Interoffice Trunk Trigger,

therefore, existing feature interactions apply. For further information and for the latest details regarding LASS features and ASP interactions, see the following documents:

235-190-125 Advanced Services Platform Release 0 and 0.1A

235-190-126 Advanced Services Platform Release 0.1B

Originating: With the offering of ASP, the 5ESS® switch does not associate DN triggers with physical ports. Because DN triggers are not associated by the 5ESS® switch with physical ports, the ILHB number is not expected to be a DN trigger. Normal AC processing occurs. The Service Control Point (SCP) is not queried by AC. This is true for both intraswitch and interswitch activation.

When the ILHB number is retrieved by AC, no SCP query is made by AC, even if the number is a subscribed trigger for the user. That is, no SCP query is made by AC even if the SCP would normally be queried if the user dialed an ASP access code followed by the number, or dialed an Individualized Dialing Plan (IDP) extension or pressed a Speed Calling button that had the same result.

Because the DN trigger is not associated with a physical port, the terminating switch responds with the "Data Unavailable" error message previously described. Long-term denial treatment results.

Terminating: An ASP-routed call can be returned using the AC feature. The incoming line history block contains the public DN of the originator, which is used by Automatic Callback to route the call.

When a user answers the AC ringback, the SCP is not queried before the final AC busy/idle query is sent, even if the ILHB number is a subscribed trigger for the user.

If the response to the final busy/idle query sent by AC is "idle," then plain old telephone service (POTS) call setup applies. The SCP is not queried, even if the ILHB number is a subscribed trigger for the user. The call is not identified as an ASP call.

If immediate call setup applies when activating AC, then POTS call setup applies. The SCP is not queried, even if the ILHB number is a subscribed trigger for the user. The call is not identified as an ASP call.

For activation toward lines with the semirestricted plus ASP station restriction, treatment will be as though the restriction were semirestricted terminating; for fully-restricted plus ASP lines, treatment will be as though the restriction were fully-restricted terminating. (For intraswitch activation, terminating restrictions are retrieved for the called party.)

3.3.8 Attendant Call Hold

NOTE: Attendant Call Hold is not supported on the standard basic rate interface (BRI) for National ISDN.

Attendant Call Hold allows the attendant to hold a call in progress to originate another call, answer a call, or pick up a call on hold. Timed Reminder is activated when the call is placed on hold by the attendant.

Originating: An attendant can put a call on hold and then, following receipt of dial tone, use One-Level or Two-Level Automatic Callback activation procedures. If a user hangs up while in an Automatic Callback activation session; he/she is rung back by the Call Hold feature and connected to the party on hold.

An attendant cannot put a call on hold and add a Limited Two-Level Activation session. The attendant will receive reorder. A Two-Level Activation session cannot be placed on hold by an attendant. Switchhook flashes will be treated as disconnects during an activation.

For Enhanced Two-Level Activation of AC (5E7 and later), the attendant can put the first call on hold and connect to a Two-Level Activation session, however, the two parties cannot be joined together.

Terminating: No interaction.

3.3.9 Attendant Call Transfer (Also Known as Call Splitting)

Attendant Call Transfer allows the attendant to flash and dial a code before dialing the third leg of a three-way call.

Originating: One-Level Activation of AC simply involves dialing the AC access code resulting in immediate call setup or camp-on. An AC call can be added to the third leg of a three-way call. An attendant could flash and add this party to the call if the party is idle at the time of origination.

Since switchhook flashes are treated as disconnects during Two-Level Activation, attendants cannot invoke this feature during the Two-Level session. After the attendant dials a "1" to activate Two-Level AC and the call is set up, switchhook flashes are allowed.

Terminating: No interaction.

3.3.10 Attendant Camp-On

Attendant Camp-On allows calls from the attendant which attempt to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: No interaction.

Terminating: Attendant Camp-On is allowed for calls to users in a One-Level Activation session. One-Level Activation of AC simply involves dialing the AC access code resulting in immediate call setup or camp-on.

Attendant Camp-On is disabled for calls to users during a Limited/Enhanced Two-Level Activation. The user does not receive camp-on tone; the attendant receives busy treatment.

3.3.11 Attendant Conference Six-Way

Attendant Conference Six-Way allows an attendant to initiate a conference call involving up to six parties (including the attendant).

Originating: An attendant can initiate a conference call session. After the initial call is set up, the attendant can use Automatic Callback to add a party to a leg of the call.

However, for Limited Two-Level Activation, the attendant will not be able to activate Two-Level AC on any leg of the six-way conference call.

Terminating: No interaction.

3.3.12 Attendant Control of Facilities

NOTE: Attendant Control of Facilities (ACOF) is not supported on the standard BRI (National ISDN).

The ACOF feature permits an attendant to restrict dial access from a station to tie trunks, foreign exchange trunks, and wide area telecommunications service (WATS) by operating a key or dialing a code. When control is activated, calls to these facilities are routed to an attendant for appropriate action.

Originating: An attendant can activate this feature during AC session by depressing the appropriate feature button.

Terminating: No interaction.

3.3.13 Attendant Direct Station Selection

NOTE: Attendant Direct Station Selection (ADSS) is not supported on the standard BRI (National ISDN).

The ADSS feature allows an attendant with a console to place calls to stations in the business group by simply pressing a nonlocking pushbutton key associated with the desired station line.

Originating: An attendant can use Direct Station Selection to monitor the status of selected DN's during an AC activation. If the attendant attempts to complete a call to a specific DN within the monitored group, the attempt is rejected and the user receives error treatment. The ILHB of the called party is updated.

Terminating: No interaction.

3.3.14 Attendant Identification of Incoming Calls

NOTE: Attendant Identification of Incoming Calls is not supported on the standard BRI (National ISDN).

Attendant Identification of Incoming Calls provides identification of listed directory number (LDN) calls directed toward different LDNs, but served by the same attendant. This is done via incoming call indicator lamps on the attendant console.

Originating/Terminating: No interaction.

3.3.15 Attendant Position

NOTE: Attendant Position is not supported on the standard BRI (National ISDN).

Attendant Position allows a customer to designate a particular station within a business customer group as an attendant position.

Originating/Terminating: No interaction.

3.3.16 Attendant Recall from Satellite

Attendant Recall from Satellite gives stations located at remote locations without an attendant, but with the Satellite Attendant Transfer feature, the ability to transfer an incoming call by flashing the switchhook to generate a recall to the main location attendant who performs the transfer for the remote station.

Originating/Terminating: No interaction.

3.3.17 Authorization Codes (ETS Authorization Codes)

The Authorization Codes (ATH) feature allows the station user to input an assigned code to change the restrictions associated with the originating station to those associated with the assigned authorization code.

Originating: If an Automatic Callback attempt is made with a valid entry in the ILHB, but Authorization Code input is later required to route the call, then the end-user will be prompted for the authorization code. When the user will be prompted for an authorization code depends on the type of call. For intraswitch calls to a busy or idle station, the user is prompted for a code after the Automatic Callback access code is dialed, and after activating either a One-Level or Limited Two-Level AC. Interswitch calls to an idle station are also handled in this manner. However, interswitch calls to a busy station will be prompted for an authorization code after ringback.

An Automatic Callback use code can be marked to require an authorization code by setting the AC field to "yes" on the feature assignment view. In this case, the user is prompted for an authorization code immediately after entering the Automatic Callback use code, but after the AC is activated or deactivated.

The ATH information used with an Automatic Callback activation will be saved for subsequent inclusion in AMA/MDR records.

Terminating: No interaction.

3.3.18 Automatic Alternate Routing

Automatic Alternate Routing (AAR) provides alternate routing capability similar to Automatic Route Selection (ARS)-Deluxe. The difference is that AAR is used to route calls to stations on the customer's private network.

Originating/Terminating: No interaction.

3.3.19 Automatic Callback-Calling

Automatic Callback-Calling (ACBC) allows a user to hang up and dial an activation code to activate ACBC after reaching a busy station.

Originating: Automatic Callback-Calling is a separate feature from LASS Automatic Callback. A customer can subscribe to both. Automatic Callback interfaces with ACBC in the first-in first-out (FIFO) order. (The queues used check for camp-ons after every on-hook). The first queue request is served first, whether it was initiated by Automatic Callback or ACBC.

Terminating: If a call was received using Automatic Callback-Calling, the incoming line history block is updated with the calling party's DN.

3.3.20 Automatic Customer Station Rearrangement

Automatic Customer Station Rearrangement (ACSR) allows an ISDN end-user to relocate their terminal equipment and associated directory number.

Originating/Terminating: An end-user with access to the AC features will retain access to the features after an ACSR move. However, if the end-user has any active Automatic Callback requests at the time of the move, these requests will be allowed to expire (time-out) without completion (ringback), or will be canceled by the switch. If the move is on the originating switch, the resources will be terminated on the originating switch and the terminating switch. However, if the ACSR move is on the terminating switch, the originating switch resources will time-out, but the terminating switch resources will be released at the time of the move. Similarly, if there are any outstanding AC activations toward a terminal at the time of the move, these requests will be allowed to expire without completion. During the duration of the ACSR move, the terminal to be moved will be treated as a busy terminal by the network.

The ACSR customer with an incoming line history block has the same number of allocated history blocks (only one per terminal) after the move. The contents of the ILHB will not be saved over the move.

3.3.21 Automatic Intercept System (Also Known as Remote Intercept System)

Automatic Intercept System (AIS) allows Class 5 offices to route calls to nonworking telephone numbers or to telephone numbers placed on trouble intercept and/or to an AIS where they are connected to announcements and/or operators.

Originating/Terminating: No interaction.

3.3.22 Automatic Recall

The LASS Automatic Recall (AR) feature allows users to redial the most recent called party.

Originating/Terminating: The Automatic Callback feature updates the outgoing line history block (OLHB) (used by AR) with the DN in the incoming line history block (ILHB) for an AC for both immediate processed and delayed processed. When a call results in short-term denial, long-term denial, or a Call Forwarding announcement (5E7 and later), the OLHB is not updated. The privacy bit is copied from the ILHB to the OLHB. For National ISDN, since only

one ringback notification may be in progress at any one time, AR ringback notification should not be allowed while an AC ringback notification is in progress.

3.3.23 Automatic Route Selection (Also Known as Flexible Route Selection)

Automatic Route Selection (ARS) directs outgoing, business group line calls to the customer's most preferred available route.

Originating/Terminating: No interaction.

3.3.24 Automatic Voice Network Interface

NOTE: Automatic Voice Network (AUTOVON) Interface is not supported on the standard BRI (National ISDN).

Automatic Voice Network (AUTOVON) Interface provides an interface with the AUTOVON network, including provisions for prioritizing call handling.

Originating/Terminating: An Automatic Callback activation session can be preempted. The activation session is considered to have routine precedence and can be preempted by calls with higher precedence. This preemption results in the incoming line history block being updated. Therefore, the precedence level is maintained through the call. If an activation attempt is preempted, the attempt is canceled and the caller is given precedence alerting.

The AC call setup (after activation) can be preempted also.

3.3.25 Basic Emergency Service (911)

NOTE: Basic Emergency Service is not supported on the standard BRI (National ISDN).

Basic Emergency Service provides a 3-digit universal telephone number (911) for public use (analog only) throughout the United States to report an emergency or request emergency assistance.

Originating: A 911 terminal cannot have access to the Automatic Callback feature, since it is denied origination. Camp-on requests from any switch toward a terminal with a 911 class of service are denied.

Terminating: Emergency Ringback does not update the incoming line history block.

3.3.26 Basic Queuing (Queuing for Lines)

Basic Queuing provides queuing for lines, call waiting lamps control, and delay announcements.

Originating/Terminating: No interaction.

3.3.27 Business and Residence Custom Service Compatibility with ISDN

The Business and Residence Custom Service (BRCS) compatibility features ensure that many of the existing BRCS features and services function with supported ISDN station sets so that users experience equivalent, similar, or expanded circuit-switched voice service by subscribing to these ISDN BRCS features and services.

Originating/Terminating: Automatic Callback functions with ISDN station sets.

Limited Two-Level Activation applies only to analog terminals; therefore, ISDN users receive One-Level service only.

Enhanced Two-Level Activation applies to analog and ISDN terminals; therefore, ISDN users can use Two-Level Activation of AC.

3.3.28 Business Group Line

Business Group Line provides capabilities similar to those for individual lines, but is classified as a member of a group of business lines belonging to a single customer.

Originating/Terminating: Business group lines can be assigned the Automatic Callback feature.

3.3.29 BRCS Feature Groups/Feature Clusters

BRCS Feature Groups and Feature Clusters provide a logical grouping of features that are used by residential and business customers receiving communication services from a central office switch. Feature clusters are BRCS features (preconstructed or customized) grouped together in a cluster which then can be assigned to a line rather than assigning each feature in the cluster to the line. BRCS feature groups and clusters work with both analog and ISDN BRCS features.

Originating/Terminating: The AC features are BRCS features and may be offered as part of a BRCS Feature Group (BFG) and/or feature clusters.

3.3.30 Busy Line Verification

Busy Line Verification allows an operator to complete a connection to a busy line to determine the off-hook/on-hook status of the line or if a conversation exists on the line.

Originating: No interaction since an operator cannot have AC.

Terminating: Busy Line Verification can be activated towards a terminal that is performing an AC. The incoming line history block is not updated when an operator performs a busy line verification towards an AC user.

3.3.31 Call-by-Call Access from a 5ESS[®] Switch in a Private Network to Interexchange Carrier Services

This feature allows the private network customer to generate, on a per-call basis, a request for services from an interexchange carrier or local exchange carrier.

Originating/Terminating: No interaction.

3.3.32 Call Forwarding Busy Line - All Calls

Call Forwarding Busy Line - All Calls (CFBLAC) permits all calls attempting to terminate to a busy line to be redirected to another customer-specified line.

Originating: An AC activation towards busy lines with CFBLAC results in camp-on to the base station. An AC activation towards an idle line with CFBLAC results in normal call setup.

The following is a typical call scenario: User B places a call to user A; user A activates the Automatic Callback feature towards user B (who is busy but has CFBLAC feature). User A will camp-on to user B. User A will receive ringback when both (user A and user B) are idle.

Terminating: If the telephone lines of both user A and user B are terminated in the same office, Automatic Callback ringbacks that would ordinarily result in busy after ringback can result in call forwarding treatment if the terminating party has CFBLAC and becomes busy before the Automatic Callback call is completed.

If the telephone lines of user A and user B terminate on different switches, the call will not be forwarded. Instead, user A will receive the busy-ringback announcement.

3.3.33 Call Forwarding Busy Line - Incoming Only

Call Forwarding Busy Line - Incoming Only (CFBLIO) ensures that only incoming DID calls are forwarded to the customer-specified line.

Originating: The CFBLIO feature forwards all calls from outside the called DN's terminal group when the called DN is busy. See "Call Forwarding Busy Line - All Calls", Section 3.3.32.

The following is a typical call scenario: User B places a call to user A, and user A activates the Automatic Callback feature. If both users are in the same terminal group, then the call scenario will proceed as normal (without CFBLIO active). If user A is not in the same terminal group as user B and user B is busy, user A will camp-on to user B. User A will receive ringback when user B is idle.

Terminating: Outside calls to analog users with CFBL active will be forwarded if the user is using AC. Outside calls to ISDN users using AC with CFBL active and no available call appearances are forwarded.

3.3.34 Call Forwarding Do Not Answer - All Calls

Call Forwarding Do Not Answer - All Calls (CFDAAC) forwards all calls to a station to another preselected station within the same customer group, or to an attendant when the called station is not answered after a customer-specified number of rings.

Originating: AC activation towards busy lines with CFDAAC results in camp-on to the base station. An AC activation towards an idle line with CFDAAC results in normal call setup.

The following is a typical call scenario: User B places a call to user A; user A activates the Automatic Callback feature toward user B who has CFDAAC active. If user B is idle, then normal call setup will result. If user B is busy, the activation results in camp-on.

Terminating: No interaction.

3.3.35 Call Forwarding Do Not Answer - Incoming Only

Call Forwarding Do Not Answer - Incoming Only (CFDAIO) ensures that only incoming DID calls to the business group line forward, if not answered, after a customer-specified number of rings.

Originating: The CFDAIO activation has no effect on incoming calls from terminal group members; hence, we need only consider outside call scenarios. The CFDAIO feature forwards all calls from outside the called DN's terminal group when the called DN is busy.

The following is a typical call scenario: User B places a call to user A (A and B are not in the same terminal group). User A activates the Automatic Callback feature towards user B who has CFDAIO active. If user B is busy, then user A will camp-on to user B. If user B is idle, then normal call setup will result.

Terminating: No interaction.

3.3.36 Call Forwarding Incoming Only

Call Forwarding Incoming Only (CFIO) forwards calls terminating from outside the group via DID.

Originating: The CFIO feature forwards calls from outside the called DN's terminal group without regard for the busy/idle status of the called line. If user A is in the same terminal group as user B, then the call scenario will proceed as normal (without CFIO active). If user A is not in the same group as user B, user A's Automatic Callback attempt toward B will be denied and user A will receive short-term denial.

With the Dual Timer and Related AC/AR Enhancements features, AR activation towards a line with CFIO active receives short-term denial consisting of either reorder or a Call Forwarding denial announcement.

Terminating: Outside calls to analog users with CFIO active will be forwarded while a user is activating AC. Outside calls to ISDN users using AC with CFIO active and no available call appearances are forwarded.

3.3.37 Call Forwarding Over Private Facilities

Call Forwarding Over Private Facilities (CFPF) is a Call Forwarding Variable (CFV) option allowing business customers to automatically forward voice calls over the outgoing Private Facilities Access (PFA) or Automatic Route Selection (ARS) service selected by the customer.

NOTE: The CFPF option is not supported on the standard BRI (National ISDN).

Originating/Terminating: See "Call Forwarding Variable", Section 3.3.38.

3.3.38 Call Forwarding Variable

The Call Forwarding Variable (CFV) feature forwards all calls without regard for the busy/idle status of the called line.

Originating: The CFV feature forwards all calls without regard for the busy/idle status of the called line. Automatic Callback activation toward called DN's with CFV active will be denied. Short-term denial is returned to the calling party (refer to Section 3.3.39, Call Forwarding in a Group, for a typical call scenario).

With the Dual Timer and Related AC/AR Enhancements features, AC activation towards a line with CFV active receives short-term denial consisting of either reorder or a Call Forwarding denial announcement.

Terminating: If the terminating party activates CFV while an AC user is camped on, the AC delayed processing call will be forwarded.

3.3.39 Call Forwarding In (Within) A Group

The Call Forwarding In (Within) A Group (CFIAG) forwards calls only to an intragroup extension when call forwarding is active. This feature restricts the DN dialed during activation to be intragroup extension numbers.

Originating/Terminating: The CFIAG feature forwards all calls without regard for busy/idle status of the called DN. See "Call Forwarding Variable", Section 3.3.38.

3.3.40 Call Hold

Call Hold (CHD) feature allows a station user to *hold* a call in progress by flashing and then dialing the Call Hold code.

Originating: A user can put a call on hold and, following receipt of dial tone, cancel Automatic Callback or use a One-Level Activation procedure. If a user hangs up while in an Automatic Callback activation session, he/she is rung back by the Call Hold feature and connected to the party on hold.

A user can put a call on hold and, following receipt of dial tone, use Two-Level Activation procedures. However, a user cannot return to the party on hold before completing the activation procedure.

A Limited/Enhanced Two-Level Activation session may not be placed on hold. Switchhook flashes are treated as disconnects.

Terminating: Once an AC call is routed to the correct party, the resultant call can be put on hold.

3.3.41 Call Pickup (Also Known as Call Pickup Originating and Regular Call Pickup)

Call Pickup (CPU) allows a station user to answer any call within an associated preset pickup group.

Originating: If a directory number is called using AC, once ringing is established (either as the result of immediate call setup or answering ringback ringing), the call can be picked up.

The AC ringback cannot be answered using call pickup.

Terminating: When an Automatic Callback user picks up a call, the associated incoming line history block is not updated.

3.3.42 Call Tracing

Call Tracing allows central office personnel to determine the source of annoying or threatening calls, or to identify lines in emergency or demand situations. For National ISDN, the AC ringback notification is not call associated. Therefore, call trace is not applicable during the ringback notification sessions.

Originating/Terminating: During the busy/idle monitoring of the 5ESS[®] switch for a camp-on, there is no call being placed; therefore, the call cannot be traced. However, once a call has been set up, it can be traced.

3.3.43 Call Transfer Attendant

Call Transfer Attendant (CTA) allows the called business group station user to transfer the call to the attendant while connected to a DID or private network incoming call.

Originating/Terminating: No interaction.

3.3.44 Call Transfer Individual - All Calls

Call Transfer Individual - All Calls (CTIAC) allows a station user to transfer any established call to another station within or outside the private branch exchange (PBX) or business group without the assistance of the attendant.

Originating: A customer with call transfer flash capabilities can flash and initialize a One-Level Automatic Callback Activation after receiving dial tone. Limited/Enhanced Two-Level Activation of AC cannot be used after flash for call transfer.

For ISDN users during an AC activation (either One-Level or Limited Two-Level), transfer or conference button depressions are rejected, and attempts result in a standard denial signal being given for those call appearances. For analog users, a flash is disabled during a One-Level Activation. Since switchhook flashes are treated as disconnects during Two-Level Activation sessions, analog/ISDN users are not able to invoke Call Transfer Individual - All Calls.

Once the Automatic Callback call is set up, users can use flash capabilities.

Terminating: The ILHB of the terminal that receives the transfer will be updated with the DN of the party performing the transfer.

3.3.45 Call Transfer Individual - Incoming Only

Call Transfer Individual - Incoming Only (CTIIO) allows a business group station user to transfer an incoming call to another station in the same business group without the assistance of the attendant.

Originating/Terminating: Interaction is similar to the CTIAC feature interaction. The difference is that the call must be incoming and must be transferred within the group. See "Call Transfer Individual - All Calls", Section 3.3.44.

3.3.46 Call Transfer Internal Only

Call Transfer Internal Only (CTIO) allows a business group station user to transfer any established intragroup call to another station in the same customer group without the assistance of an attendant.

Originating/Terminating: Interaction is similar to the CTIAC feature interaction. The difference is that the call must be transferred within the group. See "Call Transfer Individual - All Calls", Section 3.3.44.

3.3.47 Call Transfer Outside

Call Transfer Outside (CTO) allows a station user to add on a dial "9" off-network, common control switching arrangement (CCSA), or WATS facility to an external call. A call using CTO can be transferred to a private facility.

Originating/Terminating: Interaction is similar to the CTIAC feature interaction. The difference is that the call must be transferred outside the group. See "Call Transfer Individual All Calls", Section 3.3.44.

3.3.48 Call Waiting Incoming Only (Priority Calling-Incoming Only)

NOTE: The Call Waiting Incoming Only (CWIO) feature is not supported on the standard BRI (National ISDN).

The CWIO feature is a version of Call Waiting Terminating (CWT). It gives an analog station user engaged in a telephone conversation an audible alert indicating that an incoming DID or private facility call is attempting to terminate. See "ISDN Priority Calling - Incoming Only", Section 3.3.147, for the ISDN version of CWIO.

Originating: The CWIO feature is enabled for calls to analog users attempting to activate a One-Level AC. The called party receives call waiting tone if a call waiting slot is available. If a call waiting slot is not available and the called party is busy, the call camps-on to the busy party. If the called party is in a Two-Level AC activation session, the call waiting tone is blocked.

When the 5ESS[®] switch is monitoring for the busy/idle status during camp-on, an available call waiting slot is not considered idle. The terminal must be on-hook or have an idle call appearance for ringback to occur.

The CWIO feature can be activated for calls to ISDN users with multiple call appearances, provided a call appearance is available and the call is from outside the user's terminal group.

Terminating: The incoming line history block is updated when the user is notified/alerted of the incoming call.

3.3.49 Call Waiting Originating

NOTE: The Call Waiting Originating (CWO) feature is not supported on the standard BRI (National ISDN).

The CWO feature allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The CWO feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active. It is automatically invoked any time a busy intragroup station is encountered. The CWO feature is only operational for intraterminal group calls.

Originating: If a CWO user activates Automatic Callback towards another business group station, if there is an idle call waiting slot or reserved call appearance for call waiting terminations, the call will be set up. If all call appearances or call waiting slots are busy, then the AC user will camp on.

Terminating: The CWO feature is disabled for calls to analog users attempting to activate AC.

3.3.50 Call Waiting Terminating

Call Waiting Terminating (CWT) uses a burst tone to inform a busy analog station user that another call is waiting.

Originating: When AC is activated toward a DN with Call Waiting Terminating active, if the DN is idle, the network will proceed with normal call setup. If the DN is busy but no calls are waiting, the calling party receives audible

ringback and the called DN receives call waiting alerting. If the called DN is busy and no free call waiting slots are available, AC camps-on to the called DN. The calling terminal is given ringback when both the calling terminal and the called DN are idle.

Call Waiting Terminating is blocked for Two-Level Activation of AC.

Terminating: If the called DN belongs to a 1-DN Line Time Slot Bridging (LTSB) pair and the secondary port is busy, AC camps-on to the called DN even if there is a Call Waiting slot available. Ringback occurs when the called DN becomes idle.

If the primary port of the 1-DN LTSB is busy, call waiting tone is applied as if the DN is not a member of an LTSB pair. If both DNs of the 1-DN LTSB pair are busy, the AC call camps-on. Ringback occurs when both DNs become idle.

3.3.51 Calling Party Number/Billing Number Transmittal in the 5ESS® Switch Private Network Environment

This feature allows the 5ESS® switch PBX to send the calling party number (CPN)/billing number (BN) of the originator to the public network or to another PBX on a per-trunk group basis for all calls.

Originating: When an AC call is initiated, the CPN and attribute for the calling party are stored. When an AC call is made, the calling party information is sent to the terminating end of the call as if the call were made directly. The data is sent to the called party, if the called party subscribes to CPN/BN optioning.

On ringback, if the originator of the AC call subscribes to CPN/BN optioning with options CPN only, CPN preferred, and BN preferred, the data for the calling party is sent in the SETUP message to the AC originator. If the AC originator has only the BN option, and the BN information is not available, the CPN information element is sent in the SETUP message with the presentation indicator set to *not available due to interworking*.

Terminating: No interaction.

3.3.52 Cancel Call Waiting

Cancel Call Waiting (CCW) allows a customer with Call Waiting to inhibit the application of the call waiting tone for the duration of one call.

Originating: The AC/CCW customer can dial the CCW code before dialing the AC activation code. If AR/AC activation is toward an idle line and results in setting up the call immediately, then CCW shall apply for that call. If AR activation results in monitoring a busy line, CCW will not apply when the call is eventually set up.

Terminating: If an AC is activated toward a line that is busy and has CCW active, AC monitors the line until it becomes idle.

3.3.53 Carrier Interconnection

Carrier Interconnection provides an interface between the local exchange, inter-LATA, and interexchange carriers.

Originating/Terminating: No interaction.

3.3.54 Centrex Complex

Centrex Complex associates multiple business groups in a single switch with a single common *complex*. All business groups in the complex share intercom calling privileges, yet may have separate private facility groups or separate dialing plans.

Originating/Terminating: No interaction.

3.3.55 Code Calling

Code Calling allows attendants and station users to dial an access code and a 2- or 3-digit called party code to activate signaling devices with a coded signal corresponding to the called code.

Originating/Terminating: No interaction

3.3.56 Code Restriction

Code Restriction blocks outgoing calls to customer-specified codes [numbering plan area (NPA), NXX].

Originating: When a customer dials a code restricted NXX, NPA, or NPA-NXX, the call returns either reorder tone or a code restriction announcement. If the incoming line history block has a DN that is restricted, attempts to activate Automatic Callback return long-term denial.

Terminating: No interaction.

3.3.57 Common Control Switching Arrangement Access

Common Control Switching Arrangement (CCSA) Access provides access to the customer's CCSA network.

Originating/Terminating: No interaction.

3.3.58 Computer Access Restriction

Computer Access Restriction (CAR) allows the customer to restrict access to a computer connected through a modem to the telephone line. The CAR feature, operational only for voice calls, is not operational for ISDN packet-switched or circuit-switched data calls.

Originating/Terminating: The CAR interaction is the same as the Selective Call Acceptance interaction. See "Selective Call Acceptance", Section 3.3.197 .

3.3.59 Conference Calling Six-Way (Also Known as Station Dial Conference)

Conference Calling Six-Way allows a station user to establish a conference call involving up to five other parties without attendant assistance.

Originating: During an AC activation, flash capabilities are disabled, but once the activation is complete, flash capabilities are enabled. For ISDN users, conference or transfer feature button depressions are rejected while users are invoking Automatic Callback activation. This also applies to adding additional parties to the conference.

Since flashes result in termination of a Two-Level Activation session, analog users are not able to use Conference Calling during a Two-Level session. A Limited Two-Level AC cannot be used on a conference call. A One-Level/Enhanced Two-Level AC can be used to add on the next party to a conference call.

Terminating: No interaction.

3.3.60 Critical Interdigit Timing

Critical Interdigit Timing is activated when the digits received provide sufficient information to complete a call, but the possibility of receiving additional valid digits exists.

Originating/Terminating: No interaction.

3.3.61 Customer Access Treatment Code Restriction

Customer Access Treatment (CAT) Code Restriction allows the creation of subgroups in a business group to provide additional restriction or access functions.

Originating/Terminating: No interaction.

3.3.62 Customer-Changeable Speed Calling

Customer-Changeable Speed Calling (CCSC) allows customers to assign their own speed calling codes directly and immediately from their own telephone by dialing a change speed calling list access code, an abbreviated code, and a new telephone number.

Originating: An AC use code can be defined in a non-IDP and IDP speed call list. However, the ILHB is not updated when Customer-Changeable Speed Calling is used to add/change the speed call list. See "Speed Calling", Section 3.3.210, for the speed calling interactions.

Terminating: No interaction.

3.3.63 Customer Dialed Account Recording

Customer Dialed Account Recording (CDAR) allows a business group customer to associate a personal account number with a given call and have it recorded on the AMA record. The customer can use this record for allocating charges on both outgoing and incoming calls.

Originating/Terminating: No interaction.

3.3.64 Customer-Originated Trace

Customer-Originated Trace (COT) lets the terminating party request an automatic trace of the last call received.

Originating/Terminating: COT and AC use the same ILHB which contains the LICDN used to initiate a callback or a trace.

3.3.65 Customer Station Rearrangement via Remote Memory Access System

Customer Station Rearrangement (CSR) via Remote Memory Access System (RMAS) allows business customers to make changes affecting their telephone service from an on-premises terminal.

Originating/Terminating: The Customer Station Rearrangement (CSR) feature may be used to do the following:

- Assign/remove Automatic Callback features to/from a terminal
- Activate/deactivate Automatic Callback features on a terminal
- Change line parameter data for the Automatic Callback feature (for example, the distinctive ringing pattern)
- Display the line parameter data for Automatic Callback feature
- Display AC feature definition.

The previous operations only apply to customers who have subscribed to Automatic Callback. If the AC feature is available because it is generally available in the office, customers cannot invoke feature changes through CSR. Denial of the Automatic Callback feature to a terminal requires a service order if the feature is generally available in the office. Changes to the default feature options also require service orders if the feature is generally available.

3.3.66 Delay Announcement for Queued Calls on Hunt Group

Delay Announcement for Queued Calls on Hunt Group allows a customer-generated automatic announcement for multiline groups with queuing.

Originating/Terminating: No interaction.

3.3.67 Deluxe Automatic Route Selection

Deluxe Automatic Route Selection (DARS) extends the choice of private routes for each NPA/NXX to 16 versus 4 for basic ARS.

Originating/Terminating: No interaction.

3.3.68 Deluxe Queuing

Deluxe Queuing is composed of Priority Queuing and Ringback Queuing.

Originating/Terminating: Ringback queuing shares originating resources with the AC, AR, and ACBC features.

3.3.69 Denied Origination

Denied Origination allows the 5ESS[®] switch owner to deny origination on a per terminal basis.

Origination: For custom ISDN and analog, ringback looks like a terminating call, therefore, they can answer ringback. For National ISDN, notification response is an origination, therefore, users with denied origination cannot respond to notification.

Terminating: No interaction.

3.3.70 Dial Access to ISDN Attendant

Dial Access to ISDN Attendant provides dial access from the station to the ISDN attendant within the customer group.

Originating/Terminating: When a user within the customer group dials an attendant that has the Automatic Callback feature, the attendant's associated incoming line history block is updated with the calling DN.

3.3.71 Dial Access to Private Facilities

Dial Access to Private Facilities (DAPF) lets a customer choose to terminate the private facilities at the central office and access those facilities by dialing a unique access code per facility.

Originating/Terminating: No interaction.

3.3.72 Dial Call Waiting

NOTE: The Dial Call Waiting (DCW) feature is not supported on the standard BRI (National ISDN).

The DCW feature allows an originating business group station to invoke Call Waiting service on selected intragroup calls by dialing an access code followed by the extension number of the station to be call waited. Dial Call Waiting allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The DCW feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active.

Originating/Terminating: See "Call Waiting Originating", Section 3.3.49 .

3.3.73 Dial Pulsing

Dial Pulsing provides the capability to transmit and receive direct current address signals between offices.

Originating/Terminating: No interaction.

3.3.74 Dial Through Attendant

Dial Through Attendant (DTA) allows a station user to complete the dialing on other than station-to-station calls after the attendant selects the private facility on attendant-handled calls.

Originating/Terminating: No interaction.

3.3.75 Dial Transfer to Tandem Tie Line

Dial Transfer to Tandem Tie Line makes the Call Transfer feature compatible with tie lines (trunks). After flashing, a station user with normal access to tie lines can dial a call through the tie line and transfer the original call to it.

Originating/Terminating: No interaction.

3.3.76 Direct Connect

Direct Connect automatically places a call to a preselected called number when a station goes off-hook.

Originating/Terminating: No interaction because AC cannot be accessed from a direct connect line.

3.3.77 Directed Call Pickup with Barge-In

Directed Call Pickup with Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, barge-in alert tone is provided and a three-way call is established.

Originating: Directed Call Pickup with Barge-In can be used to barge-in on an AC One-Level Activation. Barge-in alert tone is provided. However, this feature cannot be used to barge-in on Automatic Callback Two-Level Activation sessions. The calling party receives error treatment. Ringback ringing cannot be picked up.

Terminating: No interaction.

3.3.78 Directed Call Pickup without Barge-In

Directed Call Pickup without Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, the party dialing the pickup code is routed to reorder. Barge-in is not allowed.

Originating/Terminating: See "Call Pickup", Section 3.3.41 .

3.3.79 Distinctive Ringing

Distinctive Ringing (DR) applies a distinctive ringing or call waiting tone pattern enabling a station user to determine the source of an incoming call.

Originating/Terminating: No interaction. (However, distinctive ringing patterns are used for AC ringback ringing).

3.3.80 Dual Call Coverage (Also Known as Dual Telephone Coverage)

Dual Call Coverage allows calls originating internal to a customer's terminal group to route to a message center

other than the one servicing outside calls.

Originating/Terminating: No interaction.

3.3.81 Electronic Tandem Switching Trunk Access (Also Known as Access to ETS Trunks)

Electronic Tandem Switching Trunk Access provides access to a customer's ETS facilities on a distant switch.

Originating/Terminating: No interaction.

3.3.82 Electronic Tandem Switching on Primary Rate Interface Trunks

The ETS on Primary Rate Interface (PRI) Trunks feature allows the 5ESS® switch to provide Electronic Tandem Network (ETN) trunking between a 5ESS® switch central office node and one or more digital PBX nodes in an ETN.

Originating/Terminating: No interaction.

3.3.83 Electronic Tandem Network Interworking in the 5ESS® Switch Private Network Environment

This feature gives the 5ESS® switch private network customer currently using the Electronic Tandem Switching (ETS) feature expanded capabilities using the primary rate interface to connect multiple private ETN nodes.

Originating/Terminating: No interaction.

3.3.84 Emergency Access to ISDN Attendant

Emergency Access to ISDN Attendant allows a station user to dial an emergency code to gain immediate access to the attendant.

Originating: No interaction

Terminating: When a user places an emergency call to an attendant with the Automatic Callback feature, the attendant's associated incoming line history block is updated with the calling DN.

3.3.85 Emergency Ringback

Emergency Ringback is associated with the basic 911 emergency service used to recall a customer station immediately following disconnect from (and at the request of) an emergency bureau.

Originating: For National ISDN, feature interaction occurs when an AC user is in a ringback notification session and at the same time receives emergency ringback. When the user goes off-hook and sends a SETUP message, he/she is connected to the emergency service. The SETUP message is not considered a response to the NOTIFY message on ringback notification.

Terminating: Attendants can complete a connection to a user during an AC activation (One-Level and Two-Level) to verify off-hook status. An intrusion tone is provided just before the barge-in. The activation session is not affected; AC continues without any interruption. Emergency Ringback does not update the incoming line history block.

3.3.86 Enhanced Private Switched Communications Service Access

Enhanced Private Switched Communications Service (EPSCS) Access provides the ability to terminate access lines to the EPSCS switch.

Originating/Terminating: No interaction.

3.3.87 Expensive Route Warning Tone

Expensive Route Warning Tone (ERWT) indicates when a more expensive route is about to be used for ARS.

Originating/Terminating: No interaction.

3.3.88 Facility Restriction Level

Facility Restriction Level (FRL) defines the calling privileges associated with a line that has ARS.

Originating/Terminating: No interaction.

3.3.89 Feature Code Definition

The Feature Code Definition allows the service provider to define feature use codes.

Originating: Automatic Callback use codes (active and cancel) are defined via Feature Code Definition.

Terminating: Automatic Callback use codes that result in call origination update the ILHB only with the called address information and not the use code.

3.3.90 Flexible Night Service (Also Known as Attendant Call Forwarding)

Flexible Night Service (FNS) routes calls normally directed to the attendant group to a different location (night location, also known as a night directory number).

Originating: Automatic Callback activation toward called DNs with FNS active will be denied and the caller will receive either a Call Forwarding denial announcement is returned to the calling party or reorder tone.

Terminating: No interaction.

3.3.91 Foreign Exchange Line

Foreign Exchange (FX) Line provides line termination in a central office different from the line providing service to the customer.

Originating/Terminating: No interaction.

3.3.92 Four- and Eight-Party

Four- and Eight-Party provides POTS for up to four or eight customers sharing the same line.

Originating/Terminating: There is no interaction, because multiparty lines cannot be assigned the Automatic Callback feature. An Automatic Callback attempt back to a multiparty line results in short-term denial treatment if the AC TN UNIQ IGN parameter is set to N.

3.3.93 Fully Restricted Originating and Terminating

Fully Restricted Originating and Terminating provides the ability to deny a station's ability to originate and/or receive calls to or from outside the business group. This feature also blocks "dial 0" calls to an attendant and calls from an attendant to the station.

Originating: A Fully Restricted Originating station can only activate Automatic Callback towards another station within the same terminal group. An AC attempt to an attendant or a station outside the group results in long-term denial. The restrictions that apply to an AC call are the restrictions in effect at the time of call origination.

Terminating: The incoming line history block of a Fully Restricted Terminating station is updated with the LICDN, when alerted.

3.3.94 Home Intercom (Also Known as Home Intercom/Single Line Variety Package)

Home Intercom/Single Line Variety Package (HI/SVP) allows the HI/SVP user to ring all telephone sets (extensions) associated with the line by dialing specified codes from the station.

Originating: No interaction.

Terminating: Intercom calls do not update the ILHB.

3.3.95 Hunt Group Transfer for Circuit-Switched Data Calls

This feature allows circuit-switched data (CSD) calls to a CSD multiline hunt group (MLHG) to forward to a second CSD MLHG.

Originating/Terminating: No interaction.

3.3.96 In-Progress Call Tracing

In-Progress Call Tracing is one type of Call Tracing feature that identifies a call in progress.

Originating/Terminating: A call set up with AC processing can be traced. The trace can include the path to the Recorded Announcement Facility (RAF) (Two-Level) or the 13A, 14A, 15A, or 16A announcement (for confirmation, etc.) and the routed call to the LICDN.

3.3.97 Individual Calling Line Identification Calling Number Delivery (Analog)

Individual Calling Line Identification (ICLID) Calling Number Delivery transmits data on an incoming call to the terminating station set.

Originating: An analog subscriber must subscribe to ICLID to receive an AC display; the ICLID information is sent when a call is offered (see Table 3-1).

Terminating: The ICLID feature has a Per-Call Privacy activation option. If the end-user requires Per-Call Privacy in conjunction with a call generated by an Automatic Callback activation, the user must activate the Per-Call Privacy feature immediately before activating the Automatic Callback feature. Per-Call Privacy cancels All-Call Privacy for that one call; therefore, if All-Call Privacy is active and a user sets Per-Call Privacy, the call results in being public.

3.3.98 Individual Calling Line Identification Directory Number Privacy

Individual Calling Line Identification (ICLID) Directory Number Privacy allows the calling party to prevent delivery of the originating DN to the terminating station set.

Originating: If the ILHB is marked private, AC displays and announcements indicate that the LICDN is private. If the AC user has National ISDN and supplies a privacy indication in response to the ringback notification, it will be ignored. The privacy indicator will not override the privacy status that has been supplied at the time of AC activation.

Terminating: The ICLID feature has a Per-Call Privacy activation option. If the end-user requires Per-Call Privacy in conjunction with a call generated by an Automatic Callback activation, the user must activate the Per-Call Privacy feature immediately before activating the Automatic Callback feature. Per-Call Privacy cancels All-Call privacy for that one call; therefore, if All-Call Privacy is active and a user sets Per-Call Privacy, the call results in being public. Table 3-1 shows the Automatic Callback interactions for ICLID/Outgoing Called Line Identification (OCLID) and the

display terminal flag.

Table 3-1 How to Get a Display (ICLID/OCLID)

TYPE	IMMEDIATE SETUP	RINGBACK	CAMP-ON
ISDN	OCLID and RC View 23.2 Display Flag =y.	RC View 23.2 Display Flag =y	RC View 23.2 Display Flag =y
Analog	No Display Possible	ICLID	No Display Possible

3.3.99 Individualized Dialing Plan

The Individualized Dialing Plan (IDP) feature allows digits to be interpreted according to the IDP of the customer instead of the office dialing plan (ODP), and/or the standard office abbreviated dialing list.

Originating/Terminating: A subset of IDP calls will be considered valid for subsequent Automatic Callback activations as follows:

- If no extension can be derived from the information stored in the incoming line history block, Automatic Callback automatically escapes to the office dialing plan (overrides IDP restrictions) and uses the public DN for routing.
- If an extension is derived from information stored in the incoming line history block, the call is processed through the IDP of the user (all IDP restrictions apply). When the ILHB indicates that the last calling party used an intercom extension, the 5ESS[®] switch uses data populated from IDP RC Views 9.26 (Office Record, Form 5601-12) and 9.27 (Office Record, Form 5601-11) to derive this extension.

Users within the same intercom group will want to use intercom dialing with the Automatic Callback feature. In order for an Automatic Callback user to use the caller's extension number, the 5ESS[®] switch must be able to derive the extension number of the last calling party. This extension is relative to the IDP of the Automatic Callback user. Incoming intraswitch calls placed via extension dialing cause an incoming extension indicator in the incoming line history block to be set to "ON." Automatic Callback only guarantees to support 1- to 7-digit extensions.

Incoming interswitch calls placed via extension dialing cause an incoming indicator to be marked in the incoming line history block indicating an extension was used.

Automatic Callback only guarantees to support 1- to 7-digit extensions. For Two-Level AC activation, the display and announcements indicate that the number a user called back is an extension.

For additional information, see "Implementation", Section 3.6 .

If the 5ESS[®] switch cannot derive the far party's extension from the information stored in the reverse digit analysis trees, then the public DN will be used for routing. Thus, user's IDP is bypassed and the office dialing plan is used. For the user, the result will be nonintercom billing (that is, additional billing records may be generated). If the public DN is used for routing, the normal restrictions associated with this terminal do not apply. For example, even if the user is not allowed to dial *9 (POTS access code), the Automatic Callback to the public DN will succeed.

If AC uses an intercom number, RC Views 9.12 and 9.13 must be built for that number. The data that is used to derive the extension from the public DN (Views 9.26 and 9.27) must be in sync with the data used to derive the public DN from the extension (Views 9.12 and 9.13). If the data is not in sync, the user is given short-term denial and a craft assert (FCIDPRDTRE) is printed on the receive-only printer (ROP).

An Automatic Callback access code can be defined in the IDP.

The LASS Dialed Code Restrictions on IDP Users feature affects access to LASS features AC, AR, COT, ICLID, CND, PCP, SCA, SCR, CAR, SCF, and SCR. This feature is an optioned feature available on an SM basis via the Secured Feature Upgrade View (View 8.22). The LASS Dialed Code Restrictions on IDP Users feature, controls dial code access to LASS features for IDP users. The default value for this feature is disabled (inactive). When this

feature is disabled, IDP users can use the access codes defined in their IDP in addition to the ODP defined dialed access codes to access LASS features. Using an ODP defined dial access code for access to a LASS feature by an IDP user may require the dialing of an IDP defined "escape to POTS access code" (9, or *9) immediately prior to dialing the ODP defined access code. Dialing of an ODP defined access code directly (not preceded by an escape to POTS code) is allowed if the error treatment for the user's IDP has been set to use the office code on RC View 9.10.

When the LASS Dialed Code Restrictions on IDP Users feature is enabled (active), an IDP user cannot use an ODP defined dial access code to access a LASS feature. The ODP defined dial access code cannot be used whether or not the ODP LASS code is preceded by an escape to POTS code and regardless of the error treatment for the user's IDP group. Reorder tone is returned to an IDP user after an ODP access code is dialed to access a LASS feature.

Additionally, with this feature enabled, neither an ODP nor an IDP defined dial access code for a LASS feature will be accepted by the 5ESS[®] switch at any time after an escape to POTS code has been dialed by an IDP user in a single, off-hook dialing scenario. However, an IDP user can dial an escape to POTS code followed by an automatic route selection (ARS), authorization, or an account code prior to the dialing of an IDP (but not ODP) LASS code. Dialing an ARS, authorization, or account code in conjunction with an IDP LASS dialed access code is allowed regardless of the activation status of the LASS Dialed Code Restrictions on IDP Users feature.

The LASS Dialed Code Restrictions on IDP Users feature requires dialed codes used for access to LASS features to be defined in the IDP. Except for ARS, authorization, or account codes, activation of this optioned feature requires that access to non-LASS features allowed to be dialed prior to the LASS access codes must also be defined in the IDP. This allows IDP users to use non-LASS features in conjunction with LASS features.

Refer to 235-080-100, *Translations Guide*, for AC activation and cancellation codes to build in the IDP.

3.3.100 Inspect for ISDN Terminals

NOTE: The Inspect for ISDN Terminals feature is not supported on the standard BRI (National ISDN).

The Inspect for ISDN Terminals feature retrieves and displays call-related information about any call appearance having a call associated with it. Inspect also displays feature button identification.

Originating: Inspect is used to inspect the AC feature buttons and the default display message ["Return last incoming call" for the activation button; "Cancel-return last incoming call" for the deactivation button. Display information that a user receives is Customer Premises Equipment (CPE) dependent]. Inspect can be used during an AC. The LASS display messages are recent changeable via RC View 8.65. Refer to "Display Message View", Section 3.6.2.1.7, for additional information.

Display messages for AC may be overwritten by the inspect messages depending on the type of CPE. The AC One-Level display messages are in the normal mode; Two-Level messages are in the miscellaneous mode. Inspect display messages are in the inspect mode. An incoming call is in the normal mode, and the miscellaneous mode overrides the normal mode.

Terminating: Not Applicable

3.3.101 Intercom Calling Restriction

Intercom Calling Restriction (ICR) counts and limits the number of intercom calls that can be in progress at any one time within a customer group. It also sets a maximum, total, simultaneous call volume that includes intercom and calls external to the customer group.

Originating: Intercom Calling Restriction is not overridden when an IDP intercom call setup is attempted following Automatic Callback activation or ringback. This means an AC attempt could result in ICR error treatment

Terminating: No interaction.

3.3.102 Intercom Dialing

Intercom Dialing, in conjunction with the special dialing plan, permits station users in the business group to place calls to each other on a 1- to 7-digit basis.

Originating/Terminating: See "Individualized Dialing Plan", Section 3.3.99 .

3.3.103 Intra-LATA Presubscribed Inter-LATA Carrier (Intra-LATA PIC)

The Intra-LATA PIC capability allows the Local Exchange Carrier (LEC) to open up certain Intra-LATA toll routes which were previously handled exclusively by the LEC, to competition on an equal access basis between the LEC and Inter-LATA Carriers (ICs).

The Intra-LATA PIC capability allows a subscriber to presubscribe to an Intra-LATA Toll Carrier (PTC) that handles all of his/her Intra-LATA Toll traffic (7 digit or 10 digit calls with or without a "1/0" prefix), if dialed without a 10XXX (or 101XXXX) prefix, but which may or may not be the same as the Presubscribed Inter-LATA Carrier (PIC).

Originating: Dialing of a 10XXX+ Intra-LATA PIC call (as well as other Carrier Interconnect [CI] type calls) will not invalidate the Outgoing Line History Block (OLHB) entry.

When AC is attempted and the Incoming Line History Block (ILHB) dial number (DN) is such that the AC attempt would result in an Intra-LATA Toll call, then the AC attempt will not be blocked by the INTER LATA AC/AR field in RC/V View 8.21 (LASS OFFICE PARAMETERS) being set to No. An Intra-LATA Toll call will be treated as Intra-LATA for the AC attempt and therefore the INTER LATA AC/AR field will not apply to the AC attempt.

Terminating: AC will work properly with incoming Intra-LATA PIC calls provided that the calling number is delivered. However, if the LEC does not transmit the calling party number to the IC or the IC does not transmit the calling party number to the LEC, then AC will not work properly. Note that the CPN SUBSC option on RC/V View 10.2 can be used to allow/disallow passing of the SS7 Calling Party Number parameter to an IC.

3.3.104 Intermodule Trunking

Intermodule Trunking provides trunking between modules connected to the same base 5ESS[®] switch.

Originating/Terminating: The Automatic Callback feature functions for calls placed via intermodule trunks.

Terminating: If the intermodule trunks are ISDN User Part (ISUP) trunks, incoming calls update the ILHB. If not, the ILHB is updated with no DN which results in long-term denial.

3.3.105 Intraswitch/Interswitch Calling Party Number/Billing Number Optioning to Terminating User

This feature allows the terminating PRI or BRI user to request delivery of the calling party number or billing number on an *exclusive* or *preferred* basis on every call for circuit-switched voice/data calls.

Originating/Terminating: See "Calling Party Number/Billing Number Transmittal in the 5ESS[®] Private Network Environment", Section 3.3.51 .

3.3.106 ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants

NOTE: The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature is not supported on the standard BRI (National ISDN).

The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature allows a supervisor, or attendant, to display data about an attendant position.

Originating: If the ISDN attendant invokes this feature during an AC activation session, the 5ESS[®] switch sends the display messages for Aggregate Work Time/Number of Calls Handled, and not for Automatic Callback. The AC level session proceeds with announcements only. However, if the ISDN attendant invokes Automatic Callback while the Aggregate Work Time/Number of Calls Handled display is active, the 5ESS[®] switch does not send the AC display messages.

Terminating: No interaction.

3.3.107 ISDN Attendant Busy Verification of Lines and Trunks

NOTE: The ISDN Attendant Busy Verification of Lines and Trunks feature is not supported on the standard BRI (National ISDN).

The ISDN Attendant Busy Verification of Lines and Trunks feature allows an attendant to determine whether a line or trunk within the same customer group is busy or idle.

Originating: With this feature, attendants can verify whether an AC user is busy. The attendant is not able to barge in on an AC activation session.

Terminating: The incoming line history block of the terminal being verified is updated when the terminal is given alerting or barge-in tone.

3.3.108 ISDN Attendant Call Hold

The ISDN Attendant Call Hold feature allows the ISDN attendant to hold a call in progress to originate another call, or pick up a call on hold.

Originating: An attendant can put a call on hold and then, following receipt of dial tone, use One-Level Automatic Callback Activation procedures. If a user hangs up while in an Automatic Callback activation session, they are rung back by the Call Hold feature and connected to the party on hold.

An ISDN attendant cannot put an Enhanced Two-Level Activation session on hold. If the attendant presses the feature button, it is rejected. An attendant can put a call on hold and enter a Two-Level Activation session.

Terminating: No interaction.

3.3.109 ISDN Attendant Call Splitting

The ISDN Attendant Call Splitting feature allows the ISDN attendant to consult privately with the called party without the calling party hearing.

Originating: No interaction.

Terminating: The ISDN Attendant Call Splitting feature results in the incoming line history block of the called terminal being updated with the attendant's DN.

3.3.110 ISDN Attendant Call Transfer

The ISDN Attendant Call Transfer feature is the ISDN version of Attendant Call Transfer.

Originating: Since switchhook flashes are treated as disconnects during an Enhanced Two-Level Activation, attendants cannot invoke this feature during the Two-Level session. After the attendant dials a "1" to activate

Two-Level AC and the call is set up, switchhook flashes are allowed.

Terminating: No interaction.

3.3.111 ISDN Attendant Camp-On

The ISDN Attendant Camp-On feature is the ISDN version of the Attendant Camp-On feature. It allows calls that the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: No interaction

Terminating: Attendant Camp-On updates the incoming line history block of the camped-on terminal with the attendant's DN. Attendant Camp-On is a different feature from (unrelated to) Automatic Callback camp-ons.

3.3.112 ISDN Attendant Conference Calling

The ISDN Attendant Conference Calling feature allows the attendant to set up conference calls with any combination of extensions or trunks on the internal conference bridge. The maximum number of parties on the conference call is limited to the capacity of the multiport conference circuit.

Originating/Terminating: For ISDN users, transfer or conference buttons are also rejected while users are activating AC. This also applies to second and subsequent legs of the call. See "Three-Way Calling", Section 3.3.214 , and "Conference Calling Six-Way", Section 3.3.59 .

3.3.113 ISDN Attendant Control of Facilities

The ISDN Attendant Control of Facilities (ACOF) permits an ISDN attendant to restrict dial access from a station to tie trunks, foreign exchange trunks, and wide area telecommunications service (WATS) by operating a key or dialing a code. When this control is activated, calls to these facilities are routed to an attendant for appropriate action.

Originating: An ISDN attendant can activate Attendant Control of Facilities while on an AC activation session by depressing the appropriate feature button.

If the attendant blocks access to certain features, such as the access to POTS, after an end-user within the group has activated Automatic Callback, the end-user may receive reorder after answering ringback.

Terminating: No interaction.

3.3.114 ISDN Attendant Control of Voice Terminals

NOTE: The ISDN Attendant Control of Voice Terminals (ACVT) feature is not supported on a the standard BRI (National ISDN).

The ACVT feature enables an attendant to impose an originating or terminating restriction (or both) on a DN or group of DNs. The ACVT feature routes calls destined for a line or group of lines to the attendant for handling. It is activated by the attendant, or automatically by the 5ESS[®] switch.

Originating: An ISDN attendant can activate Attendant Control of Voice Terminals while on an AC activation session by depressing the appropriate feature button.

Any originations or terminations of a terminal with the Attendant Control of Voice Terminal feature must check the terminal's restrictions. Camp-ons are denied towards DNs that restrict the termination from the calling DN, and the user receives long-term denial. If an attendant imposes terminating restrictions on a DN, any Automatic Callback camp-on already in progress towards this DN could result in error treatment after ringback answer.

If an attendant imposes originating restrictions on a DN, the end-user may receive long-term denial when an attempt

is made to activate Automatic Callback toward a DN in the associated line history block. Ringback occurs if a camp-on was in progress before the attendant restricted originations on the calling DN, and then the call fails.

Terminating: No interaction.

3.3.115 ISDN Attendant Direct Station Selection

NOTE: The ISDN Attendant Direct Station Selection (ADSS) feature is not supported on the standard BRI (National ISDN).

The ISDN ADSS feature allows the attendant to display the status of up to 10,000 DNs in 100 groups of 100 contiguous DNs starting at 00.

Originating: An attendant can use Direct Station Selection to monitor the status of selected DNs during an Automatic Callback activation.

Terminating: A call placed using ADSS updates the ILHB of the called party.

3.3.116 ISDN Attendant Emergency Override

NOTE: The ISDN Attendant Emergency Override (AEO) feature is not supported on the standard BRI (National ISDN).

The AEO feature allows the attendant to complete incoming calls to stations as follows:

- Calls that are busy from setting the make-busy key
- Calls that have a series completion or multiline hunt arrangement
- Calls with Call Forwarding active
- Calls with terminating restrictions.

Originating: Emergency override cannot be used to barge-in to a user on a Two-Level Activation. Once the activation is complete (either to a 13A, 14A, 15A, or 16A announcement or to the LICDN), emergency override barge-in is allowed.

Terminating: The activation of the ISDN Attendant Emergency Override updates the incoming line history block of the terminal being overridden.

3.3.117 ISDN Attendant Incoming Call Identification

NOTE: The ISDN Attendant Incoming Call Identification feature is not supported on the standard BRI (National ISDN).

The ISDN Attendant Incoming Call Identification feature allows an attendant to identify the type of facility over which an incoming call to the attendant was routed.

Originating: When an ISDN attendant with display capability (and an available call appearance) is using AC, Incoming Call Identification information is sent by the 5ESS[®] switch when a call is offered. This information may overwrite the AC display, depending on the attendant CPE. The Incoming Call Identification display is sent in the Normal display mode while Two-Level AC uses the Miscellaneous display mode.

Terminating: No interaction.

3.3.118 ISDN Attendant Make-Busy Key

Originating: No interaction

Terminating: An AC camp-on results if a make-busy key is active on the recalled DN. If a user camps-on to a DN through Automatic Callback and then pushes the make busy key before the ringback occurs, the ISDN terminal is considered busy for any subsequent attempts to perform ringback.

3.3.119 ISDN Attendant Night Service

The ISDN Attendant Night Service feature routes calls directed to the ISDN attendant to a different station.

Originating: An attendant can activate Night Service while on an Automatic Callback session. However, if an Automatic Callback user calls back an ISDN attendant that has Night Service active, the user receives short-term denial.

With the Dual Timer and Related AC/AR Enhancements features, AC activation towards a line with CFNS active receive short-term denial consisting of either reorder or a Call Forwarding denial announcement.

Terminating: No interaction.

3.3.120 ISDN Attendant Position Busy

NOTE: The ISDN Attendant Position Busy feature is not supported on the standard BRI (National ISDN).

The ISDN Attendant Position Busy feature allows the position to be made busy by the attendant. When the attendant position is made busy in a single position arrangement, new calls to the position receive busy treatment. In a multiple position arrangement, new calls are directed to a different console position.

Originating: An ISDN attendant can activate Position Busy while on a Two-Level Activation session. If an ISDN attendant camps-on to a DN through Automatic Callback and then activates "Position Busy" before the ringback occurs, the ISDN terminal is considered busy for any subsequent attempts to perform ringback.

Terminating: If the position is considered busy, no alerting is performed, so the ILHB is not updated.

3.3.121 ISDN Attendant Selective Customer Control of Facilities

NOTE: The ISDN Attendant Selective Customer Control of Facilities (ASCCOF) feature is not supported on the standard BRI (National ISDN).

The ISDN Attendant Selective Customer Control of Facilities (ASCCOF) feature allows an attendant to deny access to a trunk or simulated facilities group.

Originating/Terminating: If an attendant presses the SCCOF button during an AC activation, the SCCOF feature should be activated without affecting the AC activation session.

3.3.122 ISDN Attendant Through Dialing

The ISDN Attendant Through Dialing feature allows an attendant to access an outgoing facility for a calling party within the group who has restrictions or difficulty in placing an outgoing call.

Originating/Terminating: No interaction.

3.3.123 ISDN Attendant Timed Reminder

NOTE: The ISDN Attendant Timed Reminder feature is not supported on the standard BRI (National ISDN).

The ISDN Attendant Timed Reminder provides a timer that is started when a call is camped-on, when the called party has not answered after a transfer, or when a call is on hold. When the timer expires, the attendant is alerted and can pick up the call to talk to the calling party.

Originating/Terminating: No interaction

3.3.124 ISDN Attendant Traffic

NOTE: The ISDN Attendant Traffic feature is not supported on the standard BRI (National ISDN).

The ISDN Attendant Traffic feature provides the traffic counts for each attendant console position.

Originating/Terminating: No interaction.

3.3.125 ISDN Attendant Trunk Identification

NOTE: The ISDN Attendant Trunk Identification feature is not supported on the standard BRI (National ISDN).

The ISDN Attendant Trunk Identification feature provides a display of the trunk group and member number of the incoming or outgoing trunk in use at the request of the attendant or automatically on incoming trunk calls.

Originating/Terminating: If an ISDN attendant invokes this feature during a Two-Level Activation session, the 5ESS[®] switch sends the display for the Trunk Group Identification and not for Two-Level AC. The Two-Level session proceeds with announcements only.

Additionally, if an ISDN attendant invokes Two-Level AC while the trunk group identification display is active, the 5ESS[®] switch does not send the Two-Level display message. The attendant can hear the announcements and be able to proceed with the AC feature activation.

3.3.126 ISDN Automatic-Hold/Drop Preference

NOTE: The ISDN Automatic-Hold/Drop Preference feature is not being supported on the standard BRI (National ISDN).

This feature automatically determines how to handle a call active on one call appearance when the user shifts to another appearance. Two types of treatment are provided: automatic-drop and automatic-hold.

Originating: A user attempting to activate Automatic Callback may choose another call appearance at the terminal. If the user has Automatic-Drop preference, the Automatic Callback activation is dropped when a new call appearance is chosen. Automatic Callback is only activated when the user hears a confirmation announcement. If a user drops off during a Two-Level Activation, the Automatic Callback is not performed.

If the user has Automatic-Hold/Drop preference, AC is rejected; however, if another call appearance is selected, the Enhanced Two-Level Activation is dropped.

Terminating: No interaction.

3.3.127 ISDN Basic Message Service

The ISDN Basic Message Service (BMS) feature provides basic personalized message service for customer groups.

Originating: No interaction.

Terminating: The Automatic Callback feature can be activated toward a message service attendant's DN if the DN

is hunted. Message service attendants are part of an MLHG with Uniform Call Distribution (UCD) hunting. If office parameter AC TN UNIQ IGN is set to Yes, the uniqueness check is ignored. This allows an AC to a hunted DN, a nonunique DN.

3.3.128 ISDN Bridging

The ISDN Bridging feature allows the multibutton key system (MBKS) set user to bridge onto a currently active call by pressing the active call appearance button on the MBKS set and going off-hook. This establishes a three-way call. This is different from standard Three-Way Calling because the third party initiates the bridge to the active call. Bridging is inhibited if Manual Exclusion is activated at an MBKS set engaged in the active call.

Originating: Bridging onto an Automatic Callback activation session is not allowed.

Terminating: When an ISDN call bridges onto a call, its associated incoming line history block is not updated.

3.3.129 ISDN Customer Station Rearrangement via MACSTAR® I and II Software

The ISDN Customer Station Rearrangement via MACSTAR® I and II Software feature expands the Manual Customer Station Rearrangement (CSR) capabilities to include customer control over the ISDN feature.

Originating/Terminating: See "Customer Station Rearrangement", Section 3.3.65 .

3.3.130 ISDN Delayed and Abbreviated Ringing

The ISDN Delayed and Abbreviated Ringing (DAR) feature alerts an MBKS set for a predetermined interval before ringing another designated MBKS set.

Originating/Terminating: No interaction.

3.3.131 ISDN Drop

The ISDN Drop feature allows the MBKS set user to drop the last party added to a conference call. For a two-party call, pressing this button disconnects the MBKS set from the call.

Originating: If a user invokes Drop during an Automatic Callback activation, the call will be dropped. Automatic Callback will not be activated unless confirmation has been received by the user.

Terminating: No interaction.

3.3.132 ISDN Electronic Directory Service Calling Name Display

NOTE: The ISDN Electronic Directory Service (EDS) Modular Feature is not supported on the standard BRI (National ISDN).

The ISDN EDS Calling Name Display (CND) feature gives the calling party's name and telephone number to the called party.

Originating: The EDS is used to retrieve the name associated with the LICDN, if available, during an Automatic Callback ringback for display.

If a user is in an Enhanced Two-Level Activation session and has CND, CND information is sent by the 5ESS® switch. The information may or may not be displayed, depending on the CPE. The CND information is sent in the normal display mode while the AC display is sent in the Miscellaneous mode.

Terminating: No interaction.

3.3.133 ISDN Electronic Directory Service Directory Query Display/Autocall

NOTE: The ISDN Electronic Directory Service (EDS) Modular Feature is not supported on the standard BRI (National ISDN).

The ISDN EDS Directory Query Display (DQD) allows the user to query the electronic directory data base for a name using the ISDN station set. The user can generate an Autocall by pressing the appropriate button.

Originating: If a user has Directory Query Display and a Two-Level Activation session active, simultaneously, and attempts Autocall, the request is denied. The user receives standard denial (for example, broken flutter), and neither the Directory Query Display nor the Two-Level Activation session is affected.

Terminating: An EDS Autocall updates the ILHB.

3.3.134 ISDN Electronic Directory Service Query Service (Also Known as Application Processor Query Service)

NOTE: The ISDN Electronic Directory Service (EDS) Modular Feature is not supported on the standard BRI (National ISDN).

The ISDN EDS Query Service allows a user to query the applications processor (AP) directory using a video display terminal for call and personnel information on a per-customer group basis.

Originating: The EDS can retrieve the name associated with the calling DN, if available, for display during an Automatic Callback ringback.

If a user is in a DQD session and initiates a Two-Level Activation session, the request is accepted as usual. The display information associated with the Two-Level Activation session is not provided while a user is in the Direct Outward Dialing session.

Terminating: No interaction.

3.3.135 ISDN Hold

The ISDN Hold feature allows the MBKS set user to place a call on hold by pressing the function button. Any MBKS set with a call appearance for call on hold can pick up the call by pressing the call appearance button.

Originating: A user can put a call on hold and then, following receipt of dial tone, use Automatic Callback activation procedures. If a user hangs up while in an Automatic Callback activation session, they are rung back by the Call Hold feature and connected to the party on hold.

Terminating: No interaction.

3.3.136 ISDN ICLID Calling Number Delivery

This feature provides calling party data on calls originated from both analog and digital lines on the same 5ESS® switch for ISDN subscribers and attendants. The ICLID feature is an enhancement to the ISDN intraswitch ICLID feature, which is available only to ISDN users with display station sets.

Originating/Terminating: The ICLID Calling Number Delivery display may overwrite the AC display depending on the CPE. The ICLID display and the AC display are sent in the normal mode. Refer to Table 3-1, for display information for ICLID.

3.3.137 ISDN Initiated Priority Calling

The ISDN Initiated Priority Calling (IPC) feature provides the ISDN equivalent of Dial Call Waiting.

Originating/Terminating: See "Dial Call Waiting", Section 3.3.72 .

3.3.138 ISDN Manual Exclusion

The ISDN Manual Exclusion feature allows an MBKS set user to inhibit other stations from picking up a call on hold or bridging onto a call that is active at that station.

Originating/Terminating: No interaction.

3.3.139 ISDN Message Service Automatic Call Setup (Also Known as Autocall)

The ISDN Message Service Automatic Call Setup feature allows ISDN clients with the Message Retrieval Display or Direct Access to Message Data Base feature to automatically set up a call to the directory number being displayed during the retrieval session.

Originating: If a user has Message Retrieval Display and an AC active, simultaneously, and attempts Automatic Call Setup, the request is denied. The user receives standard denial (for example, broken flutter)

Terminating: The ILHB is updated with the message service DN.

3.3.140 ISDN Message Service Message Retrieval Display

The ISDN Message Service Message Retrieval Display (MRD) allows ISDN station users to directly retrieve their Message Service Center or Leave Word Calling messages.

Originating: The MRD retrieves messages associated with the called DN (if available) which can be displayed during an Automatic Callback ringback. The AC display is CPE dependent; how the display messages for the MRD messages and for AC will be displayed depends on the CPE.

If a user is in an MDR session and initiates a Two-Level Activation session, the request is accepted as usual. The display information associated with the Two-Level Activation will not be provided while a user is in the MDR session.

Terminating: No interaction.

3.3.141 ISDN Multiple Call Appearances

The ISDN Multiple Call Appearances feature allows an MBKS set to have more than one DN button assigned to the same DN. Incoming calls for this DN are handled in much the same way as Series Completion. A hunt is made for an idle call appearance of the called DN when a call is made to a DN that has multiple call appearances on an MBKS set.

Originating: When a user is activating Automatic Callback, bridging is not allowed for MBKS users who share the same call appearance. Attempts to bridge onto the call will be denied. The blocked call appearance is rejected; the user attempting to bridge onto the call hears silence. Once activation is complete and the call has routed (to the LICDN, the recorded announcement, or reorder), bridging is allowed.

Ringback on an ISDN terminal with multiple call appearances must occur on an idle call appearance of the same DN where the original feature activation occurred.

It is possible for a user to be in an AC activation session and receive another call causing the ILHB to be updated with the new incoming call. However, since AC saves the corresponding information in the ILHB when the feature is first invoked, the Automatic Callback is initiated towards the original LICDN.

Terminating: The ILHB is updated with the DN of the MLHG of the Message Services. Therefore, if a user attempts

to use AC to call back the originator, they will actually be calling back the message service DN.

3.3.142 ISDN Multiple DNs

The ISDN Multiple DNs feature assigns multiple directory numbers to a terminal.

Originating/Terminating: No interaction.

3.3.143 ISDN Number of Calls on Queue (Attendant)

Number of Calls on Queue can display each ISDN Incoming Call Identification (ICI) type. By repeating the request, the attendant can display all ICI queues.

Originating: If the ISDN attendant invokes this feature during an AC activation session, how the display messages for Number of Calls on Queue and for AC will be displayed depends on the CPE.

For National ISDN, on AC ringback notification, the call appearance indicator lamp on the DN that activated AC does not flash. If that DN is in use, the AC user must drop current call in order to respond to the ringback notification.

Terminating: No interaction.

3.3.144 ISDN Number of Calls on Queue (MLHG)

Originating/Terminating: No interaction.

3.3.145 ISDN Originating Priority Calling

The ISDN Originating Priority Calling (OPC) feature provides the ISDN equivalent of Call Waiting Originating.

Originating/Terminating: See "Call Waiting Originating", Section 3.3.49 .

3.3.146 ISDN Outgoing Called Line Identification

The ISDN Outgoing Called Line Identification (OCLID) feature provides a user originating a call with information about the called party and the facility or destination. Facility and call destination information are provided via the ISDN ICI call types.

Originating: The ISDN OCLID feature provides display for immediate call setup. Refer to Table 3-1 for additional information.

When call completion results (immediate) for ISDN users with the OCLID feature the LICDN is displayed if it is marked as public. However, if POLIN is enabled, even if the called party had not marked their number private, the display message indicates that the number is private.

Terminating: No interaction.

3.3.147 ISDN Priority Calling - Incoming Only

The ISDN Priority Calling - Incoming Only (PCIO) feature is the ISDN equivalent of the Call Waiting Incoming Only feature. With this feature, calls outside the business group can terminate to an idle call appearance reserved for incoming calls (calls from outside the terminal group) when all unreserved call appearances are active.

Originating: If an Automatic Callback user calls a busy party with PCIO active, the AC user is camped-on and waits for idle call appearance. When an idle call appearance becomes available, the user receives ringback. However, instead of getting the busy after ringback announcement if the called DN is now busy, the user receives call waiting treatment if a call appearance is not available.

Terminating: The incoming line history block of the called terminal is updated when the calling DN using Priority Calling alerts the called DN's terminal.

3.3.148 ISDN Shared Call Appearances of a Directory Number

The ISDN Shared Call Appearances of a Directory Number feature allows several MBKS station sets to share one or more DN.

Originating: When a user is activating Automatic Callback, bridging is not allowed for MBKS users who share the same call appearance. Attempts to bridge onto the call will be denied. The blocked call appearance is rejected; analog users attempting to bridge onto the call receive busy tone. ISDN users attempting to bridge onto the call hear silence. Once activation is complete and the call has routed (to the LICDN, the recorded announcement, or reorder), bridging is allowed.

Automatic Callback can be activated from either a primary or secondary call appearance. For secondary call appearances to receive AC camp-ons, the office parameter AC TN UNIQ IGN must be set to Yes to ignore the uniqueness check. Otherwise, AC camp-ons to a nonunique number are not allowed.

When an ISDN terminal with shared call appearance receives ringback from an AC activation, the status lamp for the call appearance of that terminal will alert the ringback terminal. At the shared members terminal(s), the status lamp will light steadily to indicate that the call appearance is in use. Only the ISDN terminal that activated the feature will receive ringback alerting and will be able to answer the ringback.

For National ISDN, on AC ringback notification, the call appearance indicator lamp on the DN that activated AC does not flash.

Terminating: The ILHB associated with an ISDN terminal will be updated whenever that terminal is alerted on a call appearance for an incoming call, regardless of whether the call is answered on this terminal or another terminal.

3.3.149 ISDN Single-Digit Intercom

The ISDN Intercom (ICOM) feature is a form of ISDN station-to-station calling. The ICOM user can originate a call to the ICOM group member by pressing the ICOM buttons.

Originating/Terminating: An ISDN ICOM call updates the ILHB of the called party with the calling party's DN.

3.3.150 ISDN Time and Date Display

NOTE: The ISDN Time and Date Display is not supported on the standard BRI (National ISDN).

The ISDN Time and Date Display feature is a subscription feature for ISDN attendants and ISDN station set users. The 5ESS[®] switch provides the time and date to the ISDN station set.

Originating: If an ISDN attendant or station user invokes this feature during an AC activation session, the 5ESS[®] switch will send the Time and Date Display messages. The Two-Level Activation continues, but the display messages will not be provided by the 5ESS[®] switch. If Time and Date is deactivated during a Two-Level session, the 5ESS[®] switch sends the Two-Level display messages when appropriate. How the Time and Date are displayed depends on the CPE.

Terminating: No interaction.

3.3.151 ISDN Total Number of Calls Handled Display for ISDN Attendants

NOTE: Total Number of Calls Handled Display for ISDN Attendants is not supported on the standard BRI (National

ISDN).

Total Number of Calls Handled Display for ISDN Attendants provides supervisors with traffic data information about each attendant in the ISDN attendant group.

Originating/Terminating: No interaction.

3.3.152 Line Time Slot Bridging

Line Time Slot Bridging (LTSB) provides an off-premises extension to a single directory number. It also provides bridging of two separate DNs in two separate locations with barge-in capabilities for customers served by the same 5ESS® switch.

Originating: Automatic Callback is not available for terminals with the Line Time Slot Bridging feature. Users attempting to bridge onto a call are denied and receive busy treatment. However, camp-ons are permitted towards LTSB terminals. After ringbacks are answered, LTSB terminals are alerted normally.

Terminating: The LTSB calls to an AC user update the ILHB.

3.3.153 Loudspeaker Paging

Loudspeaker Paging allows dial access to customer-owned loudspeaker paging equipment.

Originating/Terminating: No interaction.

3.3.154 Main Satellite Service

Main Satellite Service allows a customer receiving business group service provided by two or more separate switching machines in the same geographic area to receive the same service available as if all locations were served by a single switch.

Originating/Terminating: No interaction.

3.3.155 Make-Busy Key

Make-Busy Key (MBK) allows designated lines to look busy to the central office by means of a key operation.

Originating: The make-busy key can be operated when an MLHG member is using Automatic Callback. Normal make-busy treatment is provided.

Terminating: If a make-busy key is operated, an AC activation towards that line results in camp-on. When the line becomes idle, ringback occurs.

3.3.156 Message Detail Recording on Customer Premises

Message Detail Recording (MDR) on Customer Premises provides call detail information on public telephone network and private facility calls via a tape unit located on the customer premises.

Originating: The Automatic Callback feature is compatible with MDR. No Message Detail Recording records are generated specifically for the Automatic Callback. However, regular message detail recording for the call will be made.

Terminating: No interaction.

3.3.157 Message Service Automatic Call (History) Display

Message Service Automatic Call (History) Display uses the 5ESS[®] switch call history information with the AP data base to display call information, client status information, and messages to the Message Service attendant when the Message Service client calls from his/her station set to receive messages.

Originating: If a user is in a message retrieval display (MRD) session and initiates an Automatic Callback activation, the request is accepted. However, how the display messages for Time and Date and for AC will be displayed depends on the CPE.

Terminating: No interaction.

3.3.158 Message Service Automatic Control of Message Waiting Indicator

Message Service Automatic Control of Message Waiting Indicator automatically activates the message waiting indicator at the client's station set when a message is recorded in the message data base.

Originating: The message waiting indicator can be activated for a user during Automatic Callback activation.

Terminating: No interaction.

3.3.159 Message Service Direct Access to Message Data Base

Message Service Direct Access to Message Data Base allows clients to update their status information, leave messages for one or more clients, and retrieve messages without assistance from the Message Service attendant.

Originating/Terminating: An AC user cannot update their status information, leave messages, or retrieve messages while using AC.

3.3.160 Message Service Leave Word Calling

Message Service Leave Word Calling (LWC) allows a client to leave a *canned* message for another client of the Message Service without assistance from a Message Service attendant.

Originating: If the LWC feature button is depressed during an Automatic Callback activation, it will be rejected. Automatic Callback cannot be used to "dial" the DN following LWC access.

Terminating: No interaction.

3.3.161 Message Service Message Data Base

Message Service Message Data Base stores customer organizational data, client status data, and standard *canned* messages. A Message Data Base is available to the Message Service attendant on the applications processor.

Originating/Terminating: No interaction.

3.3.162 Message Service Print Message On Demand

Message Service Print Message On Demand provides a printout of messages at a predetermined printer on request from the Message Services client.

Originating/Terminating: No interaction.

3.3.163 Multifrequency Pulsing

Multifrequency Pulsing provides the capability to transmit alternate current address signals between offices. Each address digit is transmitted as a pulsed pair of frequencies.

Originating/Terminating: No interaction.

3.3.164 Multiline Hunt Service Circular Hunting

Multiline Hunt Service Circular Hunting allows all lines in a multiline hunt group to be tested for busy, regardless of the point of entry into the group.

Originating/Terminating: The AC feature may be assigned to members of an MLHG. Automatic Callback activation attempts toward multiline group members are allowed.

Automatic Callback ringback may only be directed to the terminal in the MLHG that activated the feature. An incoming line history block is assigned to each terminal in an MLHG.

For hunted members of an MLHG to receive AC camp-ons, the office parameter AC TN UNIQ IGN must be set to Yes to ignore the uniqueness check. Otherwise, AC camp-ons to a nonunique number are not allowed. For MLHG camp-on, there are two cases to consider as follows:

- The MLHG has a queue.
- The MLHG does not have a queue.

In the case where the MLHG does not have a queue, MLHG idle is defined by the following criteria:

- The group make-busy key is not active.
- At least one group member is available (that is, in service, idle, member make-busy key not active).
- There is an available member that can accept the incoming call type.

When the MLHG has a queue, group idle is defined as either idle as above for the MLHG without a queue or there is a queue slot available for queuing the incoming call.

When a call is made to a no-hunt member, the busy/idle status is based on the status of the line only, and the queue entries are ignored.

If the hunt group has an extended size queue, it is considered idle by AC if at least one member is available and the queue is empty.

When determining the idle status, the actual status of the queue determines the busy/idle status.

For Dual Timer Queuing and Related AC Enhancements features, if every member of an MLHG is busy and there is an idle queue position, AC will allow the call to terminate to the empty queue position. If every member of the hunt group is busy and every queue position is busy, the AC request returns delayed processing. When a queue position becomes idle, the AC user will receive ringback.

The AC camp-ons toward an MLHG can only be handled by either originating or terminating scanning. Terminating scanning with queuing, allows end-users camped-on to a busy MLHG to receive FIFO service.

3.3.165 Multiline Hunt Service ISDN Attendant (ISAT)

NOTE: Multiline Hunt Service for ISDN Attendant (ISAT) feature origination is not supported on the standard BRI (National ISDN).

The ISAT feature is a type of multiline hunting arrangement for ISDN attendant positions.

Originating/Terminating: The ISDN Attendant Multiline Hunt Groups are considered busy for AC terminations if either of the following are true:

- All positions are busy
- Not all positions are busy, but no idle position subscribes to the caller's Incoming Call Identification (ICI).

With the Dual Timer Queuing and Related AC/AR Enhancements feature, AC requests can be made to an MLHG with queuing having either an idle position or an empty queue slot. Also, users receive ringback when a queue slot is available (not only an idle position).

3.3.166 Multiline Hunt Service Multiple Position Hunt

NOTE: Multiline Hunt Service Multiple Position Hunt feature is not supported on the standard BRI (National ISDN).

Multiline Hunt Service MUPH provides the ability to distribute calls over a group of console positions, each of which can handle several types of incoming calls received on dedicated terminals.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 3.3.164 .

3.3.167 Multiline Hunt Service Precedence Regular Hunt

Multiline Hunt Service Precedence Regular Hunt starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating: See "Multiline Hunt Service Circular Hunting", Section 3.3.164 . Precedence Hunt is **not** supported on the standard BRI (National ISDN).

Terminating: See "Multiline Hunt Service Circular Hunting", Section 3.3.164 .

3.3.168 Multiline Hunt Service Regular Hunting

Multiline Hunt Service Regular Hunting starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 3.3.164 .

3.3.169 Multiline Hunt Service Uniform Call Distribution Hunt

Multiline Hunt Service Uniform Call Distribution Hunt provides an even distribution of incoming calls among the available members of a hunt group.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 3.3.164 .

3.3.170 Multiline Variety Package Service

Multiline Variety Package Service provides a packaged group of services for customers with a small group of lines that are not defined as a business line group.

Originating/Terminating: No interaction.

3.3.171 Multiple DNs per Line with Distinctive Ringing (Multiple DNs per Line)

Multiple DNs per Line (MDNL) with Distinctive Ringing provides multiple DNs per single port [line equipment number

(LEN)]. An originating call from any of the DNs is always associated with the *Master DN*, pointed to by the LEN translator; therefore, any call placed from a DN associated with the MDNL will pass the *Master DN* as the calling party number.

Originating: The master DN is passed in the incoming message and put in ILHB. When AC is activated, the master DN is called back using its ringing pattern.

Terminating: The Call Forwarding Variable feature can be assigned to one DN of a multiple DN port. AC calls to a user with Call Forwarding active result in short-term denial.

With the Dual Timer and Related AC/AR Enhancements features, AC activations toward a line with CFV active receive short-term denial consisting of either reorder or a Call Forwarding denial announcement.

3.3.172 MultiPoint Digital Subscriber Line

The MultiPoint Digital Subscriber Line (MPDSL) feature provides support for connecting multiple users and their associated terminals to a single digital subscriber line. Users share the two B-channels for digital voice or data services and the D-channel for signaling and packet data services.

Originating: No interaction.

Terminating: An MPDSL line may be busy when two calls are active on the MPDSL and both B-channels are occupied. This is called B-channel blocking. The Automatic Callback will camp on to a line that is busy due to B-channel blocking, as well as the normal busy condition.

3.3.173 National ISDN Calling Number Identification Services

The National ISDN Calling Number Identification Services (I-CNIS) feature is based on Bellcore requirements and is an enhancement to the existing Calling Party Number (CPN)/Billing Number (BN) Transmittal in the 5ESS® Switch Private Network Environment feature.

3.3.174 National ISDN Calling Number Identification Services Intra-Group Only Optioning

The Calling Number Identification Services (CNIS) Intra-Group Only Delivery Optioning (CNIGI) feature allows restriction of the Calling Party Number (CPN) delivery, Redirecting Number (RN) delivery, and Calling Party Subaddress (CgPS) delivery features from members of a terminal group. It also restricts the provisioning of ICLID, CNAM, and EDS displays to intra-group calls. CNIGI does not effect delivery of information to residential parties. Whether the CNIGI restriction applies depends on the settings of the CNIGI option for the office, business group, and individual line/PRI trunk. The CNIGI restriction applies to all members of the terminal group, including National ISDN BRI/PRI, Custom BRI/PRI, and analog lines.

Originating/Terminating: No interaction.

3.3.175 National ISDN Channel/Terminal Configurations and Restrictions

The Channel/Terminal Configurations and Restrictions feature provides channel and terminal configurations and restrictions according to Bellcore requirements. Integrated Services Digital Network (ISDN) customers with a single terminal can be restricted to one B-channel. The ISDN customers with two or more terminals can be restricted to one B-channel via an associated group (AG). Two AGs are permitted per BRI. In an AG, customers are allowed terminals that have circuit-switched voice (CSV), circuit-switched data (CSD), on-demand B-channel (ODB) packet data, permanent packet B-channel (PPB) data, or any combination of the four services.

Originating/Terminating: The NOTIFY message for monitored user idle for AC ringback notification should be sent even if the terminal is B-channel blocked (that is, B-channel is busy for that terminal with the same bearer capability, and either all B-channels are owned by other users or another member of the same associated group owns the

B-channel).

The AC user must free a B-channel in order to respond to ringback notification (that is, hang up on an active call, place a call on hold, and so forth).

Terminating: There are differing interactions to a B-channel blocked user in an associated group indicator (AGI) group and not in an AGI group.

3.3.176 National ISDN Interswitch Calling Number Identification Services

Origination/Termination: The Calling Party Subaddress information will not be saved from the SETUP message from the AC activation request. To include the same Calling Party Subaddress information in the SETUP message in response to AC ringback notification monitored party idle, the user must provide the information again.

If the Calling Party Subaddress information is included in the SETUP message associated with an AC subscriber response to the AC ringback notification monitored user idle, then it will be included in the SETUP sent to the monitored party.

The privacy indicator supplied in the SETUP message in response to the NOTIFY message will not override the privacy indicator that has been supplied at the time of AC activation.

3.3.177 Night Service

Night Service (NS) routes calls normally directed to the attendant to preselected station lines in the customer group when regular consoles are not attended.

Originating: If an Automatic Callback user calls back to a line with Night Service active, the user receives short-term denial. See "Call Forwarding Variable", Section 3.3.38.

With the Dual Timer and Related AC/AR Enhancements features, AC activation toward a line with CFNS active receive short-term denial consisting of either reorder or a Call Forwarding denial announcement.

Terminating: No interaction.

3.3.178 Non-Data Link Attendant Console

NOTE: Non-Data Link Attendant Console is not supported on the standard BRI (National ISDN).

Non-Data Link Attendant Console is a small desk-top position from which the attendant handles calls.

Originating/Terminating: No interaction.

3.3.179 On-Hook/Off-Hook Queuing for Outgoing Trunks (Also Known as Queuing for Outgoing Trunks)

Queuing for Outgoing Trunks allows on-hook or off-hook queuing for a busy outgoing trunk. With on-hook queuing, the station is notified with a distinctive ring when a trunk is available. With off-hook queuing, the user remains off-hook, and the call is completed when the trunk is available.

Originating/Terminating: No interaction.

3.3.180 Outgoing Call Tracing

Outgoing Call Tracing is used when nuisance calls are found to be coming from one particular line. The terminating DN is put on the trace list and all originating calls from that office are checked against the list. When a call is made to the number on the list, the originating DN is identified.

Originating/Terminating: No interaction.

3.3.181 Outward Calling for PBX Via Automatic Route Selection

Outward Calling for PBX Via Automatic Route Selection (ARS) allows a PBX to take advantage of Business Group features relating to outgoing private facilities by terminating them at the serving switch via special access lines.

Originating/Terminating: No interaction.

3.3.182 Outward Wide Area Telecommunications Service (OUTWATS)

Outward Wide Area Telecommunications Service (OUTWATS) allows customers to make calls to certain zone(s) or band(s) on a direct dialing basis for a flat monthly charge or a charge based on accumulated usage.

Originating/Terminating: No interaction.

3.3.183 OUTWATS with Simulated Facilities Group

The OUTWATS with Simulated Facilities Group feature can restrict the number of simultaneous OUTWATS calls by software rather than by the physical size of a dedicated trunk group.

Originating/Terminating: No interaction.

3.3.184 Power Failure Transfer Attendant

Power Failure Transfer Attendant routes calls destined for the attendant to a preassigned DN during a commercial power failure at the customer premises.

Originating/Terminating: No interaction.

3.3.185 Precedence and Preemption Features

NOTE: Precedence and Preemption (PP) is not supported on the standard BRI (National ISDN).

The PP feature is a part of the Defense Switched Network (DSN)/Automatic Voice Network (AUTOVON) network for operating routine and precedence calls used primarily by the military.

Originating: Automatic Callback activations are considered to have routine precedence and can be preempted by calls with higher precedence. When a call is preempted, the activation attempt is canceled and the caller is given precedence alerting.

If an ISDN user presses a PP feature button during Automatic Callback activation, it is rejected.

Terminating: No interaction.

3.3.186 Priority Queuing

Priority Queuing is used to assign a queue priority level that establishes precedence for facilities when immediate access is not obtainable.

Originating/Terminating: No interaction.

3.3.187 Private Option for the Last Incoming Number

The Private Option for the Last Incoming Number (POLIN) feature, a secured and optioned feature, provides the

option to have the last incoming call considered private in all cases, even if the calling party had not marked the number as private.

Originating: When POLIN is invoked, if a user at an ISDN station with display capabilities activates AC, the display message provided will not indicate the number of the calling party, even if the calling party had not marked the number as private.

When a user at an ISDN station with display capabilities is given ringback alerting, the number of the called party will not be displayed if POLIN is invoked. The number is not displayed even if the called party had not marked the number as private on the initial call.

Two-Level Activation takes precedence over the POLIN feature. If a Two-Level AC feature is active along with POLIN, POLIN is ignored. If ICLID is active on the line, the POLIN feature does not work.

Terminating: When a user receives ringback alerting due to AC, the display message reveals the number of the last incoming call if it has not been marked private by the calling party. The POLIN feature does not affect the display on ringback of the last incoming caller's number of analog users during a One-Level AC activation. Additionally, POLIN does not affect the voice-back of the last incoming caller's number for analog users of Two-Level Automatic Callback. When the user dials the AC Two-Level Activation code, the announcement returned to the user before activation is completed by dialing a "1" reveals the number of the last incoming call, if it has not been marked private by the calling party. During a Two-Level Activation, POLIN does not affect display on ringback of the last incoming caller's number for analog users who also have ICLID assigned. When the user receives AC ringback alerting, the display message will not reveal the number of the last incoming call, if it has not been marked as private by the calling party.

For analog users, the ICLID Calling Number Delivery must be assigned to the AC user for the called party number to be displayed on ringback.

3.3.188 Radio Paging Access

Radio Paging Access allows attendants and station users to access radio paging equipment and page individuals carrying pocket radio receivers.

Originating/Terminating: No interaction.

3.3.189 Recall From Subscriber

Recall From Subscriber allows the customer to recall an Operator Services Position System (OSPS) operator for certain classes of operator-assisted calls by flashing the switchhook. The operator recalled is not necessarily the operator who originally assisted on the call.

Originating/Terminating: No interaction.

3.3.190 Recorded Telephone Dictation

Recorded Telephone Dictation (RTD) permits access to and control of customer-owned dictating equipment from a station in the customer group. The station must be equipped for dual tone multifrequency signaling.

Originating/Terminating: No interaction.

3.3.191 Remote Activation of Call Forwarding (Remote Access to Call Forwarding)

Remote Activation of Call Forwarding (RACF) provides the ability to remotely activate/deactivate Call Forwarding by using dialed codes.

Originating/Terminating: No interaction.

3.3.192 Remote Call Forwarding (Call Forwarding Remote)

Remote Call Forwarding allows all calls to a specified DN to forward-to a remote 7- or 10-digit telephone number (preconstructed feature /CFR).

Originating/Terminating: The AC activation to forwarded DNs receives short-term denial. With the Dual Timer and Related AC/AR Enhancements features, AC activation toward a line with CFNS active receive short-term denial consisting of either reorder or a Call Forwarding denial announcement.

3.3.193 Revertive Pulsing

Revertive Pulsing is the method of interoffice signaling originating with the panel systems and continuing with the No. 1 Crossbar.

Originating/Terminating: No interaction.

3.3.194 Ringback Queuing

Ringback Queuing allows a station user encountering a busy network facility to queue for an idle facility by dialing a function code and going on-hook in a preselected time following the queuing confirmation code. The caller is rung back when the appropriate facility becomes idle.

Originating: The Automatic Callback feature does not camp-on to trunks or simulated facilities groups; therefore, this feature has no direct interaction with ringback queuing. If a call set up after Automatic Callback activation results in the end-user getting a busy facility, the end-user may choose to use ringback queuing. Since Automatic Callback activation is already complete, actions after call setup are not affected by Automatic Callback. If ringback queuing is applying ringback to a terminal, the Automatic Callback feature will not apply ringback at the same time.

For National ISDN, a ringback queuing notification is equivalent to an AC ringback. Since only one ringback notification may be in progress at any one time, the ringback queuing notification will not be allowed while an AC ringback notification is in progress.

Ringback queuing shares originating resources with the AC, AR, and ACBC.

Terminating: No interaction.

3.3.195 Satellite Attendant Transfer

Satellite Attendant Transfer provides the same service as the Call Transfer Attendant feature to a satellite location having no attendant.

Originating/Terminating: No interaction.

3.3.196 Screen List Editing

Screen List Editing (SLE) is used in conjunction with all LASS Selective feature lists.

Originating: If an Automatic Callback camp-on has been activated by an analog user and the user is in an SLE session, ringback will not occur. The analog user is treated as busy. The ISDN users in an SLE session are treated as busy only if all terminating call appearances for the DN are occupied.

Terminating: No interaction during an editing session.

3.3.197 Selective Call Acceptance

Selective Call Acceptance (SCA) allows residential and business users to restrict which incoming voice calls are allowed to terminate.

Originating: If the SCA user activates SCA before AC delayed processing ringback is given, the SCA user receives ringback even though the DN is not on the list (since the SCA user initiates this AC call).

Automatic Callback activation to a line with SCA active is not affected by SCA if the DN of the AC caller is on the SCA screening list.

If the DN of the AC caller is not on the SCA customer's SCA screening list, AC camp-on to a line with SCA active will not occur. If the DN of the AC caller is not on the SCA screening list and SCA is active with recording as not accepted treatment (NAT), the AC caller is connected to an SCA denial announcement. If the DN of the AC caller is not on the SCA screening list and SCA is active with forwarding as NAT, the AC caller receives call forwarding denial treatment and, if applicable, feature button rejection treatment.

A party answering ringback as a result of AC camp-on to the line of an SCA customer is connected to an SCA denial announcement if SCA is active with recording as NAT on the SCA user's line and the DN of the party answering the AC ringback is not on the SCA screening list. If the NAT is forwarding instead of recording, a call directed to the return telephone number (RTN) of the SCA user will automatically originate from the line of the party answering ringback after ringback is answered.

The AC activation toward a line with SCA or computer access restriction (CAR) with forwarding active receives a call forwarding denial announcement. The terminating switch returns an indication that SCA is active, and the originating switch applies the Call Forwarding denial treatment (reorder or a Call Forwarding announcement).

Selective Call Rejection takes precedence over SCA and SCF. If a user has both SCR and either SCA or SCF active, the SCR rejection list is checked first. Calling parties on the rejection list receive an SCR denial announcement. The SCA takes precedence over SCF. If a calling party is on the SCA acceptance list, the DN is checked to see if it is also on the SCF forwarding list. If the DN of the calling party is not on the acceptance list and the SCA option is set to give an announcement, the caller receives an SCA denial announcement. If the SCA option is set to forward, then the calling party receives call forwarding denial treatment.

Terminating: No interaction.

3.3.198 Selective Call Forwarding

Selective Call Forwarding (SCF) allows a customer to preselect which calls will forward based on the telephone number of the calling party.

Originating: If user A (located on a 5ESS[®] switch) desires to call back the LICDN, user A can activate the Automatic Callback feature toward user B (located on a 1A ESSTM switch) who has SCF active. The DN for user A is checked against the SCF list and, regardless of the busy/idle status, the Automatic Callback invocation is denied. Short-term denial is returned to user A. If the DN for user A is not on the SCF list, the invocation is accepted subject to all other applicable feature interactions.

The AC activation toward a line with SCF receives call forwarding denial treatment (reorder or an announcement) if the calling party's DN is on the forward list of the called party. The terminating switch returns an indication that SCF is active; the originating switch applies the call forwarding denial treatment.

Terminating: No interaction

3.3.199 Selective Call Rejection

Selective Call Rejection (SCR) allows a customer to reject calls from telephone numbers that are on the customer's SCR list.

Originating: If user A desires to call back the LICDN, user A can activate the Automatic Callback feature toward user B who has SCR active. The DN for user A is checked against the SCR rejection list. If the DN is on the list, regardless of the busy/idle status of the line, the AC feature invocation is set up so that the calling party receives the rejection announcement; no camp-on is allowed. If the DN is not on the SCR list, the AC feature invocation is accepted and proceeds normally.

Terminating: No interaction.

3.3.200 Selective Carrier Denial

Selective Carrier Denial (SCD) allows the local office to selectively inhibit certain calls normally handled by a carrier from lines designated as nonpaying subscribers by the particular inter-LATA carrier that will handle the call.

Originating/Terminating: No interaction.

3.3.201 Selective Control of Facilities

Selective Control of Facilities (SCOF) allows the customer to busy out private facilities via key control and, thereby, deny all originating access.

Originating: An Automatic Callback user can activate Selective Control of Facilities during an Automatic Callback activation.

Terminating: No interaction.

3.3.202 Selective Distinctive Alert (Distinctive Alert)

Selective Distinctive Alert (SDA) allows a customer to preselect which calls will have distinctive alerting treatment based on the telephone numbers of the calling parties.

Originating: If Automatic Callback is activated to a line that has SDA active, terminating treatment for calls set up via Automatic Callback are the same as normal call setup.

Terminating: No interaction

3.3.203 Semirestricted Station Originating and Terminating

Semirestricted Originating and Terminating provides the ability to restrict a business group line from originating and/or receiving any calls from outside the group. Intragroup calls, attendant calls, and calls over private facilities are permitted.

Originating: Automatic Callback works within the bounds of Terminal Group and Station Restriction (TGSR) screening. The restrictions that apply to an AC call are the restrictions in effect at the time of call origination. If the LICDN is outside the terminal group and the user is semirestricted originating, the user will receive long-term denial.

Terminating: The ILHB of the semirestricted terminating station is updated with the LICDN when the user is alerted.

3.3.204 Series Completion

NOTE: Series Completion is not supported on the standard BRI (National ISDN).

Series Completion is a type of hunting in which DNs are grouped into a prearranged ordered list.

Originating/Terminating: The Automatic Callback camp-ons toward series completion lines are allowed. Automatic Callback queuing toward the initially called line in the Series Completion group is allowed. Queuing is not supported for the entire group. Automatic Callback does not follow around a call forwarding "chain," but only camps-on to the base station.

The base station is defined as the originally called line in the group. When the base station goes idle, only then is the originating switch notified that the called line is idle. The busy/idle status of other lines in the Series Completion group will not affect the individual camp-on to the originally called DN. If other lines in the group are idle and the base station is still busy, "busy" would still be returned for busy/idle queries from an originating switch.

A user receives ringback after camping on to a Series Completion group line when a busy line becomes available. However, if the line becomes busy again before the Automatic Callback Call is completed, the Automatic Callback call will either receive busy after ringback or go to the next available line in the Series Completion group.

3.3.205 Signaling System 7 Network Interconnect

Signaling System 7 Network Interconnect (SS7 NI) provides an out-of-band signaling interface between local exchange carrier and interexchange carrier networks.

Originating/Terminating: The Automatic Callback feature needs full SS7 connectivity to allow interoffice TCAP querying to handle interswitch camp-ons. Additionally, ISDN User Part (ISUP) 7 call routing is necessary if the lost incoming call directory number (LICDN) is to be available to Automatic Callback activation.

3.3.206 Simulated Facilities Groups for In and Out Calls

The Simulated Facilities Groups for In and Out Calls feature provides the capability to restrict the number of simultaneous direct inward dialing (DID) calls terminating to the group and the number of simultaneous calls originating by the group to direct distance dialing (DDD).

Originating/Terminating: No interaction.

3.3.207 Single-Digit Dialing

Single-Digit Dialing permits station users to reach any station of a preselected group or other internal facility by dialing single-digit codes.

Originating/Terminating: See "Speed Calling", Section 3.3.210 .

3.3.208 Smart Set Interface

Smart Set Interface allows customers to use *smart* station sets. Flash requests and feature function codes are associated with unique keys on the station set.

Originating/Terminating: No interaction.

3.3.209 Special Intercept Announcement

Special Intercept Announcement allows a unique intercept announcement to be provided to each business group.

Originating/Terminating: No interaction.

3.3.210 Speed Calling (Also Known as Abbreviated Dialing)

Speed Calling permits the customer to dial selected numbers using fewer digits than normally required.

Originating/Terminating: An AC use code can be defined in a non-Individualized Dialing Plan (IDP) and IDP speed call list.

3.3.211 Tandem Call Trace

Tandem Call Trace is used when nuisance calls are found to be incoming from a tandem office. The traced DN is marked for tracing at that office to identify the tandem trunk.

Originating/Terminating: No interaction.

3.3.212 Tandem Tie Trunk Dialing

Tandem Tie Trunk is another name for Nonsenderized Tie Trunk (NTT). It uses a switching method whereby the station user directly controls, in stages, the routing of an outgoing tie trunk call through the originating switch as well as any intermediate switches.

Originating/Terminating: No interaction.

3.3.213 Terminal Group and Station Restriction for ISUP Trunks

The Terminal Group and Station Restriction (TGSR) for ISUP Trunks feature allows customers to restrict calls within a terminal group even if the calls are interswitch if there is at least one ISUP trunk assigned.

Originating/Terminating: The TGSR for ISUP Trunks special feature allows callers to be treated as unrestricted originating or terminating, when AR is invoked interswitch, regardless of what station restriction is assigned.

3.3.214 Three-Way Calling

Three-Way Calling (TWC) allows a customer to add a third party to an existing conversation.

Originating: A customer with Three-Way Calling flash capabilities can flash and initialize a One-Level Automatic Callback Activation after receiving dial tone. Limited Two-Level Activation of AC cannot be used after flash for Three-Way Calling.

For ISDN, users during an Enhanced Two-Level AC Activation transfer or conference button depression are rejected, and attempts result in standard denial signal being given for those call appearances. For analog users, a flash is disabled during a One-Level Activation. Since switchhook flashes are treated as disconnects during Two-Level Activation sessions, analog users are not able to invoke Three-Way Calling.

Once the Automatic Callback call is set up, users can use flash capabilities.

Terminating: No interaction.

3.3.215 Tie Trunk Access

Tie Trunk Access connects two or more business customer locations. They can terminate in an attendant console for direct access or have dial access.

Originating/Terminating: No interaction.

3.3.216 Time-of-Day

Time-of-Day (TOD) allows a customer to preschedule recent change, thereby controlling activation and deactivation of certain modular features and changes to feature parameters via dialed codes and key control.

Originating/Terminating: Automatic Callback cannot be controlled by TOD.

3.3.217 Toll Diversion to Attendant

Toll Diversion to Attendant (TDA) intercepts toll or code calls from restricted business group lines and routes them to the attendant (or other designated line).

Originating/Terminating: An Automatic Callback attempt to a Toll Diversion Attendant number will result in long-term denial.

3.3.218 Tracing of Terminating Calls

Tracing of Terminating Calls allows the identification of calling lines while the call is in progress. When incoming calls are to be traced, the terminating DN is placed on the call tracing list where it remains until manually removed.

Originating/Terminating: No interaction.

3.3.219 Traveling Class Mark

Traveling Class Mark (TCM) carries class-of-service information along with the called number through a private network. The TCM provides unique downstream routing and screening information.

Originating/Terminating: No interaction.

3.3.220 Trunk Answer From Any Station

Trunk Answer From Any Station (TAS) activates a common alerting signal on the customer premises when the attendant positions are in Night Service for calls normally directed to the attendant. These calls can then be answered from any nonrestricted station in the business group by dialing a special answer code.

Originating/Terminating: No interaction.

3.3.221 Trunk Dial Transfer

Trunk Dial Transfer provides the Call Transfer Individual feature to tie trunks.

Originating/Terminating: No interaction.

3.3.222 Trunk Group Busy Lamps

The Trunk Group Busy Lamps feature provides a visual indication on a private facility trunk group basis when the facility group is all in use.

Originating/Terminating: No interaction.

3.3.223 Two-Party ANI/ONI Capability

The Two-Party Automatic Number Identification/Operator Number Identification (ANI/ONI) Capability allows operating companies the choice of giving two-party lines Automatic Number Identification (ANI) treatment or Operator Number Identification (ONI) treatment.

Originating: Two-party lines cannot be assigned AC nor use the generally available access to AC. An AC activation to a two-party line with ONI results in long-term denial. An AC activation to a two-party line with ANI updates the incoming line history block with the calling DN.

Terminating: The ILHB is updated with the two-party DN marked unique.

3.3.224 Two-Party Line

Two-Party Line provides basic POTS to two customers sharing the same line.

Originating: Two-party lines cannot be assigned AC nor use the generally available access to AC. An AC activation to a two-party line results in long-term denial.

Terminating: The ILHB is updated with the two-party DN marked unique.

3.3.225 Unidentified Call Rejection

Unidentified Call Rejection (UCR) is a secured and optioned feature. The UCR feature routes calls to an uninterruptible announcement if the calling party number of an incoming call to an analog user is marked as private.

Originating: Intraswitch activation of AC with a number marked as private towards a party with UCR attempts immediate call setup regardless of the busy/idle status of the UCR user. The AC user is given a UCR announcement. The UCR announcement indicates that the called party is not accepting calls from parties with private numbers.

The UCR feature has no affect on interswitch activation of AC. The UCR feature is not checked immediately. The AC-delayed processing can occur if the called party is busy, even if the party has UCR. When the called party becomes idle, the calling party is routed to the UCR rejection announcement if the calling party's number is marked private.

Terminating: No interaction.

3.3.226 Uniform Numbering

Uniform Numbering provides a customer-specified 7-digit numbering plan that identifies all business group stations interconnected by the facility network. Each customer switch connected by the Electronic Tandem Network (ETN) is identified by a 3-digit code.

Originating/Terminating: No interaction.

3.3.227 Unrestricted Originating and Terminating

This is basically the absence of originating and/or terminating restriction in a terminal group.

Originating/Terminating: No interaction.

3.3.228 User-Side Primary Rate Interface Implementation

This feature allows PRI support in public (private trunks providing access to public facilities) and private networks.

Originating/Terminating: No interaction.

3.3.229 National ISDN Additional Call Offering (Voice and Data)

The National ISDN Additional Call Offering (ACO) feature is based on Bellcore requirements. This feature notifies the Integrated Services Digital Network (ISDN) user via Q.931 signaling procedures that there is a circuit-switched voice (CSV) or circuit-switched data (CSD) call waiting for that user at the serving 5ESS[®] switch; the call cannot be delivered due to the unavailability of a B-channel. The user can answer the incoming call by putting an existing call on hold or by disconnecting an existing call. The call reference busy limit (CRBL) subscription parameter limits the number of concurrent originating and terminating calls that the user may have established. Arriving calls beyond this limit are given busy treatment.

Originating/Terminating: An ACO subscriber may subscribe to AC. Idle status for the ACO subscriber who initiates AC or for the ACO subscriber who is the monitored party will be determined by checking if the ACO subscriber has an available call reference and access to a B-channel.

Idle status for the ACO subscriber is not relevant for the delivery of the NOTIFY message.

The NOTIFY message for the monitored user idle for AC ringback notification does not interact with ACO. The AC ringback notification of monitored idle is sent to the AC subscriber regardless of the state of ACO.

3.3.230 National ISDN Hold (Voice and Data)

National ISDN Hold feature allows a National ISDN station user to *hold* a call in progress by flashing and then dialing the Call Hold code or operating a function key, if available.

Originating: A user can put a call on hold and, following receipt of dial tone, cancel Automatic Callback or use a One-Level Activation procedure. If a user hangs up while in an Automatic Callback activation session, he/she is rung back by the Call Hold feature and connected to the party on hold.

A user can put a call on hold and, following receipt of dial tone, use Two-Level Activation procedures. However, a user cannot return to the party on hold before completing the activation procedure.

A Limited/Enhanced Two-Level Activation session may not be placed on hold. Switchhook flashes are treated as disconnects.

Terminating: Once an AC call is routed to the correct party, the resultant call can be put on hold.

3.4 RESTRICTION CAPABILITY

Lines (terminals) must have the ability to originate calls to use Automatic Callback. Lines that have been denied origination cannot use the feature. Additionally, manual lines cannot use this feature. The Automatic Callback feature cannot be accessed or assigned to the following classes of service:

- 911
- Coin
- Denied Termination Lines
- Multiparty
- Hotel/Motel
- Coinless Public Telephones
- Two-Party
- PBX Trunks
- ISDN PRIs
- Line Time Slot Bridged Lines
- Stand-Alone Test Lines
- Trunk and Line Work Station Local Callback Phones.

3.5 ENGINEERING

3.5.1 Special Planning Considerations

The SS7 data to support LASS exists not only in the administrative module (AM) office-dependent data (ODD), but also in the common network interface (CNI) data base. The CNI data base is separate from the ODD and is not currently populated by the Office Data Administration (ODA) process. The data base must be populated through recent change views after the CNI has been initialized. See 235-190-120, *Common Channel Signaling Service Features*, for more information on general CNI procedures.

In a 5ESS® switch, SS7 ISUP trunk signaling is a prerequisite for the operation of LASS as an interswitch service. The data population needed for ISUP will not be discussed in this document. It is presented in 235-190-120, *Common Channel Signaling Service Features*.

Additionally, AC uses direct signaling provided by SS7 TCAP, and additional data in the ODD and the CNI data base is required for this purpose. This data can be inserted independently of any other LASS data. However, it must be consistent with correlated data present in the signal transfer point (STP) and in the other offices of the network. For additional information, refer to Bellcore TR-TSY-000030.

The Transaction Capabilities Application Part (TCAP) Improvements for a Switch Spanning Multiple LATAs feature permits lines (or groups of lines) to be assigned a LATA NUMBER different from the default LATA NUMBER associated with the office. This feature allows a LATA NUMBER to be associated with a subscriber. The assigned LATA NUMBER will be used to select the appropriate signaling link based on the Signal Transfer Point (STP) for LASS services or will be used to populate the SSP 800 TCAP query to the Service Control Point (SCP). This feature is available in the 5E11 software release. For more information and a complete description of this feature, refer to 235-190-120, *Common Channel Signaling Service Features*.

3.5.2 Hardware

3.5.2.1 General

A 13A, 14A, 15A, or 16A recorded announcement facility is used to provide long-term denial, confirmation, cancel, and call forwarding denial announcements.

3.5.2.2 DSU2-RAF

The DSU2-RAF is used to provide the announcements used for Automatic Callback Two-Level Activation. The DSU2-RAF includes a TN833 digital services circuit control board, a TN1053 announcement storage circuit, and an optional TN1054 expansion announcement storage circuit.

3.5.2.3 Displays

Analog Display — Analog customers who have the ICLID feature use an attached display unit and the Display feature to receive calling number display. Additionally, this hardware can provide DN information to analog sets during Automatic Callback ringback.

If an Automatic Callback activation is successful, the called DN (if not marked as private) is displayed as well as the date and time the LICDN alerted the terminal. If the privacy indicator is set, the called DN will not be displayed; instead, the 5ESS® switch sends out a "P" indicating that the number is private, rather than the DN.

During ringback, the called DN (if not marked private and POLIN is not activated) is displayed.

ISDN Display — ISDN terminals that have display capabilities display the called DN and the feature type (Automatic Callback) during confirmation of activation or ringback using the NORMAL mode. The called DN (if not marked

private), the Automatic Callback call type, the date, and the time when the LICDN alerted the terminal are displayed. If a privacy indicator is set or POLIN is activated, the called DN will not be displayed; instead, the 5ESS® switch sends out a "P" indicating that the number is private, rather than the DN.

During ringback, the called DN (if not marked private and POLIN is not activated) and the Automatic Callback call-type indicator will be displayed. Note that POLIN does not affect the operation of the Two-Level Activation of AC feature.

3.5.3 Dynamic Data

The Automatic Callback feature requires an ILHB to store information about the calling party. Refer to "Line History Block Memory", Section 2.3.3.1, for additional information.

3.6 IMPLEMENTATION

3.6.1 ODA Implementation

Refer to "LASS Forms and Views", Section 2.4, for ODA forms used in implementing the Automatic Callback feature.

3.6.2 Recent Change Procedures

3.6.2.1 Assigning Customer Service

Service providers will have the capability to provide AC to individual customer lines on an office-wide (GENAVAIL) basis or a subscription basis via a service order (SUBSCR). Telephone companies also have the capability to assign and remove AC on individual customer lines. The telephone company defines the AC feature definition and assigns the proper feature to lines for billing on a flat-rate or usage-sensitive basis.

At the time of subscription, the telephone company needs to know the type of interface (ISDN or analog) the customer has. For ISDN customers, the telephone company determines whether a feature button will be used to access AC and whether display will be used.

Obtain assistance from the Lucent Technologies Secured Feature Administrator to enable the Limited Two-Level Activation of AC and any other desired secured feature (for example, POLIN).

3.6.2.1.1 Feature Definition

Feature definition is the modular feature construction process used to construct features. The feature may be defined as part of the software release (preconstructed) or defined by the telephone company (customized). The feature definition process must be completed before any lines can be assigned to use the feature. The preconstructed features for Automatic Callback are listed in Table 3-2.

Table 3-2 LASS Automatic Callback BRCS Definitions

MODULAR FEATURE TYPE	PRECONSTRUCTED FEATURE NAMES	WILDCARD FEATURE SYMBOL
MFAC	/LAC1 /LACGA	/LAC*

Expansions for these preconstructed features are as follows:

- /LAC1 — LASS Automatic Callback Subscription (flat-rate billing).
- /LACGA — LASS Automatic Callback Generally Available (usage-sensitive billing).

The Automatic Callback Feature Definition View is 12.47. This view contains attributes that are as follows:

- Indicate the constructed feature name (FEATURE).
- Allow a remark to be associated with the feature (REMARKS).
- Indicate the activation type (ACT TYPE). When set to NONE, the activation type cannot be altered by recent change.
- Indicate the deactivation type (DEACT TYPE). When set to NONE, the deactivation type cannot be altered by recent change because the feature is always activated.
- Indicate whether billing is on a usage-sensitive basis (Y) or on a flat-rate basis (N) (AMA REC). The default is N.
- Indicate whether line-to-line filtering is intergroup (Y) or (N) intragroup (INTRA GRP). If set to Y, only the intragroup invocations are allowed. The default value is N.
- Indicate the callback ringing cadence selector (RNGBK TYPE). Patterns A through D are valid. The default ringing pattern is C. This office parameter is the default telephone number parameter.

3.6.2.1.2 LASS Office Parameters

The LASS Office Parameters View (View 8.21) provides for the LASS feature office parameters keyed by office ID. The attributes associated with this view for Automatic Callback are as follows:

- **B/I SCAN** — This parameter indicates the interswitch busy/idle status scan rate before ringback. The range of values for this parameter is 45 to 120 seconds in 15-second intervals; the suggested value is 60 seconds (shared with Automatic Recall). The range of values for this parameter was changed to 30 to 120 seconds with the Dual Timer Queuing and AC/AR Related Enhancements feature. This parameter must be set consistently throughout the network for correct operation of the network.
- **TIMEOUT** — This parameter is used to indicate the feature time-out interval when scanning is being performed. The length of scanning can be from 15 to 45 minutes in 1-minute intervals. The default value is 30 minutes. This parameter defines the maximum length of the scanning session (shared with Automatic Recall). This parameter must be set consistently for correct operation of the network. Since AC/AR deletes timed-out activations every 7 minutes, the actual time-out interval can vary from the value of this parameter to this parameter value plus 7 minutes.
- **SCAN MODE** — This parameter is used to indicate the first choice of scanning for the office by Automatic Callback. Originating and terminating are the choices of scanning. This parameter only has significance when the 5ESS[®] switch is acting as an originating switch. This parameter should not be used to decide whether a 5ESS[®] switch, acting as a terminating switch, should perform terminating scanning on request by another switch. Valid entries are ORIG and TERM. The default is TERM scanning (shared with Automatic Recall).
- **TCAP** — This parameter is used to indicate the wait period for a response to LASS TCAP messages. The wait period should be from 1 to 10 seconds in increments of 1 second. The default value is 3 seconds (shared with Automatic Recall).
- **RNGBK TYPE** — This parameter is *not* applicable to National ISDN. It is used to indicate the distinctive ringing pattern for ringback, only for a generally available case when an Automatic Callback feature is not explicitly assigned to a line. Valid entries are patterns A through D. The default is C (type C ringing) (shared with Automatic Recall).
- **RNG CYCLE** — This parameter is *not* applicable to National ISDN. It is used to indicate the number of cycles

of ringing applied during each ringback. From 2 to 7 cycles are available. Each cycle is 6 seconds. The default value is 4 cycles (shared with Automatic Recall).

- **MAX RNGBK** — This parameter is *not* applicable to National ISDN. It is used by Automatic Callback to indicate the maximum number of ringback attempts allowed per activation. The value can range from 1 to 12 ringbacks. Its default value is 1 (shared with Automatic Recall).
- **RNGBK WAIT** — This parameter is *not* applicable to National ISDN. It is used to specify the period of time the 5ESS[®] switch should wait after a ringback timer expires before resuming scanning (either originating scanning or terminating scanning). The range of values for this parameter is 3 to 12 minutes in increments of 15 seconds. The default value is 0. This field must not be greater than 0 if MAX RNGBK is equal to 1.
- **AC TO COIN** — This parameter is an office option that indicates whether Automatic Callback activation toward coin lines are allowed. Possible values include "Y" or "N" with a default value of "Y". If this parameter is set to "Y", activations toward coin lines are allowed. If set to "N", activations are denied and the user is given long-term denial treatment.
- **AC TN UNIQ IGN** — This parameter is an office option indicating whether Automatic Callback activation toward nonunique lines are allowed. Possible values are "Yes" and "No," with a default of N. If the parameter is set to Y, the uniqueness indicator is ignored. If the parameter is set to N, the uniqueness indicator in the ILHB must be checked; if it is not unique, the Automatic Callback activation attempt will fail. (Refer to "Unique/Nonunique DNs", Section 3.7.3 .
- **AC GA FEAT** — This parameter contains the Preconstructed feature for AC Generally Available feature access (/LACGA).
- **AC CNFRM RTI** — This parameter is used by the Automatic Callback confirmation announcement route index. The range for this parameter is 0 through 3617 with a default of 0.
- **LNG TRM DNY RTI** — This parameter is used by Automatic Callback as a long-term denial announcement route index. The range for this parameter is 0 through 3617 with a default of 0.
- **AC CNCL RTI** — This parameter is used by Automatic Callback-Calling for feature cancellation announcement route index. The range for this parameter is 0 through 3617 with a default of 0.
- **PTY BUSY RTI** — This parameter is used by Automatic Callback-Calling for a called party busy announcement route index (shared with Automatic Recall). The range for this parameter is 0 through 3617 with a default of 0.
- **INTER LATA AC AR** — This parameter for AC indicates if camp-ons to inter-LATA DNs are permitted. Possible values are Y or N. The default is No.

Global parameters added to the LASS Office Parameters View (View 8.21) for the Enhanced Two-Level Activation of AC feature are as follows:

- **AC ACT LVL** — This parameter specifies if the AC activation is one-level or two-level. Valid values are 1 or 2. The default value is 1.
- **AC WAIT TIME** — This parameter indicates the amount of time in seconds in which the user must respond to the interactive recorded announcement prompt when using Two-Level Activation. Valid values are 1-15. The default value is 7.
- **AC MAX TIMEOUT** — This parameter indicates the number of times a user is allowed to time-out following the interactive recorded announcements when using Two-Level Activation. Valid values are 1-5. The default value is 3.

- **AC MAX ERRS** — This parameter indicates the number of times a user is allowed to enter incorrect digits in response to the interactive recorded announcements when using Two-Level Activation. Valid values are 1-5. The default value is 3.
- **AC VOICE BACK** — This parameter indicates whether the date and time of the last call should be voiced back to the user. The possible values of this parameter are "Y" and "N". "Y" indicates that the date and time should be voiced back. The default is Y.

Global parameters added to the LASS Office Parameters View (View 8.21) for the Dual Timer feature are as follows:

- **REINIT SCAN** — This parameter is a threshold value used to indicate if the originating office should reinitiate scanning after terminating scanning has been completed. If a scan should be reinitiated due to some event occurring (for example, an AC reactivation), the amount of time remaining on the timer set by the TIMEOUT parameter must be greater than this threshold value. Valid values are between 0 and 300 seconds. The default value is 300.
- **CF ACTIVE DNY RTI** — This parameter contains the route index for the AC/AR Call Forwarding Active denial announcement from the 13A, 14A, 15A, or 16A recorded announcement facility. This announcement is played when an AC/AR activation fails because the line that was activated has Call Forwarding active. Valid values are values between 0 and 3617 (this value must be defined on the RTIDX form). The default is 0. If the default of 0 is given for this field, the 5ESS[®] switch gives the default treatment of reorder tone.
- **AC ORIG CAMP LIM** — This parameter defines the number of Automatic Callback camp-ons that can be originated by a single port. When this parameter limit is reached, the customer will be denied additional camp-ons, and reorder tone is returned when an attempt exceeds the limit. Valid values are between 1 and 30. The default value is 10.
- **TERM CAMP LIM** — This parameter defines the number of LASS Automatic Callback and Automatic Recall camp-ons that are allowed against a single terminating port. When this parameter limit is reached, the customer will be denied additional camp-ons, and reorder tone is returned when an attempt exceeds the limit. Valid values are between 1 and 20. The default value is 10.
- **MAX CAMP TIME** — This parameter indicates the length of time that a LASS Automatic Callback or Automatic Recall camp-on can remain active in the same queue position. A single camp-on remains active for the interval specified by the TIMEOUT parameter. A camp-on can be reactivated by the originator before this timer expires. However, it cannot be reactivated beyond the value specified by this parameter. A customer can create a new activation that can be placed at the end of the existing list of camp-ons. Valid values are between 120 and 240 minutes in 15-minute intervals. The default value is 180.

3.6.2.1.3 Office Equipment Parameters

The LASS Automatic Callback Office Equipment Parameters View (View 1.47) provides feature line parameter assignment keyed by office equipment (OE) number plus party (PTY) for an assigned Automatic Callback feature. The attributes associated with this view are as follows:

- **OE** — This parameter is a key and is used to indicate the logical port.
- **PTY** — This parameter is a key and is used to uniquely identify the logical port.
- **FEATURE** — This parameter is a key and is used to identify the key.
- **RNGBK TYPE** — This parameter, as mentioned, indicates the callback ringing cadence selector.

3.6.2.1.4 Multiline Hunt Group Parameters

The LASS Automatic Callback Multiline Hunt Group Parameter View (View 1.47) provides line parameter assignment keyed by multiline hunt group (MLHG) and member (MEMB) for an assigned Automatic Callback feature. The parameter attributes associated with this view consist of the following:

- **FEATURE** — This parameter is a key and is used to identify the feature.
- **MLHG** — This parameter is a key and is used to indicate the logical port.
- **TERM NBR** — This parameter is a key and is used to uniquely identify the logical port.
- **RNGBK TYPE** — This parameter indicates the callback ringing cadence selector.

3.6.2.1.5 Telephone Number Parameters

The LASS Automatic Callback Telephone Number Parameter View (View 1.47) provides feature line parameter assignment keyed by telephone number for an assigned Automatic Callback feature. The parameter attributes for this view are as follows:

- **TN** — This is a key parameter used to indicate the logical port.
- **FEATURE** — This is a key parameter used to identify the feature.
- **OE** — This parameter is the originating equipment line number (composite equipment number consisting of ENTYPE and LEN).
- **PTY** — This parameter is the party identifier.
- **MLHG** — This parameter is the multiline hunt group number. The multiline hunt group is defined on View 3.5.
- **MEMB** — This parameter is the multiline hunt group member number. This number can be 1-2015 or 3001-3999.
- **RNGBK TYPE** — This parameter indicates the callback ringing cadence selector.

3.6.2.1.6 LASS Feature Access

3.6.2.1.6.1 General

The LASS Feature Access View (View 8.18) provides the LASS feature access option specification. For example, it specifies whether LASS is generally available, requires subscription, or is unavailable on a per-SM basis. The AC parameter attribute in this view allows the access option of GENAVAIL, SUBSCR, UNAVAIL, TEMPUNAVAIL, or LASSDEF (default) to be specified for the Automatic Callback feature. This view can update the access mode option for one or more LASS features for all the appropriate SMs in the office.

3.6.2.1.6.2 Secured Feature Upgrade

The Secured Feature Upgrade View (View 8.22) provides feature security and the Optioned Features View (RC View 8.31) is used to set the transparency feature optioning bit used to determine if a customer has Limited Two-Level Activation of Automatic Callback or POLIN. The feature parameter attributes associated with this view consist of the following:

- **FEATURE ID** — This parameter is a number used to identify the feature. The feature number is 532 for AC

Limited Two-Level Activation; 504 for LIGI; 534 for POLIN; and 547 for UCR (refer to "Individual Calling Line Identification", Section 2.2.4). There is no default value. This attribute is used to set the TFOS bit and the secured feature bit which provide activation of the Limited AC Two-Level feature.

- **Module** — This parameter identifies the type of processor. It can be a number 1 to 192 for SM; 193 for an AM, CMP, AUD, RDY; or OFC for the entire office. For AC Two-Level Automatic Callback and POLIN, enter OFC. There is no default value.
- **PASSWD** — This is the secured feature access password. Obtain the password from the Lucent Technologies Secured Feature Administrator.
- **ACTIVE** — This parameter is used to determine if the Two-Level Activation of AC or if the POLIN feature is active. Enter Y (yes) or N (no). The default value is N.

The secured feature is not enabled until the purchaser has made the necessary arrangements with Lucent Technologies. Contact your Lucent Technologies Network Systems Account Representative for ordering information and the right-to-use fee associated with this feature.

3.6.2.1.6.3 Choke List

A choke network capability allows the terminating switch to inform the originating switch that an AC feature should be denied on a call-by-call basis. For mass calling applications, special office codes (NPA, NPA-NXX, NPA-NXX-XXXX) may be set aside. A choke list of these special office codes is maintained in the 5ESS® switches and can be altered by recent change. Camp-on can be denied to specific NPAs, NPA-NXXs, and NPA-NXX-XXXXs by putting them on the LASS Choke List (LASSCK) (Office Record #5946, RC View 8.19), which is shared with LASS Automatic Recall. The maximum number of entries on the list is 16. Each entry must be either three, six, or ten digits in length.

The choke list will be checked before permitting intraswitch or interswitch camp-ons. If an NPA, NPA-NXX, or NPA-NXX-XXXX is on the choke list, the user will receive long-term denial treatment when AC is attempted toward that DN.

The terminating switch in an interswitch AC feature activation attempt will use the choke list to inform the originating switch through the SS7 network that the activation attempt was made on a choke DN. It will respond to the initial SS7 TCAP query with a DN-to-line service type mapping parameter set to "choke line type." The DN match field of the parameter will be set to "no match." No resources will be reserved at the terminating switch for this activation attempt. A "return error—task refused" will be returned to the queue resource request component of the response.

The choke list must exist; if it does not and an attempt is made to read it, the craft assert ARCRTCF2 will fire. If the data on the choke list has been corrupted, an error assert will fire out of RTCHOKED indicating bad data. In either case, use RC View 8.19 to correct the error.

The LASS Choke List View (View 8.19) provides this recent changeable choke list. As previously mentioned, up to 16 entries can be on this list. The list is ordered by 3-digit NPA codes followed by 6-digit NPA-NXX, and 10-digit entries. The attributes associated with this view are as follows:

- **OFFICE ID** — This parameter is the office identification. It can be an ID or a single carriage return.
- **NPA NXX TERM DIGITS** — This attribute allows up to 16 telephone number entries. A 3-digit NPA, a 6-digit NPA NXX, or a 10-digit number can be specified in each of up to 16 fields.

3.6.2.1.6.4 Allow Bits

Unlike traditional BRCS feature assignment, the LASS features [except Individual Calling Line Identification (ICLID)]

and calling number delivery] can be made generally available to an office (subscription not required), thereby extending access LASS features to non-BRCS lines. Analog and ISDN Line Views 1.6 and 23.2 are modified for the Automatic Callback feature. An AC ALW attribute on these views turns off access when the LASS Automatic Callback feature is allowed access by the line.

3.6.2.1.6.5 Local Digit Interpreter Tables/LASS Prefix Exception List

The ILHB contains the NPA-NXX-XXXX of the last incoming caller. The AC processing must be able to determine how the AC user would dial that party directly; that is, whether the digit trees of the user are built so that the user dials NXX-XXXX, 1+NXX-XXXX, NPA-NXX-XXXX, or 1+NPA-NXX-XXXX. This is done with data that is populated from the Local Digit Interpreter Table (LDIT) forms (Office Record #5300-3/5, RC View 9.3), the DEFAULT NPA (Office Record #5509, RC View 8.1), and with the LASS Prefix Exception List (LASSPF) form (Office Record #5947, RC View 8.20). For AC, the LDIT data is used to decide whether the NPA is to be used and, if it is not to be used, whether the 1+ is to be used for the 7-digit DN. The LASSPF data is used to decide whether a 1+ is needed for a 10-digit DN.

Local Digit Interpreter Table — A general rule-of-thumb for filling in the implied NPA field on the LDIT form is: For every LDIT, if the incoming digits are an NXX (meaning the user can dial the DN as a 7-digit number) where the NPA for that NXX is not the Network Management (NM) default NPA, the implied NPA field on the LDIT form must be filled in. If no data is found for an NXX, the NPA for that NXX is assumed to be the NM default NPA for the office. The NM default NPA is the DEFAULT NPA. If this data is not correct, an AC activation could result in long-term denial treatment because the derived DN for AC to "dial" is not defined in the dialing trees of the AC user. In this case, the user can complain that, while that DN can be dialed directly, it cannot be camped on.

LASS Prefix Exception List — The LASSPF data should be filled out as follows: If, when a user dials the NPA-NXX-XXXX, the user must prefix a 1+, then the field "1+ PFX" should be "Y." Then, if there are any "special" NPAs in the 5ESS[®] switch where the user DOES NOT dial the 1+, these NPAs should be included in the exceptions list. Similarly, if there are any "special" NPA-NXXs in the 5ESS[®] switch where the user does not dial the 1+, these NPA-NXXs should be included in the Prefix Exception List. If, on the other hand, when a user dials the NPA-NXX-XXXX and does NOT dial a 1+, the field "1+ PFX" should be set to "N." Then, as described above, if there are any "special" NPAs or NPA-NXXs where the 1+ is needed, these numbers should be included in the Prefix Exception List. Notice that this view does not allow tailoring to specific LDIT values. If there are conflicting dialing plans, both 1+ and NO 1+ prefixing will have to be defined in each of the dialing trees via the LDIT forms. Properly defining the data minimizes the amount of processor time needed to derive the dialable DN.

Screening and Routing — A user's dialing plan is defined by the line class code (LCC) (on RC Views 1.6, 4.1, and 9.1) which points to the digit interpreter tables and the screening index of the user. When the dialable DN is derived from the ILHB, both routing (View 10.2) and screening (View 10.10) are used. Design guarantees that the derived DN is defined in the digit interpreter tables and that the user routes correctly (not to error treatment) when the DN is screened. Automatic Callback needs the data to determine from the NPA-NXX-XXXX in the ILHB how the user would dial that DN directly; that is, the digit trees of the user are built so that the user dials NXX-XXXX, 1+NXX-XXXX, or all ten digits. (The LASSPF data is used to decide how to "dial" the ten digits — with a 1+ or not.)

3.6.2.1.6.6 Feature Assignment

Features are assigned to a line via RC Line Assignment Views. These views contain the basic data for lines. In this data, the Business and Residence Custom Service (BRCS) attribute specifies whether the line is a BRCS line or a POTS line. The BRCS Assignment View, View 1.11, is used to assign the BRCS features to a subscriber line.

In addition to the BRCS Feature Assignment View, LASS features can also be assigned via a BRCS Assignment View (View 1.11, 1.8, 23.8).

3.6.2.1.6.7 BFG Feature Group/Feature Clusters

The LASS features can be assigned as part of a cluster or BRCS Feature Group (BFG). These features can be included in a BFG using the BRCS Construction and Update View. The BRCS Feature Group Construction and Update View (View 12.9) specifies the Automatic Callback feature on Screen 1 under Feature Type Parameters — Screen Num. Also, the feature parameter RRGBK TYPE is specified on Screen 8 of this view. If a group of lines already have the BFG assigned to them, adding the LASS features to that BFG results in all the lines in that group getting those features. However, only one BFG can be assigned to a line at any given time.

The Cluster Definition View (View 12.2) can be used to assign LASS features. A CLUSTER attribute in this view must be the cluster name. This name must be unique among all clusters and may not be the same as any existing BRCS feature. The name can consist of 1-8 characters. The REMARKS attribute is a string of 32 characters which are associated with the cluster name. This attribute can be used to note any pertinent information about the cluster. The FEATLIST of this view is an array of 16 feature entries. Each entry consists of a feature name, the active status of the feature, whether and how automatic presentation of parameter views is to be performed for the associated feature entry, and whether the associated feature entry can be activated or deactivated by the use of an authorization code.

3.6.2.1.6.8 Distinctive Ringing

Individual lines (terminals) within the BFG must be able to assign the type of ringing to be applied during ringback. The ringing patterns for distinctive ringing are used. The possible values are as follows:

- Pattern A — A repeated pattern of 2 seconds on, 4 seconds off (normal ringing pattern).
- Pattern B — A repeated pattern of 800 ms on, 400 ms off, 800 ms on, 4 seconds off.
- Pattern C — A repeated pattern of 400 ms on, 200 ms off, 400 ms on, 200 ms off, 800 ms on, 4 seconds off.
- Pattern D — A repeated pattern of 1 second on, 1 second off, 1 second on, 3 seconds off.

The ringing pattern type can be assigned or changed via the RRGBK TYPE field on RC View 12.47 (Feature Definition View) and View 1.47 (Line Parameter Views). The default value for recent change assignments is ringing pattern C. If the feature is activated by a user who has not subscribed to the feature and the access office option is GENAVAIL, ringing pattern C is used.

The ISDN attendants always receive type "A" ringing.

Four-wire lines always use pattern F. Pattern F is a repeated pattern of 1.65 seconds on and 350 ms off.

3.6.2.1.6.9 Reverse Intercom

Recent Change Views 9.26 (IDP reverse intercom range) and 9.27 (IDP reverse code assignment) are used as reverse intercom trees for Automatic Callback extension dialing. It is desirable for users within the same intercom group to be able to automatically call the last incoming caller with an extension. In order for the AC user to "dial" the caller with an extension, the 5ESS® switch must be able to derive the extension of the last calling party. This extension is relative to the IDP of the AC user. When the ILHB indicates that the last calling party used an intercom extension to call, the 5ESS® switch uses data populated from IDP RC Views 9.26 (Office Record #5601-12) and 9.27 (Office Record #5601-11) to derive the extension.

To populate the data on RC View 9.26 for the IDP of the AC user, define a reverse intercom range (REV ICM RANGE). Then, indicate how many digits to delete (NBR DEL DIG) from the input digit string that is the NPA-NXX-XXXX from the ILHB. Finally, indicate what digits (if any) to prefix to the remaining digits (PRFX DIG). The result will be the extension. For example, suppose the extensions for an IDP group are the last four digits of the DN. In this case, the "NBR DEL DIG" would be "6" and "PRFX DIG" would be blank.

The next step is to apply the "REV ICM RANGE" value to a particular incoming NPA-NXX-XXXX. This is done on RC View 9.27 (IDP reverse code assignment). For the IDP group of the user, enter the subset of the NPA-NXX-XXXX (up to all ten digits starting with the first digit of the NPA) into the "DIGITS" field. The digits entered should be those needed to uniquely identify those DNs that are defined in the user's IDP as intercom numbers. Then, enter the predefined range value. To continue the example, suppose that there is one NPA-NXX in the office used exclusively by the business customer owning this IDP group. In this case, the "DIGITS" would be this NPA-NXX.

3.6.2.1.7 Display Message View

Recent Change View 8.65, Display Message, is used to customize ISDN display messages. The attributes associated with this view are as follows:

- **DISP TYPE** — This parameter indicates the display message type. Valid entries are AC, AR, COT, and SLE.
- **DISP ID** — This parameter indicates the display identification number. This number is the same as the announcement number (1 through 189). Valid entries are numbers from 1 to 255.
- **MESSAGE** — This parameter is the 1 to 40 character message that is displayed.

3.6.2.2 Deleting Customer Service

The AC feature can be deleted by recent change when removing service from a line with a service order. A temporary unavailable (TEMPUNAVAIL) office access option can be used to temporarily turn off access while maintaining line history block assignments.

Obtain assistance from the Lucent Technologies Secured Feature Administrator to delete the Limited Two-Level Activation of AC Secured feature.

3.6.2.3 Changing Customer Service

The telephone company can assign one or more dialable codes for accessing AC. For ISDN customers, the telephone company can assign a single station set AC feature button for activating AC and a feature button for on-hook/off-hook deactivation.

3.7 SYSTEM OPERATION

3.7.1 General

When a user invokes the Automatic Callback feature, the network determines whether the request can be successfully processed. Initial processing checks the calling terminal to determine if it has access to the feature. The originating switch must verify that the calling terminal has access to the feature.

An access parameter indicates whether the features are generally available, available on a subscription-only basis, or not available at all. Subscription has precedence over generally available. If the feature is available on a subscription basis, the 5ESS[®] switch verifies that the originating user is assigned the feature. If the user does not have access to the feature, standard BRCS error treatment is returned (reorder tone). Screening based on the attributes of the calling terminal and the called DN is performed.

One-Level Activation: For One-Level Activation, a user simply goes off-hook and dials the Automatic Callback access code (analog users) or (ISDN users) selects an idle call appearance and either dials the access code or depresses an Automatic Callback feature button. The 5ESS[®] switch then examines the access parameter to determine if the user has access to the feature, and also determines if the feature is active.

Two-Level Activation: For analog Limited Two-Level Activation the 5ESS® switch examines the secured feature and transparency feature optioning (TFOS) bits to determine if the customer has purchased the software update and to determine if Two-Level Activation is active. For analog and ISDN Enhanced Two-Level Activation, the 5ESS® switch examines the AC activation type parameter to determine if a customer has access to Enhanced Two-Level Activation of AC. If Two-Level Activation is active, the last incoming calling directory number is examined to determine if it is a private number. If the number is private, the user is connected to a DSU2-RAF announcement indicating the number is private and instructing the user to continue activation by dialing a "1," or hang up. If the number is not private, the LICDN is examined to determine if it is an extension or a 10-digit number. The user is informed via an announcement if the LICDN is a 10-digit DN or an extension number and is instructed to dial a "1" to continue activation or hang up (to discontinue).

NOTE: Display interactions apply to Custom ISDN *only*.

Table 3-3 contains the display messages for an AC Two-Level Activation. Note that RC View 8.65 can be used to customize ISDN display messages. Refer to "Display Message View", Section 3.6.2.1.7, for additional information.

Table 3-3 LASS Automatic Callback Displays

#	NAME	DISPLAY TYPE
1	ACPRIV	To call last number, dial 1 now.
2	ACPUB	To call [DN], dial 1 now.
3	ACPUBE	To call [ext], dial 1 now.
4	ACPROMPT	Dial 1 to call back otherwise, hang up.
5	ACINSTR	Please consult your written instructions.

The AC date and time parameter is examined to determine if the date and time should be included in the announcement voiced back to the user. If the parameter is set to yes, the date and time are included in the announcement voiced back.

A summary of the AC two-level Lucent Technologies standard default announcements provided by the DSU-RAF is as follows. For information concerning default announcements, refer "Default Announcements and Displays", Section 7.6.2. Default announcements and their associated displays can be customized (refer to "Customizing LASS Announcements and Displays", Section 7.6.3).

#	NAME	ANNOUNCEMENT	TYPE
1	ACPRIVND	This is your Automatic Callback Service. The number of your last incoming call is a PRIVATE number and cannot be announced. To activate Automatic Callback, dial 1 otherwise, hang up.	Automatic Callback, Private—No Date.
2	ACPRIVD	Please dial 1 now or hang up (prompt tone). This is your Automatic Callback Service. The number of your last incoming call is a private number and cannot be announced. The call was received (Date and Time). To activate Automatic Callback, dial 1 otherwise, hang up. Please dial 1 now or hang up (prompt tone).	Automatic Callback, Private—With Date.
3	ACPUBND	This is your Automatic Callback Service. The number of your last incoming call was [LICDN], (1.5 second pause) [LICDN]. To activate Automatic Callback, dial 1 otherwise, hang up. Please dial 1 now or hang up (prompt tone).	Automatic Callback, Public Number—No Date.
4	ACPUBD	This is your Automatic Callback Service. The number of your last incoming call was [LICDN], (1.5 second pause) [LICDN]. The call was received (Date and Time). To activate Automatic Callback, dial 1 otherwise, hang up. Please dial 1 now or hang up (prompt tone).	Automatic Callback, Public Number—With Date.
5	ACEXTND	This is your Automatic Callback Service. The number of your last incoming call was extension [LICDN], (1.5 second pause) [LICDN]. To activate Automatic Callback dial 1 otherwise, hang up. Please dial 1 now or hang up (prompt tone).	Automatic Callback, Extension Number—No Date.
6	ACEXTD	This is your Automatic Callback Service. The number of your last	Automatic Callback,

11	TWOLERR	incoming call was extension [LICDN], (1.5 second pause) [LICDN]. The call was received (Date and Time). To activate Automatic Callback, dial 1 otherwise, hang up. Please dial 1 now or hang up (prompt tone). We're sorry, Please hang up now. Consult your written instructions and try again later. (3 second pause then disconnect).	Extension Number—With Date. Common Announcements for LASS 2-Level Activations.

If the user hangs up, Automatic Callback is not activated; if the user dials a "1," the feature is activated.

The office parameter AC MAX ERRS indicates the maximum number of times a user is allowed to enter the wrong digits, and AC MAX TIMEOUT indicates the number of times a user is allowed to time out (dial nothing). The valid values for these parameters are 1 to 5.

Activation Complete: If the feature activation attempt passes initial screening and processing, the location of the called DN is determined (that is, whether the called DN is on the same switch or a different switch). If the Automatic Callback has been activated for an intraswitch call, the DN is checked to see whether it can be camped-on. If the feature has been activated for an interswitch call, an initial SS7 transaction capabilities application part (TCAP) query is sent to determine the characteristics of the called DN. Camp-on resources are checked by the terminating switch. The response enables the originating switch to determine whether camp-on can occur to the called DN at the terminating switch. When a feature button is assigned to AC, the feature button lamp flashes during an activation sequence. When activation is complete, or the call is camped-on, the lamp remains lighted. Upon call completion, the light goes off.

For users who enter a second AC attempt when a camp-on to this DN is already in progress, the 5ESS[®] switch removes the first AC camp-on, sends a message to the terminating switch to remove its corresponding camp-on entry, and attempts a new AC camp-on to the dialed DN. Due to temporary conditions, the 5ESS[®] switch may provide short-term denial to the user for any subsequent AC activation attempt.

Activation Complete: If an AC has previously been activated, and a user is camped-on to the LICDN, they can reactivate a callback to the same LICDN by simply dialing a "1." If a user hangs up during a Two-Level Activation session, the original request is not cancelled, and the timers are not reinitialized. The reactivation attempt essentially leaves the original request unchanged. If the feature is reactivated, the terminating camp-on queue position is maintained.

Upon initial activation of an AC, the originating switch determines the busy/idle status of the feature. If the activation results in camp-on treatment, the 5ESS[®] switch sets an originating side feature timer and a maximum continuous service timer. The originating side feature timer limits the amount of time a particular activation can remain active. The continuous timer limits the total amount of time this request may remain in the queue. The initial value of feature timer is set to the value specified in the TIMEOUT parameter (LASS Office Parameters, View 8.21), and the continuous timer is set to the value of the MAX CAMP TIME.

Reactivations result in the feature timer being reset to the minimum value of the TIMEOUT parameter and the continuous timer. For usage-sensitive billing, the 5ESS[®] switch creates an AMA record with a feature type of AC deactivation (if the camp-on has not been previously reactivated) or AC reactivation-deactivation (if the camp-on has been previously reactivated). If either timer (the feature timer or the continuous timer) expires before ringback is given, the feature is deactivated.

If the terminating switch is able to allocate resources to this AC request (a slot is available in the camp-on queue), an acknowledgement message is sent to the originating switch. The terminating switch also sets the terminating queue timer to a value specified by the MAX CAMP TIME office parameter in the terminating office. This timer indicates the maximum length of time that the terminating switch will hold resources for this particular AC activation. When initial resources are allocated, the terminating switch sets the maximum continuous resources timer to the value specified by the TIMEOUT office parameter; the terminating queue timer is not timing at this point. When the

originating switch receives a terminating side expiration message indicating terminating scanning has completed, the TIMEOUT office parameter is compared to the REINIT SCAN office parameter. If the TIMEOUT office parameter is greater than the threshold value of the REINIT SCAN parameter, the originating office sends a request to reinitiate terminating scanning.

3.7.2 Network Responses

3.7.2.1 Feature Activation

When the user activates the Automatic Callback feature, either audible alerting, short-term denial, long-term denial, or confirmation will be returned. A brief synopsis of each condition follows:

- (1) **Audible Alerting Returned** — Automatic Callback activations are allowed toward the called address and the called address is found to be idle or have a call waiting slot available. Immediate call setup (without camp-on) has occurred and the called address is alerted.
- (2) **Short-Term Denial Returned** — Short-term denial consists of the end-user being given reorder tone. This tone indicates that either the network resources used to process Automatic Callback requests are temporarily exhausted, or that the called address has a feature active that causes the Automatic Callback attempt to be denied (for example, Call Forwarding Variable). A subsequent attempt by the end-user to activate the feature may well succeed.

When an AC is activated towards a line with Call Forwarding Variable (CFV), Call Forwarding Incoming Only (CFIO), Call Forwarding In A Group (CFIAG), Call Forwarding Night Service (CFNS), Selective Call Forwarding (SCF), Selective Call Acceptance (SCA) with forwarding, or Computer Access Restriction with forwarding active, the user receives short-term denial in the form of Call Forwarding Denial treatment (reorder or an announcement). When an originator activates AC, a query is sent to check the line status of the terminating side. If forwarding is active, the terminating switch informs the originating switch. If the originating switch has a call forwarding denial announcement route index set up, the originating switch sends the announcement to the originating terminal. If no announcement route index is set up, the originating switch gives reorder. If a feature button is assigned to AC, the feature button lamps flutters and then goes off when a user receives short-term denial.

- (3) **Long-Term Denial Returned** — Long-term denial will consist of a 13A, 14A, 15A, or 16A announcement indicating that Automatic Callback camp-ons toward the called address are not allowed to the end-user. Suggested wording for the long-term denial announcement—"The number you are trying to reach cannot be handled by Automatic Callback/Automatic Recall. Please dial directly." If a feature button is assigned to AC, the feature button lamp flashes indicating rejection when long-term denial occurs. Examples of when the user will receive the long-term denial announcement are as follows:

- The user has originating restriction and cannot call back.
- The LICDN is marked invalid because the calling DN is not available in the incoming line history block.
- The AC camp-ons to the line type of the called address cannot be handled by the terminating switch.
- The terminating restrictions of the called address deny termination from calling DN's outside the called DN's terminal group, and the calling DN is outside this terminal group.
- If the AC TN UNIQ IGN parameter is set to "N" and the calling DN is not unique, an attempt to activate Automatic Callback results in long-term denial.
- An AC request is made to a multiparty line.
- An AC request is made to an out-of-service line.

- An AC request is made to a terminating party whose DN is on the choke list.

- (4) **Confirmation Returned** — Automatic Callback confirmation consists of a 13A, 14A, 15A, or 16A announcement that indicates the end-user has successfully activated the Automatic Callback feature and the network will camp-on to the called address. Suggested wording for the confirmation announcement—"The line you are calling is busy. The system will check the line for ____ minutes. You will be notified by special ringing when the party is free." If the calling terminal is an ISDN terminal with an Automatic Callback feature button, then the lamp associated with the feature button lights for the duration of the camp-on. If the calling terminal is a Custom ISDN terminal with display capability, then a confirmation display containing the called DN (if it is not private) and the Automatic Callback call-type indicator will be sent to the terminal. (There is no corresponding requirement for analog terminals. Also, no display is sent for confirmation on National ISDN lines.) If the POLIN feature is assigned and is active, the display message provided will not indicate the number of the calling party, even if the calling party had not marked the number as private.

For Custom ISDN Automatic Callback activation, the date and the time of the last incoming call are also displayed.

Short-term denial and long-term denial may be returned either before initial feature activation processing or after the initial request for the called DN status.

Long-term denial may be returned to out of service and intercepted lines. Long-term denial treatment has the highest precedence of any treatment. For example, if station restrictions prevent the use of AC towards a line, long-term denial is given when the line is out of service or intercepted. (Intercepted lines are lines where all calls are routed to an OSPS announcement.) If no long-term denial conditions apply, denial due to CF or SCR is checked next. Short-term denial is returned for lines that are forwarded, and call rejection treatment is returned for SCR or SCA/CAR. If none of these conditions apply (CF or SCR) and the line is out of service, long-term denial is returned.

If confirmation is returned to the end-user, the originating switch must decide whether to handle the activation via originating scanning or terminating scanning. An originating office parameter (the SCAN parameter on RC View 8.21) determines the 5ESS[®] switch preference. (This parameter only has significance when the 5ESS[®] switch is acting as an originating switch.) If terminating scanning is not available on the terminating switch, the originating switch performs originating scanning.

Terminating scanning involves the sending of a message by the originating switch to the terminating switch requesting that it be informed when the called address becomes idle. If the called address is found to be idle before the feature timer expires at the terminating switch, a message is sent to the originating switch notifying it of this event. When this message arrives at the originating switch, if the calling DN is idle, the calling terminal is given ringback. If the calling DN is not idle, but the calling DN becomes idle before the feature timer expires, the originating switch requests that the terminating switch resume terminating scanning. If ringback has not been given when the feature timer expires, the request is removed from the queue. If terminating scanning cannot be performed on the terminating switch, originating scanning is performed.

When the originating side receives a terminating side expiration message, the 5ESS[®] switch checks the time remaining on the T1 timer and compares it to the REINT SCAN office parameter. The REINT SCAN parameter is a threshold value. Reactivations update the feature timer at the originating end. If a comparison of the feature timer and the office parameter finds that time remaining on the feature timer is greater than the office parameter, a request is sent to the terminating switch to reinitialize terminating scanning. If time remaining on the feature timer is less than the office parameter, camp-on entries are released, a dequeue message is sent to the terminating side, and an Automatic Message Accounting (AMA) record is created. The AC request is cancelled. If ringbacks or call setups are in progress, the 5ESS[®] switch adds time to the feature timer to allow these processes to complete.

Originating scanning involves the periodic sending of busy/idle status queries by the originating switch when the calling DN at the calling terminal is idle. If the called address is found to be idle and the calling DN is idle, ringback is

given to the calling terminal. If the calling DN is not found to be idle, the originating switch monitors the calling DN for idle status. If the calling DN becomes idle before the feature timer expires, the originating switch resumes sending out busy/idle status queries.

The feature operation of Automatic Callback requires the identification of the last calling party. The incoming line history block stores this data. Automatic Callback uses the incoming line history block to store information required to identify the address of the last calling party. The originating switch determines whether a valid address was received from the incoming line history block.

3.7.2.2 Feature Cancellation

The end-user may cancel Automatic Callback activation at any time during the Delayed Processing Phase. The user with an analog terminal cancels Automatic Callback activation by going off-hook and dialing the Automatic Callback feature cancellation code. The user with an ISDN terminal may either go off-hook and dial the Automatic Callback feature cancellation code, or depress the Automatic Callback cancel button (either while on-hook or off-hook). An Automatic Callback feature cancellation announcement will be returned to the end-user (if the user deactivated the feature while off-hook). Suggested wording for the announcement—"All outstanding requests have been deactivated."

When AC activations are canceled, all AC activations and camp-ons are canceled for the terminal.

If the originating or terminating office has been controlling scanning and a call is successfully queued, the originating office sends a message instructing that office (either originating or terminating) to cancel scanning and remove entries from the queue.

The AC feature can also be cancelled automatically when the associated timers time out. When the feature times-out and no camp-ons are being served, the 5ESS[®] switch releases all resources, generates an AMA record, and cancels the AC feature.

3.7.3 Unique/Nonunique DNs

A uniqueness indicator sent with the initial address message to update the history block indicates whether the calling DN is unique or nonunique. If calls from the calling address identify a specific station, they are considered unique.

Some guidelines about whether a DN is marked as unique are as follows:

- MLHG
 - If members are assigned individual DNs, the individual DN is sent as the calling party number and marked as unique.
 - If members do not have individual DNs assigned, the main DN is sent as the calling party number and marked as nonunique.
 - If the main DN is assigned as an individual DN to the first member in the group (regular or circular), the main DN is sent as the calling party number and marked as unique.
- Multiparty
 - Two-Party with Automatic Number Identification (ANI) originations result in a calling party number being sent and marked as unique.
 - Two-Party with Operator Number Identification (ONI) originations do not include the calling party number in the call setup.

- Three-or-more-party originations do not include the calling party number in the call setup; therefore, the uniqueness indicator is not sent either.
- PBX
 - Calls originating from PBX trunk connections do not include calling party numbers and, thus, do not include any uniqueness indicators.
 - Calls originating from PBX line connections include calling party numbers and are marked as nonunique.
 - Calls originating from Primary Rate Interface (PRI) connections may include calling party numbers, but are always marked as nonunique.
- ISDN Shared DN Originations
 - Primary DN originations include the primary DN as the calling party number, which is marked as unique.
 - Secondary DN originations include the secondary DN as the calling party number, which is marked as nonunique.

Nonunique indicates the sharing of the TN sent by the terminal between two or more terminals. The AC TN UNIQ IGN office parameter on View 8.21 determines whether feature activations toward nonunique DNs are allowed.

3.7.4 LICDN Status

Determining the LICDN status depends on whether the called DN is intraswitch or interswitch. When it is determined that the feature activation came from an interswitch call, the originating switch sends out an initial SS7 TCAP query to the terminating switch. This query requests that the terminating switch return the called address line status information to the originating switch. The terminating switch responds to the request with the busy idle status of the line and terminating characteristics (that is, terminating restrictions for the called address). Based on the SS7 response received, the originating switch continues the Automatic Callback request or provides denial treatment to the end-user. If the end-user does not receive a response before the initial SS7 query response timer expires, short-term denial is returned to the end-user and switch resources used are released. If the originating switch and terminating switch are not linked via the SS7 network, long-term denial is returned to the end-user and feature resources are released. If the two switches are linked via the SS7 network, but the terminating switch does not recognize the LASS subsystem number, long-term denial is returned to the end-user. An SS7 network message is returned to the originating switch indicating that the query could not be routed to the terminating switch.

3.7.5 Automatic Callback Delayed Processing

After the end-user has successfully activated the Automatic Callback feature and the called address is found to be busy and Automatic Callback confirmation is returned, the Automatic Callback delayed processing (camp-on) phase is initiated. Automatic Callback delayed processing consists of the called address and the calling DN at the calling terminal being monitored for simultaneous idle status. An Automatic Callback feature timer determines the maximum duration for busy/idle status scanning. If both the called address and the calling DN are found to be idle before the duration timer expires, then the calling terminal is given Automatic Callback ringback alerting; otherwise, the Automatic Callback activation is terminated.

Reactivations result in the feature timer being reset to the minimum value of the TIMEOUT parameter and the continuous timer. For usage-sensitive billing, the 5ESS[®] switch creates an AMA record with a feature type of Automatic Callback (AC) deactivation (if the camp-on has not been previously reactivated) or AC reactivation-deactivation activation (if the camp-on has previously been reactivated). If either timer (the feature timer

or the continuous timer) expires before ringback is given, the feature is deactivated.

When the originating side receives a terminating side expiration message, the 5ESS[®] switch checks the time remaining on the T1 timer and compares it to the REINT SCAN office parameter. The REINT SCAN parameter is a threshold value. Reactivations update the feature timer at the originating end. If a comparison of the feature timer and the office parameter finds that time remaining on the feature timer is greater than the office parameter, a request is sent to the terminating switch to reinitialize terminating scanning. If time remaining on the feature timer is less than the office parameter, camp-on entries are released, a dequeue message is sent to the terminating side, and an AMA record is created. The AC request is cancelled. If ringbacks or call setups are in progress, the 5ESS[®] switch adds time to the feature timer to allow these processes to complete.

Multiple camp-on requests toward the same called DN are queued in a first-in, first-out (FIFO) queue on the 5ESS[®] switch. The calling terminal at the front of the queue is informed first when the called DN becomes idle. If the calling terminal is busy when the called DN becomes idle, the terminating switch informs the next calling terminal (if there is one) camped-on the called DN. Once a calling terminal is found idle, other calling terminals in queue are not informed of the idle status at this time. Calling terminals found to be busy when the called DN becomes idle retain their place on the queue. They are marked inactive and do not receive called DN idle indications. Once the calling terminal becomes idle, the originating switch notifies the terminating switch and the entry in the queue is reactivated.

3.7.6 Automatic Callback Ringback/Notification

3.7.6.1 Automatic Callback Ringback for Analog and Custom ISDN

When both the calling DN and the called address are found to be idle, then the calling terminal is given Automatic Callback distinctive ringback alerting.

If the calling terminal is an ISDN terminal with an Automatic Callback feature button, then the feature button lamp will flash during ringback. The lamp associated with an idle call appearance at the calling DN at the calling terminal will also flash. If the call appearance selected for ringback is shared, then the status lamps at the shared members' terminals light to indicate that the call appearance is in use. The shared members terminals will not receive ringback alerting.

If the calling terminal answers the ringback before the ringback timer expires, then a final called address busy/idle status query will be sent to the terminating switch. If the called address is idle at the time of the final busy/idle status query, then the originating switch will proceed with call setup. If the called address is busy, then an announcement indicating this situation will be returned to the calling terminal. If the called address is idle (after the last busy/idle status query), then the call appearance status lamp(s) remains lighted to indicate the in-use condition. If the called address is still idle, the end-user will then hear audible alerting. If the called address has subsequently become busy, then the user is given busy treatment or a busy-after-ringback announcement. In either case, the Automatic Callback activation is complete.

When ringback is initiated, a ringback timer is set at the originating switch. This ringback timer is set by the originating switch to control the maximum duration of the ringback alerting. If the ringback is not answered before the timer expires, Automatic Callback activation is suspended or halted depending on an office parameter specifying the maximum number of ringback attempts per activation. If the ringback is not answered, visual and audible alerting stops and the associated call appearance lamps at the calling terminal and at shared members terminal reflect this idle status. If ringback is answered, the originating switch sends out a final busy/idle status query via the SS7 network to the terminating switch for interswitch calls. If the called address is still idle, the originating switch proceeds with standard call setup procedures. If the called address is found to be busy at the last query, a "called address busy on ringback" announcement is given to the calling terminal. In either case, the feature is complete.

If a customer has an analog set with an analog ICLID display feature, only the called address is displayed during ringback. If the calling terminal is an ISDN terminal with display capability, then the called address, as well as a new call-type indicator, will be displayed. If the calling terminal has subscribed to the Electronic Directory Service Calling

Name Display feature, then the name associated with the called address will also be displayed (if available).

In cases where the LICDN is marked private, a privacy indicator is displayed instead of the called address. However, if the POLIN feature is assigned and active, the ISDN display indicates that the called address is private even if not marked private. The Two-Level Activation of AC and ICLID features should not be used with the POLIN feature. Two-Level Activation of AC has precedence over POLIN.

3.7.6.2 Automatic Callback Notification for National ISDN

When the called DN becomes idle, the calling terminal is given Automatic Callback notification regardless of whether the calling terminal is busy or idle.

If the calling terminal has an Automatic Callback feature button, the feature button lamp will flash during ringback. If the calling terminal has display capability, the following is displayed:

XXX-XXX-XXXX is idle for XXX-XXXX LIC

A notification timer is set by the originating switch to control the duration of notification. No call position is allocated at this time.

If the notification timer expires before the user responds, a second notification will be sent to the user to indicate that monitoring of the called party is being discontinued.

If the calling terminal responds to notification before the notification timer expires, a call will be placed to the called party. (Responding to notification is defined as the terminal sending in a Q.931 SETUP message with no keypad information, feature activators, called address, etc.)

If the feature times out because the called party never went idle, a notification will be sent to the terminal to indicate that monitoring is being discontinued. If this is the last active AC activation, the feature button lamp (if provisioned) will turn off.

3.7.7 Abnormal User/System Interactions

- If the end-user dials the Automatic Callback feature access code incorrectly, the user may activate an unexpected feature or reorder will be returned.
- If a user dials something other than "1" after receiving a two-level announcement or does nothing (the DSU2-RAF times-out waiting for a response), an interruptible announcement instructs the user to dial "1" immediately or hang up. If no input is received, the user receives an error announcement.
- For Limited Two-Level Activation, if a user dials an incorrect response four times, a non-interruptible announcement informs the user to consult written instructions and try again later. Dial tone is returned after the final announcement is completed if an analog user remains off-hook.
- For Enhanced Two-Level Activation, the number of times a user is allowed to enter the wrong digits is determined by the office parameter AC MAX ERRS. Valid values are 1 to 5. The AC MAX TIMEOUT parameter indicates the number of times a user is allowed to time-out (dial nothing). The valid values for these parameters are 1 to 5.
- If a two-level announcement cannot be played, the user receives short-term denial. If a user cannot activate a Two-Level AC because of a switch resource error, the user receives short-term denial.
- If a user flashes the switchhook while listening to a two-level announcement, the user is disconnected.
- The line history block may contain unexpected information, such as, the user forgot who the last calling party was, resulting in the end-user reaching an unexpected party.
- The end-user may receive busy treatment or busy-after-ringback announcement after answering ringback. This

situation is caused by the called address becoming busy after the originating exchange is informed that the called address is idle.

- The end-user may receive short-term denial any time after activating Automatic Callback or ringback. This situation is the result of some temporary condition, such as reaching the limit of available resources.
- If the end-user activates Automatic Callback and then abandons before some form of activation response is returned by the originating switch, the activation attempt will be canceled.
- When an AC is activated towards a line with CFV, CFIO, CFIAG, CFNS, SCF, SCA with forwarding, or CAR with forwarding active, the user receives short-term denial in the form of Call Forwarding Denial treatment (reorder or an announcement).

3.8 ADMINISTRATION

3.8.1 Measurements

Traffic counts are kept on a per-office basis in the originating 5ESS[®] switch for the Automatic Callback feature. These counts are as follows:

- **Total Automatic Callback Activation Attempts** — The number of customer requests for Automatic Callback.
- **Total Automatic Callback Deactivation Attempts** — The number of customer requests for the cancellation of Automatic Callback.
- **Total Automatic Callback Immediate Processing Peg Counts** — The number of Automatic Callback feature uses resulting in immediate call setup.
- **Total Automatic Callback Delayed Processing Peg Counts** — The number of times an attempt to access the Automatic Callback feature results in camp-on to the called DN.
- **Total Automatic Callback Overflow Counts** — The number of times an attempt to access the Automatic Callback feature is unsuccessful due to the lack of Automatic Callback feature processing resources on the originating switch.
- **Total Automatic Callback Long-Term Denial Peg Counts** — The number of times an attempt to access the Automatic Callback feature results in long-term denial being returned to the user.
- **Total Automatic Callback Short-Term Denial Peg Counts** — The number of Automatic Callback feature attempts that result in short-term denial being returned to the user. This count includes the number of AC activation attempts that are denied because the terminating party has Call Forwarding active.
- **Total Automatic Callback Request Time-Outs** — The number of Automatic Callback feature attempts that result in time-out of the feature before ringback can be given to the end-user.
- **Total AC Requests Resulting in Busy After Ringback** — The number of attempts to access the Automatic Callback feature that result in the end-user's receiving busy after ringback announcement.

Counts similar to those currently generated for the DSU2-RAF in other capabilities are also generated by AC. The counts consist of the following:

- Attempts by LASS to use (access) a DSU2-RAF circuit that failed due to all units in use (occupied) [BRCS OVFL (46)].

- LASS usage of DSU2-RAF circuits — determined by 100-second scanning [BRCS TOTUSG(46)].
- LASS maintenance usage (out of service) of DSU2-RAF circuits — determined by 100-second scanning [BRCS MTUSG (46)].

These counts are generated for existing sections (46 and 13) of the 30-Minute Traffic Report (TRF30). These counts will not be separated from existing counts for other BRCS features.

Peg counts mentioned previously are included in the 30-Minute Traffic Report in a section (76) created to handle all LASS feature measurements. However, these new peg counts are not available as part of the BRCS customer traffic sent to an Applications Processor.

An ID assigned to each feature allows the use of existing capabilities for controlling the reporting of this information as part of Section 29 of the EADAS report. Activation and deactivation are covered by the standard counts provided within Section 29.

Reporting of these traffic counts can be turned on or off according to the needs of the telephone company.

3.8.2 Billing

3.8.2.1 General

The telephone company can charge Automatic Callback customers a flat rate for the feature (flat rate), or charge according to the amount the feature is used (usage sensitive). Additionally, Automatic Message Accounting (AMA) records must be created to accommodate billing for customers who do not subscribe to the feature. If the Automatic Callback feature is generally available, the default billing action is usage sensitive. For subscription access, the default billing is flat rate. For usage-sensitive billing, an AMA record is generated for the following events:

- Immediate Processing
- Delayed Processing
- Busy After Ringback
- Customer Deactivation
- For Two-Level Activation of AC.
- Time-Outs of Activation Requests (feature expiration, ringback retries have been exhausted).

As mentioned in the previous paragraph, an AMA record is generated for each AC activation (either immediate or delayed processing). An AMA record is also generated for each AC reactivation that results in completion. The originating switch is responsible for recording a reactivation.

The service provider must be able to indicate how access to the feature is allowed/restricted. An office option indicates whether the feature requires subscription or is made available (generally available) to all lines. Subscription indicates that the customer must subscribe to the feature to gain access to it. If service providers choose to require subscription, individual lines (terminals) can be marked via service order to allow or not allow AMA for that feature.

3.8.2.2 Determining the Types of Billing

The following table (Table 3-4) illustrates the precedence in determining the type of billing [usage sensitive (US) or flat rate (FR)] recording to be made for the LASS Automatic Callback feature. NA is used to indicate a particular option/column that is nonapplicable for the specified combination.

Table 3-4 Access/Billing Matrix

	FEATURE ACCESS OFFICE OPTION (View 8.18)	GENAVAIL BILLING OPTION (View 8.21)	SUBSCR BILLING OPTION (View 12.47)	FEATUR E ALLOW (View 1.6... View 23.2)	FEATURE ASSIGN (View 1.11... View 23.8)	SWITCH RESPONS E	BILLIN G ACTIO N
1	GENAVAIL	US	NA	No	No	Block	-
2	GENAVAIL	FR	NA	No	No	Block	-
3	GENAVAIL	US	NA	Yes	No	Allow	US
4	GENAVAIL	FR	NA	Yes	No	Allow	FR
5	GENAVAIL	NA	US	Yes	Yes	Allow	US
6	GENAVAIL	NA	FR	Yes	Yes	Allow	FR
7	SUBSCR	NA	NA	NA	No	Block	-
8	SUBSCR	NA	US	Yes	Yes	Allow	US
9	SUBSCR	NA	FR	Yes	Yes	Allow	FR
1	UNAVAIL	NA	NA	NA	NA	Block	-
0							
1	TEMPUNAVAIL	NA	NA	NA	NA	Block	-
1							

Generally Available — For row 1 through row 4 combinations, the feature access office option for Automatic Callback on RC View 8.18 and the AC GA FEAT field on RC View 8.21 are used to determine whether FR or US recording is done for the end customer. For these scenarios, the feature is not assigned via service order (column 5), but the feature access office option for Automatic Callback is set to GENAVAIL. The feature allow field (column 4) turns the access on or off for the applicable classes of service, or denies access to specific lines regardless of the class of service. The AC GA FEAT field (column 2) specifies the feature name, which is defined as either a preconstructed feature (/LACGA or /LAC1) or a feature created with the feature definition, View 12.47.

Assigned — For row 5 and row 6 combinations, the feature access office option is set to GENAVAIL although the feature is assigned to the end customer via service order (column 5). The assigned feature definition will determine whether usage-sensitive AMA is recorded.

Subscription — For row 7 through row 9 combinations, the feature access office option is set to SUBSCR. The feature allow indicators are automatically set to "yes" and the end customers must be assigned either a preconstructed or customized feature via the applicable RC view (for example, 1.11 or 23.8).

Unavailable — The feature access option for initial provisioning is set to UNAVAIL. Access to the features will be blocked until recent change procedures are used to change the options to either GENAVAIL or SUBSCR.

Temporary Unavailable — The TEMPUNAVAIL option is used to temporarily turn off the feature while maintaining the line history block assignments. Access to the feature will be blocked until recent change procedures are used to change the option back to either GENAVAIL or SUBSCR.

3.8.2.3 Billing Records

Generation of AMA records allows usage-sensitive billing. Flat-rate billing requires a service order, but does not require the generation of billing records. A combination of billing methods can be supported when a service order is required and billing records are generated. These values are assigned per terminal for the incoming feature.

Only one LASS AMA record is generated per feature activation. This also applies to busy after ringback, time-out, or customer deactivation following the delayed activation. A record is created for each Two-Level Activation whenever the LICDN is voiced back or the privacy announcement is given. The structure code/record format for this feature is 01030. The fields within the structure code billing record are as follows:

- Fields 1 through 6 are standard.
- Field 7, Service Feature, identifies the specific LASS feature event (for example, a value of 68 indicates deactivation of the Automatic Callback feature).
- Fields 8 and 9 together are the full national number of the served subscriber.
- Fields 10, 11, and 12 together form the complete called number in the case of an activation; otherwise, they are filled with zeros.
- Field 13 is the time at which the AMA record is generated.
- Field 14 contains a zero, and fields 15 through 19 are filled with fill characters.

Refer to "LASS Billing", Section 2.9, for a detailed layout of the structure code.

There is no specific Automatic Callback MDR record; however, an MDR record that is the result of invoking the Automatic Callback feature is provided for call setup.

Essentially, three types of billing records can be created for an Automatic Callback call. They are as follows:

- (1) A LASS AMA record (structure code/record code 01030)
- (2) An AMA record created for the routed call (not a LASS record)
- (3) An MDR record created for routed calls (not a LASS record).

Any combination of these records, or none of the records, can be created for an Automatic Callback call.

4. LASS AUTOMATIC RECALL FEATURES

4.1 LASS Automatic Recall

4.1.1 GENERAL

4.1.1.1 Definition

The Automatic Recall (AR) feature enables a calling terminal to automatically place a call to the last outgoing calling directory number (LOCDN) currently associated with the terminal and/or to camp on to the LOCDN upon receiving busy treatment. The LOCDN is defined as the address of the last party called by a user of the calling terminal.

If the call cannot be completed immediately because the called directory number (DN) is busy, then the Automatic Recall feature enables the calling terminal to camp on (camp-on will be defined as having the network monitor the busy/idle status of the called address) to the LOCDN.

4.1.1.2 Analog and Custom ISDN

For analog and Custom integrated services digital network (ISDN) users, when both the calling DN at the calling terminal and the LOCDN are found to be idle, the calling terminal is given Automatic Recall ringback alerting.

Idle at the calling terminal is defined as an available voice B-channel and an available originating call appearance associated with the calling DN. Idle at the called terminal is defined as an available terminating call appearance at the called DN and an available voice B-channel. This feature is equivalent to Bellcore's Class Automatic Callback feature TR-TSY-000215 and is available only on Custom ISDN circuit-switched voice (CSV) calls.

4.1.1.3 National ISDN

For National ISDN users, only the LOCDN needs to be idle for the calling terminal to receive AR notification. If the AR notification is answered, then the LOCDN is alerted. The AR can be used for both voice and circuit-switched data (CSD). No announcements are provided for CSD activations/deactivations. When users have both voice and CSD AR, the same feature button is used for voice and CSD.

One outgoing line history block (OLHB) is used for both voice and CSD; therefore, only the last outgoing call (either voice or CSD) can be recalled, and the call type must match. For example, if the outgoing call was a CSD call, then a CSD call appearance must be used to activate AR. If the National ISDN user has access to only voice or CSD AR, then only calls of that type will update the OLHB.

Dialing the AR deactivation access code, or depressing the AR deactivation feature button, will remove all voice and CSD camp-ons.

4.1.1.4 Economic Worth

The economic worth to the telephone company is in the terms of revenue generation and ease of implementation. The Local Area Signaling Services (LASS) features use existing customer lines to provide end-users with call management capabilities. These features are based on the delivery of calling party number via the local signaling network. The revenue-generating LASS features are available for both residence and business customers.

4.1.1.5 Availability

The LASS Automatic Recall feature is part of the LASS Automatic Recall feature group.

The **Private Option for Last Incoming Number (POLIN)** feature ensures that the calling party number is not revealed and is treated as private by LASS Automatic Callback, Automatic Recall, and Screen List Editing features. This feature provides a per-office option allowing service providers to have the Last Incoming Call Directory Number (LICDN), which is stored in a line's incoming line history block, considered private when AC/AR or SLE try to retrieve it and voice it back or display it to the user. The POLIN feature is a secured feature.

The **Dual Timer Queuing and Related AC/AR Enhancements** feature adds additional capabilities to the existing AR feature. These additional capabilities are as follows:

- Callers that activate AR to lines with forwarding active are routed to a short-term denial announcement (call forwarding). This feature applies to Call Forwarding Variable (CFV), Call Forwarding Incoming Only (CFIO), Call Forwarding in a Group (CFIAG), Call Forwarding Night Service (CFNS), Selective Call Forwarding (SCF), Selective Call Acceptance (SCA) with forwarding, or Computer Access Restriction (CAR).
- Dual Timer Queuing Activation allows a caller to maintain his/her queue position when a reactivation request is made.
- AR Reactivations provide an AMA recording of activations and reactivations, separately. If a reactivation is initiated by a subscriber, an AMA billing record is created.
- AR Concurrent Activation Limit and Line Queue Size Limit provides a concurrent activation limit of up to 30 requests per line.
- AR Activation requests toward an MLHG with queuing, having either an idle member or an empty basic queue position, are considered idle.
- The originating scanning rate interval is modified. With the Dual Timer Queuing and Related Enhancements feature, the originating scanning rate was extended to 30 to 120 seconds in 15-second intervals.
- The originating switch has the capability to reinitialize scanning if a comparison of the feature timer and an office parameter (REINIT SCAN) finds that time remaining on the feature timer is greater than the office parameter.

The Limited Intragroup ICLID (LIGI) feature allows the calling DN to be displayed at the terminating station set when calls originate and terminate within the same terminal group. This feature is an optioned feature.

4.1.1.6 Feature Application

The Automatic Recall feature is provided on a per-line basis.

4.1.2 USER PERSPECTIVE

4.1.2.1 User Profile

Business and residence customers that desire to automatically recall the last party called to continue a conversation, or in response, are the likely candidates for this service. If the call cannot be completed because the called party is busy, the line is camped on. When both stations become idle, the calling party is given ringback ringing. Upon answering, the called station is rung.

4.1.2.2 Customer Premises Equipment

The type of customer premises equipment (CPE) expected to be the most widely used with AR is an analog station set. Both dual tone multifrequency (DTMF) and dial pulse (DP) sets are supported.

Other CPE supporting AR are ISDN types A, B, C, and D terminals with and without display capability, and ISDN types A, B, C, and D terminals with and without an AR feature button. See 235-900-341, *National ISDN Basic Rate Interface Specification*. Part IV (Basic Call) ISDN terminals are not supported.

4.1.2.3 User Operation

4.1.2.3.1 Invoking the Feature

The end-user may activate the Automatic Recall feature by going off-hook and using the Automatic Recall feature to automatically place a call to the LOCDN. The Automatic Recall feature may also be activated by an end-user upon reaching a "busy signal."

A user with an analog terminal goes off-hook and dials the Automatic Recall access code. The user with an ISDN terminal goes off-hook, selects an idle call appearance, and then either dials the Automatic Recall access code or presses the Automatic Recall feature button. Additionally, an end-user with an ISDN terminal and an Automatic Recall feature button may activate the feature while receiving busy treatment (voice only) or after disconnecting the busy call. The CSD busy treatment releases the call. An ISDN user without a feature button must disconnect the busy call before attempting to activate the feature.

For the Automatic Recall feature, the user must be off-hook to successfully activate the feature.

If the called DN is found to be idle during the activation attempt, audible alerting is returned and the called DN is alerted. No camp-on is necessary. Analog end-users receive a confirmation announcement if the called DN is busy, indicating successful activation of the Automatic Recall feature and indicating that network camp-on to the called DN has occurred. If network resources are temporarily unavailable, or if the called address has a feature active that denies camp-on at this time, the end-user receives reorder tone and an announcement. If the called DN is on a terminating switch that does not have SS7 (transaction capability) connectivity with the originating switch or if camp-on toward the called address is not allowed, the end-user receives an announcement (long-term denial).

Dual Timer Queuing Activation allows a caller to maintain his/her queue position when a reactivation request is made. The Dual Timer feature maintains the queue position for a reactivation by setting two timers. When an initial request is made, a maximum continuous timer is set limiting the total amount of time a request from one DN to another DN may remain in the queue. Another timer, the feature duration timer, is set with the initial activation and reset for any subsequent reactivations toward the same DN. This timer limits the amount of time any particular (re)activation is active.

With the Dual Timer and Related AC Enhancements feature, if the user's activation exceeded the AR concurrent activation limit or queue size limit, the call results in short-term denial (reorder). This feature sets concurrent activation of AR requests which may be active concurrently up to a maximum of 30. The queue size limit is 20 positions per terminating DN thus eliminating a potential of a single line using all the resources. Therefore, an originating subscriber may have up to 30 AR requests active; and a terminating DN may have no more than 20 requests simultaneously active. These limits are office parameters which can be set. These limits are office parameters which can be set using RC View 8.21.

If the AR request is activated toward a line with CFV, CFIO, CFIAG, Selective Call Forwarding, or Computer Access Restriction with forwarding active, the user may receive a short-term denial "Call Forwarding Denial Announcement." For this, the user must have the Dual Timer and AR Enhancements feature active; otherwise, the user receives short-term denial in the form of reorder.

Confirmation of feature activation on an ISDN set consists of an announcement indicating AR is invoked and a display message (for Custom ISDN only) displaying the called DN, the call type indicator, and the date and time of the last call. Confirmation of feature activation on an ISDN station set may also include lighting the lamp associated with the Automatic Recall feature button and keeping the lamp in a steadily lighted state throughout the activation. Immediate call setup does not affect the lamp; it remains in the state it was in before an activation attempt. For Custom ISDN only, short-term denial or long-term denial causes the lamp to flash on rejection and to return to the state it was in before the activation attempt. For National ISDN, the lamp does not flash rejection and returns to the state it was in before the activation attempt.

For National ISDN users, AR can be used for both voice and CSD calls. No announcements are provided for CSD activations/deactivations. When users have both voice and CSD AR, the same feature button is used for voice and CSD. Dialing the AR deactivation access code or depressing the AR deactivation feature button will remove all voice

and CSD camp-ons.

One outgoing line history block (OLHB) is used for both voice and CSD; therefore, only the last outgoing call (either voice or CSD) can be recalled, and the call type must match. For example, if the last outgoing call was a CSD call, then a CSD call appearance must be used to activate AR. If the National ISDN user has access to only voice or CSD AR, the only calls of that type will update the OLHB.

4.1.2.3.2 Canceling the Feature

The end-user may cancel Automatic Recall activations at any time during the Delayed Processing Phase. The user with an analog terminal cancels Automatic Recall activations by going off-hook and dialing the Automatic Recall feature cancellation code. The user with an ISDN terminal may either go off-hook and dial the Automatic Recall feature cancellation code or press the Automatic Recall cancel button (either while on-hook or off-hook). Note that the Automatic Recall activation button must be separate from the cancel button.

If the end-user (both voice and CSD) requests Automatic Recall cancellation, then all Automatic Recall activations associated with the calling terminal will be canceled. An Automatic Recall feature cancellation announcement will be returned to the end-user (if the user canceled the feature while off-hook) and the Automatic Recall feature button lamp goes off.

4.1.2.4 Operational Limitations

A maximum of 256 terminating Automatic Callback, Automatic Recall, Automatic Callback-Calling, and Ringback Queuing camp-ons can be supported per SM. A maximum of 64 originating Automatic Callback/Automatic Recall requests is available per SM. This total includes the number of terminals that have requested camp-on and the number of terminals that are being camped-on. A given terminal may request unlimited camp-ons subject to switch resources. Users attempting to exceed these limits receive short-term denial.

The Automatic Recall feature requires that interswitch calls require SS7 connectivity. If transaction capabilities application protocol (TCAP) messages cannot be exchanged between the end offices, interswitch camp-on protocol cannot be followed and service will be denied to the user.

The TCAP Improvements for a Switch Spanning Multiple LATAs feature permits lines (or groups of lines) to be assigned a LATA NUMBER different from the default LATA NUMBER associated with the office. This feature allows a LATA NUMBER to be associated with a subscriber. The assigned LATA NUMBER will be used to select the appropriate signaling link based on the Signal Transfer Point (STP) for LASS services or will be used to populate the SSP 800 TCAP query to the Service Control Point (SCP). This feature is available in the 5E11 software release. For more information and a complete description of this feature, refer to 235-190-120, *Common Channel Signaling Service Features*.

NOTE: The CSD AR calls only work intraswitch; interswitch CSD AR attempts get long-term denial.

The AR Concurrent Activation Limit and Line Queue Size Limit feature, provides a concurrent activation limit of 30 requests per line. This allows an originating subscriber to have up to 30 Automatic Callback (AC) requests and 30 AR requests active, simultaneously. Additionally, this feature provides a queue size of up to 20 positions per terminating DN. A called DN may not have more than 20 queue requests for AC and AR requests active, simultaneously.

4.1.3 INTERACTIONS

4.1.3.1 General Rules

Unless otherwise noted, feature interactions apply to Automatic Recall. The interactions between Automatic Recall and other features are described in terms of originating feature interactions and terminating feature interactions. An originating interaction in the Automatic Recall user is the originating party, while a terminating interaction in the

Automatic Recall user is the terminating party on a call.

Ringing usually refers to terminating a call; however, in this section discussing interactions, ringback ringing is considered originating because it is an Automatic Recall origination. Camp-ons are considered originating also, because camp-ons are an Automatic Recall origination.

The outgoing line history block (OLHB) is updated whenever a call is made from a terminal that results in ringing, call waiting tone, or busy.

When the customer makes an N11 call, the OLHB entry is marked as invalid. If the customer receives a busy signal and attempts to activate AR, they will receive an announcement (long-term denial). Note that this can occur even if the customer did not dial "9, 1, 1" if the originating switch can determine that the call is a B911 call.

Automatic Recall also updates the outgoing line history block for immediate and delayed call setups. In addition, the outgoing line history block is updated when the call is setup and ringback ringing is returned to the AR user. If the called party subsequently becomes busy again, the AR user hears a busy after ringback announcement.

Switchhook flashes are temporarily disabled during the activation of an AR call. Multiway features, Call Hold, ISDN, and Shared Analog features cannot be accessed during an activation session and are blocked. However, after activation is completed and the call is set up, normal flash capabilities apply. This statement is also true for AR interactions; after activation is completed and the call is set up or in a stable state, normal interactions apply.

The information displayed to users with display capabilities depends on the display mode of the data sent and the precedence level of the mode. For example, some display information is sent in the miscellaneous mode. The incoming call identification display and activation displays (confirmation, and ringback ringing) for AR are sent in the normal mode. Usually, the miscellaneous mode takes precedence over the normal mode. Additionally, the information that is actually displayed depends on the CPE used.

Feature interactions with AR consist of the following "parts" because how a feature interacts depends on what "part" or phase of the AR call is being processed. The different phases are as follows:

- **Activation:** The interactions during the activation session are specified in the relevant feature sections below.
- **Camp On Busy/Idle Status Monitoring:** While the 5ESS[®] switch is monitoring the busy/idle status of the AR user and the camped on party, interactions with features like Call Waiting are important. These interactions are specified under the relevant features.
- **Ringback Ringing:** Ringback ringing for analog and Custom ISDN users is not treated the same as normal alerting with ringing. Features such as call pickup interact with ringback ringing differently than with normal ringing. These interactions are specified under the relevant features.
- **Notification Alerting:** National ISDN users get notification instead of ringback. Some features (AC and trunk ringback queuing for example) cannot notify while an AR notify is in progress. For terminals with shared call appearances, only the terminal with activated AR will receive notification.
- **Call Completions (Immediate or After Ringback) or Completion to the Recorded Announcements or Reorder:** Once the call is set up, it is treated the same as a call dialed directly by the user. Feature interactions are normal; because this is true, the interactions will not be explicitly stated.

The following call types indicate cases when an AR activation on the 5ESS[®] switch is either denied or causes the outgoing line history block to remain unchanged. If the outgoing line history block remains unchanged, it is implied that an AR activation toward that call type is not allowed. A long-term denial announcement is returned to the end-user if the outgoing line history block is marked invalid.

The following calls leave the outgoing line history block unchanged:

- Busy Line Verification for an ISDN Attendant
- ISDN Attendant Emergency Override
- Code Calling
- Feature access code (which does not result in the generation of an outgoing call). See "Individualized Dialing Plan", Section 4.1.3.99 .
- Directory assistance calls
- ISDN data calls with one exception; National ISDN users with access to CSD AR will have their line history blocks updated.
- Partial dials
- Operator-assisted calls (including 0+)
- Code restriction (NPA, NXX, NPA-NXX) calls.

The following calls result in the outgoing line history block being marked as invalid:

- Special dialed calls of the form N11 (911, 411, and 611)
- B911 or E911 calls where 911 is not dialed if the originating switch can determine that the call is a B911 or E911 call.
- 800 calls
- 900 calls
- Calls requiring access codes and dialed digits in excess of 20 digits to be stored
- ISDN Key-System calls
- International Calls (IDDD calls)
- Private Facilities Access (PFA) code calls [non-OUTWATS simulated facilities group (SFG) PFA calls]
- Calls blocked due to terminal group station restrictions

4.1.3.2 800 Service [Also Known as Inward Wide Area Telecommunications Service (INWATS)]

The 800 Service feature provides inward service from one or more predetermined areas at a rate based on expected usage.

NOTE: The 800 Service feature is not limited to the 800 NPA if the switch has implemented a toll-free treatment feature that allows additional toll-free Service Access Codes (SAC) such as 888 or 877.

Originating: The OLHB is updated to invalid. An Automatic recall to the LOCDN will result in long-term denial.

Terminating: No interaction.

4.1.3.3 800 Service Simulated Facilities Group

The 800 Service Simulated Facilities Group feature can restrict the number of simultaneous INWATS calls through software, rather than by the physical size of a dedicated trunk group.

Originating/Terminating: No interaction.

4.1.3.4 900 Services

The 900 Services provide inward service from one or more predetermined areas at a rate based on expected usage.

Originating: The OLHB is updated to invalid. An Automatic Recall to the LOCDN will result in long-term denial.

Terminating: No interaction.

4.1.3.5 Account Codes [Electronic Tandem Switching (ETS) Optional Account Codes]

The Account Code (ACCT) feature allows the customer to add an account code to an Automatic Message Accounting (AMA) or Message Detail Recording (MDR) record for customer allocation of telecommunication charges.

Originating: An account use code and the account code, along with associated routing information, is stored in the OLHB.

If an account code is entered following a prompt after the DN, the account code is not stored in the OLHB. However, if an Automatic Recall attempt is made with a valid entry in the OLHB, but account code input is required to route the call, then the end-user will be prompted for the account code. The Automatic Recall feature may be activated for these calls unless the code and dialed DN exceed the OLHB storage limitation. In this case, subsequent Automatic Recall attempts result in the end-user receiving long-term denial.

When the user gets prompted for an account code depends on the type of call. For intraswitch calls to a busy or idle station, the user is prompted for a code after the Automatic Recall access code is dialed. Interswitch calls to an idle station are also handled in this manner. However, interswitch calls to a busy station will be prompted for an account code after ringback.

The ACCT information used with an Automatic Recall activation will be saved for subsequent inclusion in AMA/MDR records.

Terminating: No interaction.

4.1.3.6 Add-On/Consultation Hold - Incoming Only

Add-On/Consultation Hold - Incoming Only feature is a terminal group variation of the Three-Way Calling feature. It provides three-way calling restricted to incoming direct inward dialed (DID) calls.

Originating: A user can put a call on hold and then, following receipt of dial tone, use an Automatic Recall activation procedure. If a user hangs up while in an Automatic Recall activation session, the user is rung back by the Call Hold feature and connected to the party on hold.

Terminating: No interaction.

4.1.3.7 Advanced Services Platform

Advanced Services Platform (ASP) provides a platform of service-independent capabilities on a 5ESS® switch allowing the switch to interact with external network elements. For further information and the latest details regarding LASS features and ASP interactions, please see the following documents:

235-190-125 Advanced Services Platform Release 0 and 0.1A

235-190-126 Advanced Services Platform Release 0.1B

Originating: Automatic Recall routing over an ASP facility is blocked and the user will receive long-term denial.

With the offering of ASP, the 5ESS[®] switch does not associate DN triggers with physical ports. Routing is determined by the service control point (SCP). Because DN triggers are not associated by the 5ESS[®] switch with physical ports, the OLHB number is not expected to be a DN trigger. Normal AR processing occurs. The SCP is not queried by AR. This is true for both intraswitch and interswitch activations.

If the AR user dialed an ASP access code on making the initial outgoing call, the outgoing line history block is marked as invalid.

In the case where the AR user's Individualized Dialing Plan (IDP) prefixes an ASP access code to the dialed number on the initial outgoing call, or the access code is prefixed on use of a Speed Calling button, the outgoing line history block is marked as invalid.

The AR activation is denied if the OLHB number is a DN trigger at the user's switch. No SCP query will be made as part of the AR activation. Long-term denial treatment results.

If the OLHB number is a DN trigger at a remote switch, the AR query for DN characteristics is still made by the originating switch. No SCP query is made by the remote switch.

Because the DN trigger is not associated with a physical port, the terminating switch responds with the "Data Unavailable" error message described previously. Long-term denial treatment results.

When a user answers the AR ringback, the SCP is not queried before the final AR busy/idle query is sent, even if the OLHB number is a subscribed trigger for the user.

If the response to the final busy/idle query sent by AR is "idle," then plain old telephone service (POTS) call setup applies. The SCP is not queried, even if the OLHB number is a subscribed trigger for the user. The call is not identified as an ASP call.

If immediate call setup applies when activating AR, then POTS call setup applies. The SCP is not queried, even if the incoming line history block (ILHB) number is a subscribed trigger for the user. The call is not identified as an ASP call.

For activations toward lines with the semirestricted plus ASP station restriction, treatment will be as though the restriction were semirestricted terminating. Similarly, for fully restricted plus ASP lines, treatment will be as though the restriction were fully restricted terminating. (For intraswitch activations, terminating restrictions are retrieved for the called party.

Terminating: No interaction.

4.1.3.8 Attendant Call Hold

Attendant Call Hold allows the attendant to hold a call in progress to originate another call, answer a call, or pick up a call on hold. Timed Reminder is activated when the call is placed on hold by the attendant.

Originating: An AR call originated by attendant can be put on hold. However, an AR activation session cannot be put on hold. An attendant can put a call on hold and then, following receipt of dial tone, activate Automatic Recall. If a user hangs up while in an Automatic Recall activation, the user is rung back by the Call Hold feature and connected to the party on hold.

An AR activation session can be put on hold.

If an attendant puts a call on hold and originates another call, the OLHB is updated by the new call.

Terminating: No interaction.

4.1.3.9 Attendant Call Transfer (Also Known as Call Splitting)

Attendant Call Transfer allows the attendant to flash and dial a code before dialing the third leg of a three-way call.

Originating: The first leg of an Attendant Call Transfer call can be made using Automatic Recall. Additionally, Automatic Recall can be used on the added leg of the call. The DN dialed on the added leg updates the outgoing line history block.

Terminating: No interaction.

4.1.3.10 Attendant Camp On

Attendant Camp-On allows calls the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating/Terminating: No interaction.

4.1.3.11 Attendant Conference Six-Way

Attendant Conference Six-Way allows an attendant to initiate a conference call involving up to six parties (including the attendant).

Originating/Terminating: Automatic Recall can be used to add any party, including the last called party, to a six-way conference call. Added parties update the outgoing line history block.

4.1.3.12 Attendant Control of Facilities

Attendant Control of Facilities (ACOF) permits an attendant to restrict dial access from a station to tie trunks, foreign exchange trunks, and wide area telecommunications service (WATS) by operating a key or dialing a code. When control is activated, calls to these facilities are routed to an attendant for appropriate action.

Originating: An attendant can activate this feature after dialing AR by depressing the appropriate feature button.

Terminating: No interaction.

4.1.3.13 Attendant Direct Station Selection

Attendant Direct Station Selection (DSS) allows an attendant with a console to place calls to stations in the business group by simply pressing a nonlocking pushbutton key associated with the desired station line.

Originating/Terminating: An Attendant Direct Station Selection call does not update the OLHB of the attendant.

4.1.3.14 Attendant Identification of Incoming Calls

Attendant Identification of Incoming Calls provides identification of listed directory number (LDN) calls directed toward different LDNs but served by the same attendant. This identification is provided via incoming call indicator lamps on the attendant console.

Originating/Terminating: No interaction.

4.1.3.15 Attendant Position

Attendant Position allows a customer to designate a particular station within a business customer group as an attendant position.

Originating/Terminating: No interaction.

4.1.3.16 Attendant Recall from Satellite

Attendant Recall from Satellite gives stations located at remote locations without an attendant, but with the Satellite Attendant Transfer feature, the ability to transfer an incoming call by flashing the switchhook to generate a recall to the main location attendant who performs the transfer for the remote station.

Originating: No interaction.

Terminating: If an attendant places a call for another party, the other party's outgoing line history block is not updated with the called DN. If the attendant terminal has an outgoing line history block, it is updated with the called DN.

4.1.3.17 Authorization Codes [Electronic Tandem Switching (ETS) Authorization Codes]

The Authorization Codes (ATH) feature allows the station user to input an assigned code to change the restrictions associated with the originating station to those associated with the assigned authorization code.

Originating: The outgoing line history block is used to store information required for routing that may include an Authorization Code access code, plus the authorization code. The Automatic Recall feature may be activated for calls previously placed with Authorization Code input unless the codes and dialed DN exceed the OLHB storage limitation. In this case, the subsequent Automatic Recall attempt results in long-term denial being returned to the end-user.

If an authorization code is needed to route the call and the user is prompted for the code after the DN, the code is not stored in the OLHB. Instead, if an Automatic Recall attempt is made with a valid entry in the OLHB, but an authorization code is required to route the call, then the end-user will be prompted for the authorization code. When the user will be prompted for an authorization code depends on the type of call. For intraswitch calls to a busy or idle station, the user is prompted for a code after the Automatic Recall access code is dialed. Interswitch calls to an idle station are also handled in this manner. However, interswitch calls to a busy station will be prompted for an authorization code after ringback.

An Automatic Recall feature can be marked to require an authorization code by setting the authorization code field (attribute AC) to "yes" on feature assignment views. In this case, the user is prompted for an authorization code after entry of the Automatic Recall access code.

The ATH information used with an Automatic Recall activation will be saved for subsequent inclusion in AMA/MDR records.

Terminating: No interaction.

4.1.3.18 Automatic Alternate Routing

Automatic Alternate Routing (AAR) provides alternate routing capability similar to ARS-Deluxe. The difference is that AAR is used to route calls to stations on the customer's private network.

Originating/Terminating: No interaction.

4.1.3.19 Automatic Callback-Calling

Automatic Callback-Calling (ACBC) allows a user to hang up and dial an activation code to activate ACBC after

reaching a busy station.

Originating: Automatic Callback-Calling is a separate feature from Automatic Recall. A customer can subscribe to both. Automatic Recall interfaces with ACBC in the first-in, first-out (FIFO) order (the queues used to check for camp-ons after every on-hook). The first queue request is served first, whether it was initiated by Automatic Recall or ACBC.

If Automatic Callback-Calling is used to place a call, the outgoing line history block is not updated with the calling party's DN. Also, any outgoing call setup after Automatic Callback-Calling ringback does not update the outgoing line history block. This is because the dialed digits are not available.

Terminating: No interaction.

4.1.3.20 Automatic Customer Station Rearrangement

Automatic Customer Station Rearrangement (ACSR) allows an ISDN end-user to relocate their terminal equipment and associated directory number.

Originating/Terminating: An end-user with access to the AR features retains access to the features after an ACSR move. However, if the end-user has any active Automatic Recall requests at the time of the move, these requests will be allowed to expire (time-out) without completion (ringback) or will be canceled by the switch. If the move is on the originating switch, the resources will be terminated on the originating switch and the terminating switch. However, if the ACSR move is on the terminating switch, the originating switch resources will time-out, but the terminating switch resources will be released at the time of the move. Similarly, if there are any outstanding AR activations toward a terminal at the time of the move, these requests will be allowed to expire without completion. During the duration of the ACSR move, the terminal to be moved will be treated as a busy terminal by the network.

The ACSR customer with an outgoing line history block will still have the same number of allocated history blocks (only one per terminal) after the move. The contents of the OLHB will not be saved over the move.

4.1.3.21 Automatic Intercept System (Also Known as Remote Intercept System)

Automatic Intercept System (AIS) allows Class 5 offices to route calls to nonworking telephone numbers or to telephone numbers placed on trouble intercept to an AIS where they are connected to announcements and/or operators.

Originating/Terminating: No interaction.

4.1.3.22 Automatic Callback

The LASS Automatic Callback (AC) feature allows users to call back the most recent calling party.

Originating/Terminating: When a call which was initiated with AC (either immediate call setup or after ringback answer) routes, the OLHB is updated with the DN from the ILHB. AC updates the ILHB with busy after ringback occurs. When busy after ringback occurs, the user receives a special announcement instructing them to try AC again. The ILHB gets updated with the original camped on DN.

4.1.3.23 Automatic Route Selection (Also Known as Flexible Route Selection)

Automatic Route Selection (ARS) directs outgoing business group line calls to the customer's most preferred available route.

Originating: The OLHB is updated on an ARS call with ARS information (use codes). A subset of ARS calls will be considered valid with AR activations; namely, auto-ARS calls and ARS access code calls that are interpreted via digit analysis in the office dialing plan. (The access code is not required to be in the public dialing plan; however, the

DN must be public if interswitch queries are needed.) The ARS route list will be used to direct call routing after camp-on is complete; thus, the call will not necessarily be routed over public facilities. (The key point is that the 5ESS[®] switch must be able to translate the called address into a public DN which can be used for SS7 queries). Note that (as usual) no attempt will be made to force the outgoing call to route over SS7 facilities. If the call attempts to route over ARS facilities for which the caller has an insufficient Facility Restriction Level (FRL), the 5ESS[®] switch will return standard, insufficient FRL treatment to the user. If an authorization code feature is assigned to the terminal, but an authorization code has not been entered, the user may be prompted for the code to upgrade the FRL.

Terminating: No interaction.

4.1.3.24 Automatic Voice Network Interface

Automatic Voice Network (AUTOVON) interface provides an interface with the AUTOVON network, including provisions for prioritizing call handling.

Originating/Terminating: In order to handle interswitch AR queries, the called DN must translate to the public dialing plan. Intraswitch called DNs need not resolve to the public dialing plan. Refer to the Precedence and Preemption interaction for additional information in "Precedence and Preemption Features", Section 4.1.3.182 .

4.1.3.25 Basic Emergency Service (911)

Basic 911 Emergency Service provides a 3-digit universal telephone number (911) or a 7-digit number (as specified by the telephone company) for public use throughout the United States to report an emergency or request emergency assistance.

Originating: A 911 terminal cannot have access to the Automatic Recall feature since it is denied origination.

The OLHB is updated and is marked as invalid for this entry. An AR call to this number will result in an announcement (long-term denial). Note that this can occur even though the user did not dial "9, 1, 1) if the originating switch is able to determine that the call was to a B911 termination.

Terminating: No interaction.

4.1.3.26 Basic Queuing (Queuing for Lines)

Basic Queuing provides queuing for lines, call waiting lamps control, and delay announcements.

Originating/Terminating: No interaction.

4.1.3.27 BRCS Compatibility with ISDN

The Business and Residence Custom Services (BRCS) compatibility features ensure that many of the existing BRCS features and services function with supported ISDN station sets so that users experience equivalent, similar, or expanded circuit-switched voice service by subscribing to these ISDN BRCS features and services.

Originating/Terminating: Automatic Recall functions with ISDN station sets.

4.1.3.28 Business Group Line

Business Group Line provides capabilities similar to those for individual lines, but is classified as a member of a group of business lines belonging to a single customer.

Originating/Terminating: Business group lines can be assigned the Automatic Recall feature.

4.1.3.29 Business and Residence Custom Service Feature Groups/Feature Clusters

The Business and Residence Custom Services (BRCS) Feature Grouping provides a logical grouping of features and groups that are used by business customers receiving communications services from a central office switch. Feature clusters are BRCS features (preconstructed or customized) grouped together in a cluster which then can be assigned to a line rather than assigning each feature in the cluster to the line. BRCS feature groups and clusters work with both analog and ISDN BRCS features.

Originating/Terminating: The Automatic Recall feature can be offered in a BRCS feature group (BFG) or as part of a feature cluster. If the BFG contains an AR data feature, the BFG can only be assigned to National ISDN lines.

4.1.3.30 Busy Line Verification

Busy Line Verification allows an operator to complete a connection to a busy line to determine the off-hook/on-hook status of the line, or to determine if a conversation exists on the line.

Originating: The outgoing line history block is not updated when an operator performs a busy line verification toward another DN.

Terminating: No interaction.

4.1.3.31 Call-by-Call Access from a 5ESS[®] Switch in a Private Network to Interexchange Carrier Services

This feature allows the private network customer to generate, on a per-call basis, a request for services from an interexchange carrier or local exchange carrier.

Originating/Terminating: No interaction.

4.1.3.32 Call Forwarding Busy Line - All Calls

Call Forwarding Busy Line - All Calls (CFBLAC) permits all calls attempting to terminate to a busy line to be redirected to another customer-specified line.

Originating: AR activations toward a busy line with CFBLAC active result in camp-on to the busy line. An AR activation toward an idle line with CFBLAC results in normal call setup.

User A places a call to user B; user A activates the Automatic Recall feature toward user B (who is busy but has CFBLAC feature). User A will camp-on to user B. User A will receive ringback when both (user A and user B) are idle. User A's OLHB is updated when ringback ringing is answered and the call is routed.

Terminating: Automatic Recall ringbacks that would ordinarily result in busy after ringback can result in call forwarding treatment if the terminating party has CFBLAC and becomes busy before the Automatic Recall call is completed.

If the telephone lines of user A and user B terminate on different switches, the call will not be forwarded. Instead, user A will receive the busy-ringback announcement.

4.1.3.33 Call Forwarding Busy Line - Incoming Only

Call Forwarding Busy Line - Incoming Only (CFBLIO) ensures that only incoming DID calls are forwarded to the specific business group line.

Originating: The CFBLIO feature forwards all calls from outside the called DN's terminal group when the called DN is busy. The interaction is the same as the Call Forwarding Busy Line - All Calls interaction, with the exception that

only incoming calls are forwarded. See "Call Forwarding Busy Line - All Calls", Section 4.1.3.32.

Terminating: Outside calls to analog users with CFBL active will be forwarded if the user is using AR; outside calls to ISDN users using AR with CFBL active and no available call appearances are forwarded.

4.1.3.34 Call Forwarding Do Not Answer - All Calls

Call Forwarding Do Not Answer - All Calls (CFDAAC) forwards all calls to a station to a preselected station within the same customer group, or to an attendant when the called station is not answered after a customer-specified number of rings.

Originating/Terminating: AR activations toward busy lines with CFDAAC result in camp-on to the busy line. An AC activation towards an idle line with CFDAAC results in normal call setup.

The following is a typical call scenario: User A places a call to user B; user A activates the Automatic Recall feature toward user B who has CFDAAC active. If user B is idle, normal call setup will result. If user B is busy, the call camps on to user B.

Terminating: No interaction.

4.1.3.35 Call Forwarding Do Not Answer - Incoming Only

Call Forwarding Do Not Answer - Incoming Only (CFDAIO) ensures that only incoming DID calls to the business group line forward after a customer-specified number of rings if not answered.

Originating: The CFDAIO activations have no effect on incoming calls from terminal group members; hence, we need only consider outside call scenarios. The CFDAIO feature forwards all calls from outside the called DN's terminal group when the called DN is busy.

The following is a typical call scenario: User A places a call to user B (A and B are not in the same terminal group). User A activates the Automatic Recall feature toward user B who has CFDAIO active. If user B is busy, user A will camp-on to user B. User A will receive ringback when user B is idle. If user B is idle, normal call set will result.

Terminating: No interaction.

4.1.3.36 Call Forwarding Incoming Only

Call Forwarding Incoming Only (CFIO) forwards calls terminating from outside the group via DID.

Originating: The CFIO feature forwards calls from outside the called DN's terminal group without regard for the busy/idle status of the called line. If user A is in the same terminal group as user B, the call scenario will proceed as normal (without CFIO active). If user A is not in the same terminal group as user B and user B has CFIO active, user A Automatic Recall attempt will be denied and user A will receive short-term denial.

With the Dual Timer and Related AC/AR Enhancements features, AR activations toward a line with CFIO active receive short-term denial consisting of either reorder or a Call Forwarding denial announcement.

Terminating: Outside calls to analog users with CFIO active will be forwarded while a user is activating AR. Outside calls to ISDN users using AR with CFIO active and no available call appearances are forwarded.

4.1.3.37 Call Forwarding Over Private Facilities

Call Forwarding Over Private Facilities (CFPF) is a Call Forwarding Variable (CFV) option allowing business customers to automatically forward voice calls over the outgoing Private Facilities Access (PFA) or Automatic Route Selection (ARS) service selected by the customer.

Originating/Terminating: See "Call Forwarding Variable", Section 4.1.3.38.

4.1.3.38 Call Forwarding Variable

Call Forwarding Variable (CFV) allows a station user to redirect calls intended for that station to another station.

Originating: The CFV feature forwards all calls without regard for the busy/idle status of the called line. The Automatic Recall activations toward called DN's with CFV active will be denied with short-term denial returned to the calling party (refer to "Call Forwarding In A Group", Section 4.1.3.39, for a typical call scenario).

With the Dual Timer and Related AC/AR Enhancements features, AR activations toward a line with CFV active receive short-term denial consisting of either reorder or a Call Forwarding denial announcement.

The courtesy call will update the OLHB of the CFV user with the call forwarding-to DN, not the Call Forwarding activation code.

Terminating: No interaction.

4.1.3.39 Call Forwarding In (Within) A Group

The Call Forwarding In (Within) A Group (CFIAG) restricts DN's of forward-to numbers dialed during activation to intragroup extension numbers

Originating: The CFIAG feature forwards all calls without regard for busy/idle status of the called DN. User A places a call to user B who has CFIAG active. The call is forwarded to user C who is busy. User A receives busy treatment and activates AR. The Automatic Recall activation will be denied with short-term denial being returned to user A.

With the Dual Timer and Related AC/AR Enhancements features, AR activations toward a line with CFIAG active receive short-term denial consisting of either reorder or a Call Forwarding denial announcement.

Terminating: No interaction.

4.1.3.40 Call Hold

Call Hold (CHD) allows a station user to *hold* a call in progress by flashing and then dialing the call hold code.

Originating: A user can put a call on hold and, following receipt of dial tone, use/cancel Automatic Recall. An AR activation call can be put on hold. The OLHB will be updated with any new outgoing call dependent on other restrictions.

Terminating: No interaction.

4.1.3.41 Call Pickup (Also Known as Call Pickup Originating and Regular Call Pickup)

Call Pickup (CPU) allows a station user to answer any call within an associated preset pickup group.

Originating: If a directory number is called using AR, once ringing is established (either as a result of immediate call setup or answering ringback ringing), the call can be picked up. An AR ringback cannot be answered using Call Pickup.

Terminating: No interaction.

4.1.3.42 Call Tracing

Call Tracing allows central office personnel to determine the source of annoying or threatening calls, or to identify

lines in emergency or demand situations.

Originating/Terminating: During the busy/idle monitoring of the 5ESS® switch for a camp-on, there is no call being placed; therefore, the call cannot be traced. However, once a call has been set up, it can be traced.

4.1.3.43 Call Transfer Attendant

Call Transfer Attendant (CTA) allows the called business group station user to transfer the call to the attendant while connected to a DID or private network incoming call.

Originating/Terminating: No interaction.

4.1.3.44 Call Transfer Individual - All Calls

Call Transfer Individual - All Calls (CTIAC) allows a station user to transfer any established call to another station, within or outside the private branch exchange (PBX) or business group, without the assistance of the attendant.

Originating: A customer with call transfer flash capabilities can flash and initialize Automatic Recall after receiving dial tone. The OLHB of the CTIAC user will be updated with the transferred-to DN, if applicable.

Terminating: No interaction

4.1.3.45 Call Transfer Individual - Incoming Only

Call Transfer Individual - Incoming Only (CTIO) allows a business group station user to transfer an incoming call to another station in the same business group without assistance of the attendant.

Originating: A customer with call transfer flash capabilities can flash and initialize Automatic Recall after receiving dial tone within the business group only. The OLHB of the CTIO user will be updated with the transferred-to DN, if applicable.

Terminating: No interaction.

4.1.3.46 Call Transfer Internal Only

Call Transfer Internal Only (CTIO) allows a business group station user to transfer any established intragroup call to another station in the same customer group without the assistance of an attendant.

Originating: A customer with call transfer flash capabilities can flash and initialize Automatic Recall after receiving dial tone within the business group only. The OLHB of the CTIO user will be updated with the transferred-to DN, if applicable.

Terminating: No interaction.

4.1.3.47 Call Transfer Outside

Call Transfer Outside (CTO) allows a station user to add on a dial "9" off-network, Common Control Switching Arrangement (CCSA), or WATS facility to an external call. A call using CTO can be transferred to a private facility.

Originating/Terminating: See "Call Transfer Individual - All Calls", Section 4.1.3.44 .

4.1.3.48 Call Waiting Incoming Only

Call Waiting Incoming Only (CWIO) is a version of Call Waiting Terminating (CWT). It gives an analog station user engaged in a telephone conversation an audible alert indicating that an incoming DID or private facility call is attempting to terminate.

Originating: If an Automatic Recall user calls a busy user with CWIO active instead of being call waited, the AR user is camped on and waits for idle, even if a call waiting slot is available. Therefore, AR takes precedence over Call Waiting Incoming Only. However, when ringback occurs, instead of getting the busy after ringback announcement if the called DN is now busy, the user receives call waiting treatment if a call waiting slot is available.

Terminating: No interaction.

4.1.3.49 Call Waiting Originating

Call Waiting Originating (CWO) allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The CWO feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active. It is automatically invoked any time a busy intragroup station is encountered. The CWO feature is only operational for intraterminal group calls.

Originating: If a CWO user activates AR towards another business group station, if there is an idle CW slot or reserved call appearance for call waiting terminations, the call will be setup. If all call waiting appearances or call waiting slots are busy, then the AR user will camp on.

Terminating: No interaction.

4.1.3.50 Call Waiting Terminating

Call Waiting Terminating (CWT) uses a burst tone to inform a busy analog station user that another call is waiting.

Originating: When Automatic Recall is activated toward a DN with Call Waiting Terminating active, if the DN is idle, the network will proceed with normal call setup. If the DN is busy but no calls are waiting, the calling party receives audible alerting and the called DN receives call waiting alerting. If the called DN is busy and no free call waiting slots are available, Automatic Recall will camp-on to the called DN. The calling terminal is given ringback when both the calling terminal and the called DN are idle.

Terminating: If the called DN belongs to a 1-DN Line Time Slot Bridging (LTSB) pair and the secondary port is busy, AR camps on to the called DN even if there is a Call Waiting slot available. Ringback occurs when the called DN becomes idle.

If the primary port of the 1-DN LTSB is busy, call waiting tone is applied as if the DN is not a member of an LTSB pair. If both DNs of the 1-DN LTSB pair are busy, the AR call camps on. Ringback occurs when both DNs become idle.

4.1.3.51 Calling Party Number/Billing Number Transmittal in the 5ESS[®] Switch Private Network Environment

This feature allows the 5ESS[®] switch PBX to send the calling party number (CPN)/billing number (BN) of the originator to the public network or to another PBX on a per-trunk group basis for all calls.

Originating/Terminating: When an AR call is initiated, the CPN and attribute for the calling party are stored. This feature is like ACBC in that the calling party information is sent to the terminating end of the call with the value of DN privacy used to make the original call. The data is sent to the called party, if the called party subscribes to CPN/BN optioning.

On ringback, the data for the called party is sent in the SETUP message to the AR originator if the originator of the AR call subscribes to CPN/BN optioning with one of the following options: CPN only, CPN preferred, BN preferred. If the AR originator has the BN only option, the BN information is not available. The CPN IE is sent in the SETUP message with the presentation indicator set to **not available due to interworking**.

4.1.3.52 Cancel Call Waiting

Cancel Call Waiting (CCW) allows a customer with Call Waiting to inhibit the application of the call waiting tone for the duration of one call.

Originating: The OLHB will not contain an indication that a call was made using Cancel Call Waiting. This means that the user will have to dial Cancel Call Waiting again before using AR to set up an outgoing call if the user wants no call waiting interruptions.

The AR/AC/CCW customer can dial the CCW code before dialing the AR/AC activation code. If AR/AC activation is toward an idle line and results in setting up the call immediately, then CCW shall apply for that call. If AR activation results in monitoring a busy line, CCW will not apply when the call is eventually set up.

Terminating: If an AR/AC is activated toward a line that is busy and has CCW active, AR/AC monitors the line until it becomes idle.

4.1.3.53 Carrier Interconnection

Carrier Interconnection provides an interface between the local exchange, inter-LATA, and interexchange carriers.

Originating: If the inter-LATA AC parameter (View 8.21) is set to Y, inter-LATA camp-ons are allowed. The 10XXX calls are allowed and the 10XXX code is included in the OLHB.

Terminating: No interaction.

4.1.3.54 Centrex Complex

Centrex Complex associates multiple business groups in a single switch with a single common *Complex*. All business groups in the complex share intercom calling privileges, yet may have separate private facility groups or separate dialing plans.

Originating/Terminating: No interaction.

4.1.3.55 Code Calling

Code Calling allows attendants and station users to dial an access code and a 2- or 3-digit called party code to activate signaling devices with a coded signal corresponding to the called code.

Originating: When a call is routed using code calling, the outgoing line history block is not updated with a Code Calling code. If the customer invokes Automatic Recall after dialing a Code Calling code, the AR call is directed to the last number which updated the OLHB before the Code Calling code.

Terminating: No interaction

4.1.3.56 Code Restriction

Code Restriction blocks outgoing calls to customer-specified codes [numbering plan area (NPA), office code (NXX)].

Originating: When a customer dials a code restricted NXX, NPA, or NPA-NXX, the call returns either reorder tone or a Code Restriction announcement. The OLHB is not updated with the DN that was dialed. If the customer invokes Automatic Recall after dialing a code restricted number, the AR call is directed to the last number which updated the OLHB before the code restricted call.

Terminating: No interaction.

4.1.3.57 Common Control Switching Arrangement Access

Common Control Switching Arrangement (CCSA) Access provides access to the customer's CCSA network.

Originating/Terminating: No interaction.

4.1.3.58 Computer Access Restriction

Computer Access Restriction (CAR) allows the customer to restrict access to a computer connected through a modem to the telephone line. The CAR feature, operational only for voice calls, is not operational for ISDN packet-switched or circuit-switched data calls.

Originating/Terminating: See "Selective Call Acceptance", Section 4.1.3.194 .

4.1.3.59 Conference Calling Six-Way (Also Known as Station Dial Conference)

Conference Calling Six-Way allows a station user to establish a conference call involving up to five other parties without attendant assistance.

Originating: The OLHB is updated with the added on DN. Automatic Recall can be used to add a new party on to the conference call. Once the AR call is set up, the station user can flash to add additional parties.

Terminating: No interaction.

4.1.3.60 Critical Interdigit Timing

Critical Interdigit Timing is activated when the digits received provide enough information to complete a call, but the possibility of receiving additional valid digits exists.

Originating/Terminating: No interaction.

4.1.3.61 Customer Access Treatment Code Restriction

Customer Access Treatment (CAT) Code Restriction allows the creation of subgroups in a business group to provide additional restriction or access functions.

Originating: The OLHB is updated for an AR call successfully completed with CAT codes applied. However, if user dialing results in error treatment due to CAT code restriction, the OLHB is not updated.

Terminating: No interaction.

4.1.3.62 Customer-Changeable Speed Calling

Customer-Changeable Speed Calling (CCSC) allows customers to assign their own Speed Calling codes directly and immediately from their own telephone by dialing a change Speed Calling list access code, an abbreviated code, and a new telephone number.

Originating: The AR access codes can be on Speed Calling lists. However, the OLHB is not updated when Customer-Changeable Speed Calling is used to change/add to the Speed Calling list. See "Speed Calling", Section 4.1.3.207 , for the Speed Calling call interactions.

Terminating: No interaction.

4.1.3.63 Customer Dialed Account Recording

Customer Dialed Account Recording (CDAR) allows a business group customer to associate a personal account

number with a given call and have it recorded on the AMA record. The customer can use this record for allocating charges on both outgoing and incoming calls.

Originating/Terminating: No interaction.

4.1.3.64 Customer-Originated Trace

Customer-Originated Trace (COT) lets the terminating party request an automatic trace of the last call received.

Originating/Terminating: No interaction.

4.1.3.65 Customer Station Rearrangement via Remote Memory Access System

Customer Station Rearrangement (CSR) via Remote Memory Access System (RMAS) allows business customers to make changes affecting their telephone service from an on-premises terminal.

Originating/Terminating: The Customer Station Rearrangement (CSR) feature may be used to do the following:

- Assign/remove Automatic Recall features to/from a terminal
- Activate/deactivate Automatic Recall features on a terminal
- Change line parameter data for the Automatic Recall feature (that is, the distinctive ringing pattern)
- Display the line parameter data for Automatic Recall
- Display automatic feature definition.

The above operations only apply to customers who have subscribed to Automatic Recall. If the AR feature is available because it is generally available in the office, customers cannot invoke feature changes through CSR. Denial of the Automatic Recall feature to a terminal requires a service order, if the feature is generally available in the office. Changes to the default feature options also require service orders if the feature is generally available.

4.1.3.66 Delay Announcement for Queued Calls on Hunt Group

Delay Announcement for Queued Calls on Hunt Group allows a customer-generated automatic announcement for multiline groups with queuing.

Originating/Terminating: No interaction.

4.1.3.67 Deluxe Automatic Route Selection

Deluxe Automatic Route Selection (DARS) extends the choice of private routes for each NPA/NXX to 16 versus 4 for basic ARS.

Originating/Terminating: See "Automatic Route Selection", Section 4.1.3.23 .

4.1.3.68 Deluxe Queuing

Deluxe Queuing is composed of the following two parts: Priority Queuing and Ringback Queuing.

Originating/Terminating: Ringback Queuing shares originating resources with the AC, AR, and ACBC features.

4.1.3.69 Dial Access to ISDN Attendant

Dial Access to ISDN Attendant provides dial access from the station to the ISDN attendant within the customer group.

Originating: When an end-user with the Automatic Recall feature places a call to the attendant, the end-user's associated outgoing line history block is updated with the attendant's DN, if the call is intraterminal group.

Terminating: No interaction.

4.1.3.70 Dial Access to Private Facilities

Dial Access to Private Facilities (DAPF) lets a customer choose to terminate the private facilities at the central office and access those facilities by dialing a unique access code per facility.

Originating: A user will receive long-term denial when attempting to recall a DAPF access code.

Terminating: No interaction.

4.1.3.71 Dial Call Waiting

Dial Call Waiting (DCW) allows an originating business group station to invoke Call Waiting service on selected intragroup calls by dialing an access code followed by the extension number of the station to be call waited. Dial Call Waiting allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The DCW feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active.

Originating/Terminating: See "Call Waiting Originating", Section 4.1.3.49 .

4.1.3.72 Dial Pulsing

Dial Pulsing provides the capability to transmit and receive direct current address signals between offices.

Originating/Terminating: No interaction.

4.1.3.73 Dial Through Attendant

Dial Through Attendant (DTA) allows a station user to complete the dialing on other than station-to-station calls after the attendant selects the private facility on attendant-handled calls.

Originating/Terminating: The OLHB is not updated for the attendant or the user for whom the attendant dials through.

4.1.3.74 Dial Transfer to Tandem Tie Line

Dial Transfer to Tandem Tie Line makes the Call Transfer feature compatible with tie lines (trunks). After flashing, a station user with normal access to tie lines can dial a call through the tie line and transfer the original call to it.

Originating/Terminating: No interaction.

4.1.3.75 Direct Connect

Direct Connect automatically places a call to a preselected called number when a station goes off-hook.

Originating/Terminating: AR cannot be assigned to direct connect lines.

4.1.3.76 Directed Call Pickup with Barge-In

Directed Call Pickup with Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, barge-in alert tone is provided and a three-way call is established.

Originating: Directed Call Pickup with Barge-In can be used to barge in on a call established with AR. Barge-in alert tone is provided.

When a user dials the Directed Call Pickup code, the OLHB is updated with that code plus the DN, if valid. The subsequent AR results in Directed Call Pickup with Barge-In being invoked again.

Terminating: No interaction.

4.1.3.77 Directed Call Pickup Without Barge-In

Directed Call Pickup Without Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, the party dialing the pickup code is routed to reorder rather than permitted to barge in on the established connection and create a three-way call.

Originating: No interaction. When a user dials the DCPU code, the OLHB is updated with that code plus the DN, if valid. The subsequent AR results in Directed Call Pickup Without Barge-In being invoked again.

Terminating: No interaction.

4.1.3.78 Distinctive Ringing

Distinctive Ringing (DR) applies a distinctive ringing or call waiting tone pattern enabling a station user to determine the source of an incoming call.

Originating/Terminating: No interaction. (However, distinctive ringing patterns are used for AR ringback ringing. These ringing patterns come from LASS, not from the Distinctive Ringing feature).

4.1.3.79 Dual Call Coverage (Also Known as Dual Telephone Coverage)

Dual Call Coverage allows calls originating internal to a customer's terminal group to route to a message center other than the one servicing outside calls.

Originating/Terminating: No interaction.

4.1.3.80 Electronic Tandem Switching Trunk Access (Also Known as Access to Electronic Tandem Switching Trunks)

Electronic Tandem Switching Trunk Access provides access to a customer's Electronic Tandem Switching (ETS) facilities on a distant switch.

Originating/Terminating: No interaction.

4.1.3.81 Electronic Tandem Switching on Primary Rate Interface Trunks

The ETS on Primary Rate Interface (PRI) Trunks feature allows the 5ESS[®] switch to provide ETN trunking between a 5ESS[®] switch central office node and one or more digital PBX nodes in an ETN.

Originating/Terminating: No interaction.

4.1.3.82 Electronic Tandem Network Interworking in the 5ESS[®] Switch Private Network Environment

This feature gives the 5ESS® switch private network customer, who is currently using the ETS feature, expanded capabilities using the Primary Rate Interface to connect multiple private ETN nodes.

Originating/Terminating: No interaction.

4.1.3.83 Emergency Access to ISDN Attendant

Emergency Access to ISDN Attendant allows a station user to dial an emergency code to gain immediate access to the attendant.

Originating: When a user places an emergency call to an attendant with the Automatic Recall feature, the user's OLHB is not updated.

Terminating: No interaction

4.1.3.84 Emergency Ringback

Emergency Ringback is associated with the basic 911 emergency service used to recall a customer station immediately following disconnect from, and at the request of, an emergency bureau.

Originating: An attendant can complete a connection to a user on a call established using AR.

Terminating: No interaction.

4.1.3.85 Enhanced Private Switched Communications Service Access

Enhanced Private Switched Communications Service (EPSCS) Access provides the ability to terminate access lines to the EPSCS switch.

Originating/Terminating: No interaction.

4.1.3.86 Enhanced Emergency Service (911)

Enhanced 911 Emergency Service provides capabilities and optional Public Safety Answering Point (PSAP) customer services for completing and handling E911 calls. With E911 service, a 5ESS®-2000 switch serves as an E911 tandem office for all E911 calls from other local offices in the E911 service area, and as a local office for 911 dialed calls originated by customers served directly by the E911 tandem office. The E911 feature provides the ability for the E911 tandem office to serve many PSAPs in the E911 service area. The main characteristic of E911 service is the capability of the E911 tandem office to selectively route an E911 call originated from any station in the E911 service area to the correct primary PSAP that is assigned to serve the originating station.

Originating: If the switch serving the user determines that the dialed number is an E911 termination, or if 911 was dialed, the OLHB is updated and is marked as invalid for this entry. An AR call to this number will result in an announcement (long-term denial). Note that this can occur even though "9, 1, 1" may not have been dialed.

If the terminating switch determines that the called party is an E911 termination, it will deny AR activation and the user will receive long-term denial.

Terminating: No interaction.

4.1.3.87 Expensive Route Warning Tone

Expensive Route Warning Tone (ERWT) indicates when a more expensive route is about to be used.

Originating: Any user who dials an AR access code receives an Expensive Route Warning tone when a more

expensive route is about to be used.

4.1.3.88 Facility Restriction Level

Facility Restriction Level (FRL) defines the calling privileges associated with a line.

Originating/Terminating: Automatic Recall interacts with FRLs in the routing of calls when ARS was dialed on the last call which updated the OLHB.

Terminating: Not applicable.

4.1.3.89 Feature Code Definition

Feature Code Definition allows the service provider to define feature use codes.

Originating: Automatic Recall use codes (active and cancel) are defined via Feature Code Definition.

Terminating: No interaction

4.1.3.90 Flexible Night Service (Also Known as Attendant Call Forwarding)

Flexible Night Service (FNS) routes calls normally directed to the attendant group to a different location (night location, also known as a night directory number).

Originating: Automatic Recall activations toward DNs with CFNS active are denied. Short-term denial is returned to the calling party.

With the Dual Timer and Related AC/AR Enhancements features, AR activations toward a line with Call Forwarding Night Service (CFNS) active receive short-term denial consisting of either reorder or a Call Forwarding denial announcement.

Flexible Night Service routing to a night directory number that is camped on is forwarded after ringback answer.

Terminating: No interaction.

4.1.3.91 Foreign Exchange Line

Foreign Exchange (FX) Line provides line termination in a central office different from the line providing service to the customer.

Originating/Terminating: No interaction.

4.1.3.92 Four- and Eight-Party

Four- and Eight-Party provides POTS for up to four or eight customers sharing the same line.

Originating/Terminating: No interaction.

4.1.3.93 Fully Restricted Originating and Terminating

Fully Restricted Originating and Terminating (FROT) provides the ability to deny a station's ability to originate and/or receive calls to or from outside the business group. It also blocks "dial 0" calls to an attendant and calls from an attendant to the station.

Originating/Terminating: If Automatic Recall users cannot originate a call to a terminating party due to terminal group restrictions, their outgoing line history block will be updated to invalid. The user receives long-term denial

when attempting to activate a recall.

A fully restricted originating station can only activate AR toward another station within the same terminal group unless restrictions are overridden with ATH codes. The restrictions that apply to an AR call are the restrictions in effect at the time of call origination.

4.1.3.94 Home Intercom (Also Known as Home Intercom/Single Line Variety Package)

Home Intercom/Single Line Variety Package (HI/SVP) allows the HI/SVP user to ring all telephone sets (extensions) associated with the line by dialing specified codes from the station.

Originating/Terminating: No interaction.

4.1.3.95 Hunt Group Transfer for Circuit-Switched Data Calls

This feature allows Circuit-Switched Data (CSD) calls to a CSD multiline hunt group (MLHG) to forward-to a second CSD MLHG.

Originating/Terminating: No interaction.

4.1.3.96 In-Progress Call Tracing

In-Progress Call Tracing is one type of Call Tracing feature that identifies a call in progress.

Originating/Terminating: A call set up with AR processing can be traced. The trace can include the path to the recorded announcement (for confirmation, etc.) and the routed call to the LOCDN.

4.1.3.97 Individual Calling Line Identification Calling Number Delivery (Analog)

Individual Calling Line Identification (ICLID) Calling Number Delivery transmits data on an incoming call to the terminating station set.

Originating: An analog subscriber must subscribe to ICLID to receive an AR display; the ICLID information is sent when a call is offered. See Table 4.1-1.

4.1.3.98 Individual Calling Line Identification Directory Number Privacy

Individual Calling Line Identification (ICLID) Directory Number Privacy allows the calling party to prevent delivery of the originating DN to the terminating station set.

Originating: The ICLID feature has a Per-Call Privacy activation option. If the end-user requires Per-Call Privacy with a call generated by an Automatic Recall activation, the user may activate the Per-Call Privacy feature immediately before activating the Automatic Recall feature. The user may also dial the access code with the original outgoing call and the privacy is remembered in the OLHB. If Automatic Recall is activated, the desired privacy (or override of all-call privacy) is maintained toward the DN. If the AR user has National ISDN and supplies a privacy indication in response to the ringback notification, it will be ignored. The privacy indicator will not override the privacy status that has been supplied at the time of the AR activation.

Table 4.1-1 shows the Automatic Recall interactions for Individual Calling Line Identification/Outgoing Calling Line Identification (ICLID/OCLID) and the display terminal flag.

Table 4.1-1 How to Get a Display (ICLID/OCLID)

TYPE	IMMEDIATE SETUP	RINGBACK	CAMP-ON
ISDN	OCLID and RC View 23.2	RC View 23.2	RC View 23.2

	Display Flag =y.	Display Flag =y	Display Flag =y
Analog	No Display Possible	ICLID	No Display Possible

Terminating: No interaction

4.1.3.99 Individualized Dialing Plan

The Individualized Dialing Plan (IDP) feature allows digits to be interpreted according to the IDP of the customer instead of the office dialing plan (ODP) and/or the standard office abbreviated dialing list.

Originating/Terminating: Outgoing calls placed via extension dialing updates OLHB with the extension. Automatic Recall uses this extension number.

All IDP restrictions apply to AR calls [for example, dialing plan access treatment (DPAT)].

An Automatic Recall access code can be defined in the IDP.

Automatic Recall users who are members of an IDP group must have access codes for activating and deactivating AR defined in their IDP.

The LASS Dialed Code Restrictions on IDP Users feature affects access to LASS features AC, AR, COT, ICLID CND, and PCP, SCA, SCR, CAR, SCF, and SDA. This feature, is an optioned feature available on an SM basis via the Secured Feature Upgrade View (View 8.22). The LASS Dialed Code Restrictions on IDP Users feature, controls dial code access to LASS features for IDP users. The default value for this feature is disabled (inactive). When this feature is disabled, IDP users can use the access codes defined in their IDP in addition to the ODP defined dialed access codes to access LASS features. Using an ODP defined dial access code for access to a LASS feature by an IDP user may require the dialing of an IDP defined "escape to POTS access code" (9, or *9) immediately prior to dialing the ODP defined access code. Dialing of an ODP defined access code directly (not preceded by an escape to POTS code) is allowed if the error treatment for the user's IDP has been set to use the office code on RC View 9.10.

When the LASS Dialed Code Restrictions on IDP Users feature is enabled (active), an IDP user cannot use an ODP defined dial access code to access a LASS feature. The ODP defined dial access code cannot be used whether or not the ODP LASS code is preceded by an escape to POTS code and regardless of the error treatment for the user's IDP group. Reorder tone is returned to an IDP user after an ODP access code is dialed to access a LASS feature.

Additionally, with this feature enabled, neither an ODP nor an IDP defined dial access code for a LASS feature will be accepted by the 5ESS[®] switch at any time after an escape to POTS code has been dialed by an IDP user in a single, off-hook dialing scenario. However, an IDP user can dial an escape to POTS code followed by an automatic route selection (ARS), authorization, or an account code prior to the dialing of an IDP (but not ODP) LASS code. Dialing an ARS, authorization, or account code in conjunction with an IDP LASS dialed access code is allowed regardless of the activation status of the LASS Dialed Code Restrictions on IDP Users feature.

The LASS Dialed Code Restrictions on IDP Users feature requires dialed codes used for access to LASS features to be defined in the IDP. Except for ARS, authorization or account codes, activation of this optioned feature requires that access to non-LASS features allowed to be dialed prior to the LASS access codes must also be defined in the IDP. This allows IDP users to use non-LASS features in conjunction with LASS features.

Refer to 235-080-100, *Translation Guide*, for AR activation and cancellation codes to build in the IDP.

4.1.3.100 Inspect for ISDN Terminals

Inspect for ISDN Terminals retrieves and displays call-related information about any call appearance having a call associated with it. Inspect also displays feature button identification.

Originating: Inspect is used to inspect the AR feature buttons and the default display message ("Redial - last outgoing call" for the activation button; "Cancel - Redial last outgoing call" for the deactivation button. Display information that a user receives is CPE-dependent). Inspect can be used during an AR. The LASS display messages are recent changeable via RC View 8.65.

Terminating: No interaction

4.1.3.101 Intercom Calling Restriction

Intercom Calling Restriction counts and limits the number of intercom calls that can be in progress at any one time within a customer group. It also sets the maximum number of simultaneous calls, including intercom calls and calls external to the customer group.

Originating: Intercom Calling Restriction is not overridden when an IDP intercom call setup is attempted following Automatic Recall activation or ringback.

Terminating: No interaction.

4.1.3.102 Intercom Dialing

Intercom Dialing, with the special dialing plan, permits station users in the business group to place calls to each other on a 1- to 7-digit basis.

Originating/Terminating: See "Individualized Dialing Plan", Section 4.1.3.99 .

4.1.3.103 Intra-LATA Presubscribed Inter-LATA Carrier (Intra-LATA PIC)

The Intra-LATA PIC capability allows the Local Exchange Carrier (LEC) to open up certain Intra-LATA toll routes which were previously handled exclusively by the LEC, to competition on an equal access basis between the LEC and Inter-LATA Carriers (ICs).

The Intra-LATA PIC capability allows a subscriber to presubscribe to an Intra-LATA Toll Carrier (PTC) that handles all of his/her Intra-LATA Toll traffic (7 digit or 10 digit calls with or without a "1/0" prefix), if dialed without a 10XXX (or 101XXXX) prefix, but which may or may not be the same as the Presubscribed Inter-LATA Carrier (PIC).

Originating: Dialing of a 10XXX+ Intra-LATA PIC call (as well as other Carrier Interconnect [CI] type calls) will not invalidate the Outgoing Line History Block (OLHB) entry.

When AR is attempted and the Outgoing Line History Block (OLHB) dial number (DN) is such that the AR attempt would result in an Intra-LATA Toll call, then the AR attempt will not be blocked by the INTER LATA AC/AR field in RC/V View 8.21 (LASS OFFICE PARAMETERS) being set to No. An Intra-LATA Toll call will be treated as Intra-LATA for the AR attempt and therefore the INTER LATA AC/AR field will not apply to the AR attempt.

Terminating: No interaction.

4.1.3.104 Intermodule Trunking

Intermodule Trunking provides trunking between modules connected to the same base 5ESS® switch.

Originating: The Automatic Recall feature functions for calls placed via intermodule trunks. These trunks must be ISUP trunks if full LASS interactions are desired.

Terminating: No interaction.

4.1.3.105 Intraswitch/Interswitch Calling Party Number/Billing Number Optioning to Terminating

User

This feature allows the terminating PRI or Basic Rate Interface (BRI) user to request delivery of the calling party number or billing number on an *exclusive* or *preferred* basis on every call for circuit-switched voice/data calls.

Originating/Terminating: No interaction.

4.1.3.106 ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants

The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature allows a supervisor, or attendant, to display data about an attendant position.

Originating/Terminating: No interaction.

4.1.3.107 ISDN Attendant Busy Verification of Lines and Trunks

The ISDN Attendant Busy Verification of Lines and Trunks feature allows an attendant to determine when a line or trunk within the same customer group is busy or idle.

Originating: The outgoing line history block of the attendant is not updated when they perform a busy verification.

Terminating: With this feature, attendants can verify whether an AR user is busy. The attendant is not able to barge in on an AR activation session. However, once the AR call is established (to reorder, to the recorded announcement, or to the LOCDN), the attendant is able to barge in.

4.1.3.108 ISDN Attendant Call Hold

The ISDN Attendant Call Hold feature allows the ISDN attendant to hold a call in progress to originate another call or to pick up a call on hold.

Originating: An AR activation session may not be placed on hold by an ISDN attendant. A call set up with AR (to the recorded announcement or to LOCDN) can be put on hold. Before the call is setup, hold attempts are rejected.

Terminating: No interaction.

4.1.3.109 ISDN Attendant Call Splitting

The ISDN Attendant Call Splitting feature allows the ISDN attendant to consult privately with the called party without the calling party hearing.

Originating: The ISDN Attendant Call Splitting results in the attendant's outgoing line history block being updated with the called DN.

Terminating: No interaction.

4.1.3.110 ISDN Attendant Call Transfer

The ISDN Attendant Call Transfer feature is the ISDN version of Attendant Call Transfer.

Originating/Terminating: See "Attendant Call Transfer", Section 4.1.3.9 .

4.1.3.111 ISDN Attendant Camp-On

The ISDN Attendant Camp-On feature is the ISDN version of the Attendant Camp-On feature. It allows calls that the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: Attendant Camp On updates the outgoing line history block of the attendant with the called DN. Attendant Camp-On is a different feature from (unrelated to) Automatic Recall Camp-On.

Terminating: No interaction.

4.1.3.112 ISDN Attendant Conference Calling

The ISDN Attendant Conference Calling feature allows the attendant to set up conference calls with any combination of extensions or trunks on the internal conference bridge. The maximum number of parties on the conference call is limited to the capacity of the multiport conference circuit.

Originating/Terminating: See "Three-Way Calling", Section 4.1.3.211, and "Conference Calling Six-Way", Section 4.1.3.59.

4.1.3.113 ISDN Attendant Control of Facilities

The ISDN Attendant Control of Facilities (ACOF) feature is the ISDN version of ACOF.

Originating: If the attendant blocks access to feature access codes, such as the access to POTS, after an end-user within the group has activated Automatic Recall, the end-user may receive reorder. If the IDP ACT error treatment is reroute to DN or escape to the ODP, the OLHB is updated with the dialed DN. Subsequent ARs will be routed accordingly. If the error treatment is reorder or error announcement, the OLHB is not updated, and subsequent ARs will be routed to the DN which updated the OLHB before the attempted call to the restricted code.

Terminating: No interaction.

4.1.3.114 ISDN Attendant Control of Voice Terminals

The ISDN Attendant Control of Voice Terminals (ACVT) feature enables an attendant to impose an originating or terminating restriction (or both) on a DN or group of DNs. The ACVT feature routes calls destined for a line or group of lines to the attendant for handling. It is activated by the attendant or automatically by the 5ESS[®] switch.

Originating: An ISDN attendant can activate Attendant Control of Voice Terminals while on an Automatic Recall session by depressing the appropriate feature button.

Terminating: Any originations or terminations of a terminal with the Attendant Control of Voice Terminal feature must check the terminal's restrictions. Camp-ons are denied toward DNs that restrict the termination from the calling DN, and the user receives long-term denial. If an attendant imposes terminating restrictions on a DN, any Automatic Recall camp-on already in progress toward this DN may result in error treatment after ringback is answered.

If an attendant imposes originating restrictions on a terminal, an attempt to invoke Automatic Recall will not override these restrictions. The standard error treatment provided by the Attendant Control of Voice Terminals feature is returned to the user. Ringback occurs if a camp-on was in progress before the attendant restricted originations on the calling DN.

4.1.3.115 ISDN Attendant Direct Station Selection

The ISDN Attendant Direct Station Selection (DSS) feature allows the attendant to display the status of up to 10,000 DNs in 100 groups of 100 contiguous DNs starting at 00.

Originating: An attendant can use Direct Station Selection to monitor the status of selected DNs during an Automatic Recall activation.

A Direct Station Selection call from an ISDN attendant does not update the outgoing line history block (OLHB) of the attendant. However, the incoming line history block (ILHB) of the party that is called is updated.

Terminating: No interaction.

4.1.3.116 ISDN Attendant Emergency Override

The ISDN Attendant Emergency Override (AEO) feature allows the attendant to complete incoming calls to stations as follows:

- Calls that are busy from setting the make-busy key
- Calls that have a series completion or multiline hunt arrangement
- Calls with Call Forwarding active
- Calls with terminating restrictions.

Originating: No interaction.

Terminating: Automatic Recall sessions can be overridden. The activation of the ISDN Attendant Emergency Override does not update the outgoing line history block of the attendant.

4.1.3.117 ISDN Attendant Incoming Call Identification

The ISDN Attendant Incoming Call Identification feature allows an attendant to identify the type of facility over which an incoming call to the attendant was routed.

Originating: When an ISDN attendant with display capability and an available call appearance are performing an AR activation, Incoming Call Identification information is sent by the 5ESS[®] switch when a call is offered. This information may overwrite the AR display depending on the attendant CPE. The display is sent in the Normal display mode; the AR confirmation or ringback displays are also sent in the Normal display mode.

Terminating: No interaction.

4.1.3.118 ISDN Attendant Make-Busy Key

The ISDN Attendant Make-Busy feature allows an attendant to make a line busy.

Originating: No interaction

Terminating: An AR camp-on results if a make-busy key is busy on the recalled DN. If a user camps on to a DN through Automatic Recall and the attendant pushes the make-busy key before the ringback occurs, the ISDN terminal is considered busy for any subsequent attempts to perform ringback.

4.1.3.119 ISDN Attendant Night Service

The ISDN Attendant Night Service feature routes calls directed to the ISDN attendant to a different station.

Originating: An attendant can activate Night Service while on an Automatic Recall session. However, Automatic Recall to an ISDN attendant that has Night Service active receives short-term denial.

With the Dual Timer and Related AC/AR Enhancements features, AR activations toward a line with CFNS active receive short-term denial consisting of either reorder or a Call Forwarding denial announcement.

4.1.3.120 ISDN Attendant Position Busy

The ISDN Attendant Position Busy feature allows the position to be made busy by the attendant. When the attendant

position is made busy in a single position arrangement, new calls to the position receive busy treatment. In a multiple position arrangement, new calls are directed to a different console position.

Originating: An AR camp-on results if a position make-busy key is active on the recalled DN. If a user camps on to a DN through Automatic Recall and then activates Position Busy before the ringback occurs, the ISDN terminal is considered busy for any subsequent attempts to perform ringback until Position Busy is turned off.

Terminating: No interaction.

4.1.3.121 ISDN Attendant Selective Customer Control of Facilities

The ISDN Attendant Selective Customer Control of Facilities (ASCCOF) feature allows an attendant to deny access to a trunk or Simulated Facilities Group.

Originating: An attendant can press the ASCCOF feature button during an Automatic Recall activation.

A call to a denied facility results in the OLHB being updated. Subsequent ARs, where the LOCDN (interswitch) is idle but the facility is denied, result in short-term denial. Automatic Recall where the LOCDN (interswitch) is busy and the LOCDN is intraswitch results in camp-on; however, the routed call after ringback will find the facilities denied and busy after ringback treatment will be returned to the user. The AR does not camp on to the trunk or SFG.

Terminating: No interaction.

4.1.3.122 ISDN Attendant Through Dialing

The ISDN Attendant Through Dialing feature allows an attendant to access an outgoing facility for a calling party within the group who has restrictions or difficulty in placing an outgoing call.

Originating: An Attendant Through Dialing call does not update the outgoing line history block associated with the attendant's terminal. The outgoing line history block of the terminal that called the attendant is not updated with the DN it dials after receiving dial tone from the attendant.

Terminating: No interaction.

4.1.3.123 ISDN Attendant Timed Reminder

The ISDN Attendant Timed Reminder provides a timer that is started when a call is camped on to, when the called party has not answered after a transfer, or when a call is on hold. When the timer expires, the attendant is alerted and can pick up the call to talk to the calling party.

Originating/Terminating: No interaction

4.1.3.124 ISDN Attendant Traffic

The ISDN Attendant Traffic feature provides the traffic counts for each attendant console position.

Originating/Terminating: No interaction.

4.1.3.125 ISDN Attendant Trunk Identification

The ISDN Attendant Trunk Identification feature provides a display of the trunk group and member number of the incoming or outgoing trunk in use, either at the request of the attendant or automatically on incoming trunk calls.

Originating: The attendant's outgoing line history block is not updated because of performing trunk identification.

Terminating: No interaction.

4.1.3.126 ISDN Automatic Customer Station Rearrangement

The ISDN Automatic Customer Station Rearrangement (ACSR) feature allows users to rearrange their DN's automatically when an ISDN station set is moved.

Originating/Terminating: See "Customer Station Rearrangement", Section 4.1.3.130 .

4.1.3.127 ISDN Automatic-Hold/Drop Preference

The ISDN Automatic-Hold/Drop Preference feature automatically determines how to handle a call active on one call appearance when the user shifts to another appearance. Two types of treatment are provided: Automatic-Drop and Automatic-Hold.

Originating: A user attempting to activate Automatic Recall may choose another call appearance at the terminal. If the user has Automatic-Drop preference, the Automatic Recall activation is terminated when a new call appearance is chosen. Automatic Recall is only activated when the user hears a confirmation announcement. If a user drops off before hearing the confirmation announcement, the Automatic Recall does not camp on.

If the user has Automatic-Hold preference and chooses another call appearance, the hold request is rejected.

Terminating: No interaction.

4.1.3.128 ISDN Basic Message Service

The ISDN Basic Message Service (BMS) feature provides basic personalized message service for customer groups.

Originating: The Automatic Recall feature cannot be activated toward a message service attendant's DN if the DN is hunted. Message service attendants are part of an MLHG with Uniform Call Distribution (UCD) hunting.

Terminating: No interaction.

4.1.3.129 ISDN Bridging

The ISDN Bridging feature allows the Multibutton Key System (MBKS) set user to bridge onto a currently active call by pressing the active call appearance button on the MBKS set and going off-hook. This establishes a three-way call. This is different from standard Three-Way Calling because the third party initiates the bridge to the active call. Bridging is inhibited if Manual Exclusion is activated at an MBKS set engaged in the active call.

Originating: Bridging on an Automatic Recall call is allowed. When an ISDN call bridges onto a call, its associated outgoing line history block is not updated.

Terminating: No interaction.

4.1.3.130 ISDN Customer Station Rearrangement via **MACSTAR®** I and II Software

The ISDN Customer Station Rearrangement via **MACSTAR®** I and II Software feature expands the Manual Customer Station Rearrangement (CSR) capabilities to include customer control over the ISDN feature.

Originating/Terminating: See "Customer Station Rearrangement via Remote Memory Access System", Section 4.1.3.65 .

4.1.3.131 ISDN Delayed and Abbreviated Ringing

The ISDN Delayed and Abbreviated Ringing (DAR) feature alerts an MBKS set for a predetermined interval before ringing another designated MBKS set.

Originating/Terminating: No interaction.

4.1.3.132 ISDN Drop

The ISDN Drop feature allows the MBKS set user to drop the last party added to a conference call. For a 2-party call, pressing this button disconnects the MBKS set from the call.

Originating: If a user invokes ISDN Drop during an Automatic Recall activation, the call will be dropped. If confirmation has not been returned, no camp-on will result.

Terminating: No interaction.

4.1.3.133 ISDN Electronic Directory Service Calling Name Display

The ISDN Electronic Directory Service Calling Name Display (CND) feature gives the calling party's name and telephone number to the called party.

Originating: Electronic Directory Service is used to retrieve the name associated with the calling DN if it is available during an Automatic Recall ringback.

Terminating: No interaction.

4.1.3.134 ISDN Electronic Directory Service Directory Query Display/Autocall

The ISDN Electronic Directory Service Directory Query Display (DQD) allows the user to query the electronic directory data base for a name using the ISDN station set. The user can generate an Autocall by pressing the appropriate button.

Originating: If a user has Directory Query Display and an AR active, simultaneously, and attempts Autocall, the request is denied. The user receives standard denial.

Calls placed through Electronic Directory Service automatic call setup update the outgoing line history block of the ISDN terminal with the called DN.

Terminating: No interaction.

4.1.3.135 ISDN Electronic Directory Service Query Service (Also Known as Applications Processor Query Service)

The ISDN Electronic Directory Service Query Service allows a user to query the Applications Processor (AP) directory using a video display terminal for call and personnel information on a per-customer group basis.

Originating; Electronic Directory Service can retrieve the name associated with the calling DN if it is available during an Automatic Recall ringback.

Terminating: No interaction.

4.1.3.136 ISDN Hold

The ISDN Hold feature allows the MBKS set user to place a call on hold by pressing the function button. Any MBKS set with a call appearance for call on hold can pick up the call by pressing the call appearance button.

Originating: A user cannot invoke hold during an AR activation session; the request is rejected. After an AR call is

set up, a hold can be invoked.

Terminating: No interaction.

4.1.3.137 ISDN ICLID Calling Number Delivery

This feature provides calling party data on calls originated from both analog and digital lines on the same 5ESS® switch for ISDN subscribers and attendants. The ICLID feature is an enhancement to the ISDN intraswitch ICLID feature, which is available only to ISDN users with display station sets.

Originating/Terminating: ICLID information is sent when a call is offered. This information may override the AR display depending on the CPE. The ICLID display and the AR display are sent in the normal display mode. See Table 4.1-1 .

4.1.3.138 ISDN Initiated Priority Calling

The ISDN Initiated Priority Calling (IPC) feature provides the ISDN equivalent of Dial Call Waiting.

Originating/Terminating: See "Call Waiting Originating", Section 4.1.3.49 .

4.1.3.139 ISDN Manual Exclusion

The ISDN Manual Exclusion feature allows an Multibutton Key System (MBKS) set user to inhibit other stations from picking up a call on hold or bridging onto a call that is active at that station.

Originating/Terminating: An MBKS user can activate manual exclusion while on an AR call.

4.1.3.140 ISDN Message Service Automatic Call Setup (Also Known as Autocall)

The ISDN Message Service Automatic Call Setup feature allows ISDN clients with the Message Retrieval Display or Direct Access to Message Data Base feature to automatically set up a call to the directory number being displayed during the retrieval session.

Originating: If a user has Message Retrieval Display and an AR call active, simultaneously, and attempts Automatic Call Setup, the request is denied. The user receives standard denial.

Terminating: No interaction.

4.1.3.141 ISDN Message Service Message Retrieval Display

The ISDN Message Service Message Retrieval Display (MRD) allows ISDN station users to directly retrieve their Message Service Center or Leave Word Calling messages.

Originating/Terminating: The MRD retrieves messages associated with the called DN (if available) which can be displayed during an Automatic Recall ringback. The AR display is CPE dependent; how the display messages for the MRD messages and for AR will be displayed depends on the CPE.

4.1.3.142 ISDN Multibutton Key System (MBKS)

4.1.3.142.1 ISDN MBKS Conference Calling

The MBKS Conference Calling allows an ISDN user to set up a conference call. A user can press a feature button and dial the DN of the party to be added to the call. The conference call can include up to six parties. Parties connected to the conference can be members of the user's customer group or parties outside the group.

Originating: When a conference controller calls another party and adds that party to the conference call, the controller's outgoing line history block is updated with the new party added. Automatic Recall can be used to add a new party to the conference.

Terminating: No interaction.

4.1.3.142.2 ISDN Multibutton Key System Speed Calling

The MBKS Speed Calling feature allows an MBKS user to dial a preassigned number by pressing a Speed Calling feature button and dialing one or two digits.

Originating: Speed Calls made on ISDN terminals with the Automatic Recall feature update the outgoing line history block with the Speed Calling information. An AR access code can be assigned to the speed calling list.

Terminating: No interaction.

4.1.3.143 ISDN Multiple Call Appearances

The ISDN Multiple Call Appearances feature allows an MBKS set to have more than one DN button assigned to the same DN. Incoming calls for this DN are handled in much the same way as Series Completion. A hunt is made for an idle call appearance of the called DN when a call is made to a DN that has multiple call appearances on an MBKS set.

Originating: The outgoing line history block associated with an ISDN terminal is updated whenever any call originates on that terminal, regardless of whether the call appearance is on the primary DN. Ringback on an ISDN terminal with multiple call appearances must occur on an idle call appearance of the same DN where the original feature activation occurred.

Terminating: No interaction.

4.1.3.144 ISDN Number of Calls on Queue (Attendant)

Number of Calls on Queue can display each ISDN Incoming Call Identification (ICI) type. By repeating the request, the attendant can display all ICI queues.

Originating/Terminating: No interaction.

4.1.3.145 ISDN Number of Calls on Queue (MLHG)

Originating/Terminating: No interaction.

4.1.3.146 ISDN Originating Priority Calling

The ISDN Originating Priority Calling (OPC) feature provides the ISDN equivalent of Call Waiting Originating.

Originating/Terminating: See "Call Waiting Originating", Section 4.1.3.49 .

4.1.3.147 ISDN Outgoing Called Line Identification

The ISDN Outgoing Called Line Identification (OCLID) feature provides a user originating a call with information about the called party and the facility or destination. Facility and call destination information is provided via the ISDN ICI call types.

Originating: The OCLID feature provides display for immediate call setup. Calling ISDN terminals are not required to have access to the OCLID feature to receive the AR ringback display (or confirmation display). The type of

ringback provided is specified on RC View 23.2. Refer to Table 4.1-1 for Automatic Recall interactions with OCLID and the display terminal flag (RC View 23.2).

Terminating: No interaction.

4.1.3.148 ISDN Priority Calling - Incoming Only

The ISDN Priority Calling - Incoming Only (PCIO) feature is the ISDN equivalent of the Call Waiting Incoming Only feature. With this feature, calls outside the business group can terminate to an idle call appearance reserved for incoming calls (calls from outside the terminal group) when all unreserved call appearances are active.

Originating: If an Automatic Recall user calls a busy user with PCIO active instead of being call waited, the AR user is camped on and waits for idle call appearance. When an idle call appearance becomes available the user receives ringback. However, when ringback occurs, instead of getting the busy after ringback announcement if the called DN is now busy, the user receives Call Waiting treatment if a call appearance is not available.

Terminating: No interaction.

4.1.3.149 ISDN Shared Call Appearances of a Directory Number

The ISDN Shared Call Appearances of a Directory Number feature allows several MBKS station sets to share one or more DNs.

Originating: An AR can be activated from a primary or secondary call appearance. The Automatic Recall outgoing line history block associated with an ISDN terminal is updated regardless of which call appearance the call was made from.

When a Custom ISDN terminal with shared call appearance receives ringback from an AR activation, the status lamp for the call appearance of that terminal will alert at the ringback terminal. At terminal(s) of shared members, the status lamp will light steadily to indicate that the call appearance is in use. Only the ISDN terminal that activated the feature will receive ringback alerting and be able to answer the ringback.

For National ISDN terminals with shared call appearances, only the terminal which activated AR will receive notification.

Terminating: No interaction.

4.1.3.150 ISDN Single-Digit Intercom

The ISDN Intercom (ICOM) feature is a form of ISDN station-to-station calling. The ICOM user can originate a call to the ICOM group member by pressing the ICOM button.

Originating/Terminating: The OLHB is updated with ICOM digits when an ICOM user originates a call. AR can be used to recall this party.

4.1.3.151 ISDN Time and Date Display

The ISDN Time and Date Display feature is a subscription feature for ISDN attendants and ISDN station set users. The 5ESS[®] switch provides the time and date to the ISDN station set.

Originating: The Time and Date Display message takes precedence over Automatic Recall display messages. How the display messages for Time and Date and for AR will be displayed depends on the CPE.

Terminating: No interaction.

4.1.3.152 ISDN Total Number of Calls Handled Display for ISDN Attendants

Total Number of Calls Handled Display for ISDN Attendants provides supervisors with traffic data information about each attendant in the ISDN attendant group.

Originating/Terminating: No interaction.

4.1.3.153 Line Time Slot Bridging

Line Time Slot Bridging (LTSB) provides an off-premises extension to a single directory number and bridging of two separate DNs in two separate locations with barge-in capabilities for customers served by the same 5ESS[®] switch. The Line Time Slot Bridging feature is only available via a service order.

Originating: Automatic Recall is available for terminals with the 1-TN Line Time Slot Bridging (LTSB) feature; it is not available for the 2-TN LTSB feature. Camp-ons are permitted toward 1-TN LTSB terminals. After ringbacks are answered, camped-on LTSB terminals are alerted normally.

Terminating: No interaction.

4.1.3.154 Loudspeaker Paging

Loudspeaker Paging allows dial access to customer-owned loudspeaker paging equipment.

Originating/Terminating: No interaction.

4.1.3.155 Main Satellite Service

Main Satellite Service allows a customer receiving business group service provided by two or more separate switching machines in the same geographic area to receive the same service available as if all locations were served by a single switch.

Originating/Terminating: No interaction.

4.1.3.156 Make-Busy Key

Make-Busy Key (MBK) allows designated lines to look busy to the central office with a key operation.

Originating: The make-busy key can be operated when an MLHG member is doing an Automatic Recall. Normal make-busy treatment is provided.

Terminating: If an AR activation is made to a line with a make busy key operated, the AR activation results in camp-on. When the line becomes idle, ringback occurs.

4.1.3.157 Message Detail Recording on Customer Premises

Message Detail Recording (MDR) on Customer Premises provides call detail information on public telephone network and private facility calls via a tape unit located on the customer premises.

Originating/Terminating: The Automatic Recall feature is compatible with MDR. No Message Detail Recording records are generated specifically for the Automatic Recall. However, regular message detail recording for the call will be made.

4.1.3.158 Message Service Automatic Call (History) Display

Message Service Automatic Call (History) Display uses the 5ESS[®] switch call history information with the AP data

base to display call information, client status information, and messages to the Message Service attendant when the Message Service client calls from his/her station set to receive messages.

Originating: If a user is in a message retrieval display (MRD) session and initiates an Automatic Recall, the request is accepted. However, the MRD information takes precedence over the AR display. The actual display is CPE dependent.

Terminating: No interaction.

4.1.3.159 Message Service Automatic Control of Message Waiting Indicator

Message Service Automatic Control of Message Waiting Indicator automatically activates the message waiting indicator at the client's station set when a message is recorded in the message data base.

Originating: The message waiting indicator can be activated for a user during Automatic Recall activation.

Terminating: No interaction.

4.1.3.160 Message Service Direct Access to Message Data Base

Message Service Direct Access to Message Data Base allows clients to update their status information, leave messages for one or more clients, and retrieve messages without assistance from the Message Service attendant.

Originating/Terminating: An AR user cannot update their status, leave messages, or retrieve messages while using AR.

4.1.3.161 Message Service Leave Word Calling

Message Service Leave Word Calling (LWC) allows a client to leave a *canned* message for another client of the Message Service without assistance from a Message Service attendant.

Originating: If the LWC feature button is depressed during an Automatic Recall activation, it will be rejected. AR cannot be used to "dial" the DN following the LWC access.

Terminating: No interaction.

4.1.3.162 Message Service Message Data Base

Message Service Message Data Base stores customer organizational data, client status data, and standard *canned* messages. A message data base is available to the Message Service attendant on the Applications Processor.

Originating/Terminating: No interaction.

4.1.3.163 Message Service Print Message On Demand

Message Service Print Message On Demand provides a printout of messages at a predetermined printer on request from the Message Services client.

Originating/Terminating: No interaction.

4.1.3.164 Multifrequency Pulsing

Multifrequency Pulsing provides the capability to transmit alternate current address signals between offices. Each address digit is transmitted as a pulsed pair of frequencies.

Originating/Terminating: No interaction.

4.1.3.165 Multiline Hunt Service Circular Hunting

Multiline Hunt Service Circular Hunting allows all lines in a multiline hunt group to be tested for busy, regardless of the point of entry into the group.

Originating/Terminating: Automatic Recall features may be assigned to members of a multiline hunt group (MLHG). Automatic Recall activation attempts toward multiline group members are allowed.

End-users may use Automatic Recall to camp on to multiline hunt DNs.

Automatic Recall ringback may only be directed to the terminal in the MLHG that activated the feature. An outgoing line history block is assigned to each terminal in an MLHG.

For MLHG camp-on, there are two cases to consider as follows:

- The MLHG has a queue.
- The MLHG does not have a queue.

In the case where the MLHG does not have a queue, MLHG idle is defined by the following criteria:

- The group make-busy key is not active.
- At least one group member is available (that is, in service, idle, member make-busy key not active).
- There is an available idle member that can accept the incoming call type.

When the MLHG has a queue, group idle is defined as either idle, as for the MLHG without a queue, or a basic queue slot is available for queuing the incoming call.

When a call is made to a no-hunt member, the busy/idle status is based on the status of the line only, and the queue entries are ignored.

If the hunt group has an extended size queue, it is considered idle by AR only if at least one member is available and the queue is empty.

When determining the idle status, the actual status of the basic queue determines the busy/idle status.

For Dual Timer and AC/AR Related Enhancements, if every member of an MLHG is busy and there is an idle queue position, AR allows the call to terminate to the empty queue position. If every member of the hunt group is busy and every queue position is busy, AR will camp-on. When a queue position becomes idle, the AR user receives ringback.

4.1.3.166 Multiline Hunt Service ISDN Attendant (ISAT)

Multiline Hunt Service for ISDN Attendant (ISAT) is a type of multiline hunting arrangement for ISDN attendant positions.

Originating/Terminating: The ISDN Attendant Multiline Hunt Groups are considered busy for AR terminations if any of the following is true:

- All positions are busy
- Not all positions are busy, but no idle position subscribes to the caller's ICI.

The AR ringbacks occur on the last call appearance for an ISDN attendant position.

4.1.3.167 Multiline Hunt Service Multiple Position Hunt

Multiline Hunt Service Multiple Position Hunt provides the ability to distribute calls over a group of console positions, each of which can handle several types of incoming calls received on dedicated terminals.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 4.1.3.165 .

4.1.3.168 Multiline Hunt Service Precedence Regular Hunt

Multiline Hunt Service Precedence Regular Hunt starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 4.1.3.165 .

4.1.3.169 Multiline Hunt Service Regular Hunting

Multiline Hunt Service Regular Hunting starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 4.1.3.165 .

4.1.3.170 Multiline Hunt Service Uniform Call Distribution Hunt

Multiline Hunt Service Uniform Call Distribution Hunt provides an even distribution of incoming calls among the available members of a hunt group.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 4.1.3.165 .

4.1.3.171 Multiline Variety Package Service

Multiline Variety Package Service provides a packaged group of services for customers with a small group of lines that are not defined as a business line group.

Originating/Terminating: No interaction.

4.1.3.172 Multiple DNs per Line with Distinctive Ringing (Multiple DNs per Line)

4.1.3.172.1 General

Multiple DNs per Line (MDNL) with Distinctive Ringing provides multiple DNs per single port [line equipment number (LEN)]. An originating call from any of the DNs is always associated with the *Master DN*, pointed to by the LEN translator; therefore, any call placed from a DN associated with the LEN will pass the *Master DN* as the calling party number.

Originating: No interaction

Terminating: The Call Forwarding Variable feature can be assigned to one DN of a multiple DN port. AR calls to a user with Call Forwarding active result in short-term denial.

With the Dual Timer and Related AC/AR Enhancements features, AR activations toward a line with CFV active receive short-term denial consisting of either reorder or a Call Forwarding denial announcement.

4.1.3.172.2 MultiPoint Digital Subscriber Line

The MultiPoint Digital Subscriber Line (MPDSL) feature provides support for connecting multiple users and their associated terminals to a single digital subscriber line. Users share the two B-channels for digital voice or data services, and the D-channel for signaling and packet data services.

Originating: No interaction.

Terminating: An MDSL line may be busy when two calls are active on the MPDSL and both B-channels are occupied. This is called B-channel blocking. Automatic Recall will camp on to a line that is busy due to B-channel blocking, as well as the normal busy condition.

4.1.3.173 National ISDN Calling Number Identification Services Intra-Group Only Delivery Optioning

The Calling Number Identification Services (CNIS) Intra-Group Only Delivery Optioning (CNIGI) feature allows restriction of the Calling Party Number (CPN) delivery, Redirecting Number (RN) delivery, and Calling Party Subaddress (CgPS) delivery features from members of a terminal group. It also restricts the provisioning of ICLID, CNAM, and EDS displays to intra-group calls. CNIGI does not effect delivery of information to residential parties. Whether the CNIGI restriction applies depends on the settings of the CNIGI option for the office, business group, and individual line/PRI trunk. The CNIGI restriction applies to all members of the terminal group, including National ISDN BRI/PRI, Custom BRI/PRI, and analog lines.

Originating/Terminating: No interaction.

4.1.3.174 Night Service

Night Service (NS) routes calls normally directed to the attendant to preselected station lines in the customer group when regular consoles are not attended.

Originating: If an Automatic Recall user recalls a line with Night Service active, the user receives short-term denial. See "Call Forwarding Variable", Section 4.1.3.38.

With the Dual Timer and Related AC/AR Enhancements features, AR activations toward a line with CFNS active receive short-term denial consisting of either reorder or a Call Forwarding denial announcement.

Terminating: No interaction.

4.1.3.175 Non-Data-Link Attendant Console

Non-Data-Link Attendant Console is a small desk-top position from which the attendant handles calls.

Originating/Terminating: No interaction.

4.1.3.176 On-Hook/Off-Hook Queuing for Outgoing Trunks (Also Known as Queuing for Outgoing Trunks)

Queuing for Outgoing Trunks allows on-hook or off-hook queuing for a busy outgoing trunk. With on-hook queuing, the station is notified with a distinctive ring when a trunk is available. With off-hook queuing, the user remains off-hook, and the call is completed when the trunk is available.

Originating/Terminating: No interaction.

4.1.3.177 Outgoing Call Tracing

Outgoing Call Tracing is used when nuisance calls are found to be coming from one particular line. The terminating DN is put on the trace list and all originating calls from that office are checked against the list. When a call is made to the number on the list, the originating DN is identified.

Originating/Terminating: No interaction.

4.1.3.178 Outward Calling for PBX via ARS

Outward Calling for PBX via ARS allows a PBX to take advantage of Business Group features relating to outgoing private facilities by terminating them at the serving switch via special access lines.

Originating/Terminating: No interaction.

4.1.3.179 Outward Wide Area Telecommunications Service

Outward Wide Area Telecommunications Service (OUTWATS) allows customers to make calls to certain zone(s) or band(s) on a direct dialing basis for a flat monthly charge or a charge based on accumulated usage.

Originating/Terminating: OUTWATS calls update the OLHB. Therefore, an AR call can be placed using this last outgoing calling directory number (LOCDN). This type of call can use off-hook queuing, if applicable.

4.1.3.180 OUTWATS with Simulated Facilities Group

The OUTWATS with Simulated Facilities Group feature can restrict the number of simultaneous OUTWATS calls by software, rather than by the physical size of a dedicated trunk group.

Originating/Terminating: Private Facilities OUTWATS SFG calls update the OLHB. Therefore, an AR call can be placed using this LOCDN. This type of call can use off-hook queuing, if applicable.

4.1.3.181 Power Failure Transfer Attendant

Power Failure Transfer Attendant routes calls destined for the attendant to a preassigned DN during a commercial power failure at the customer premises.

Originating/Terminating: No interaction.

4.1.3.182 Precedence and Preemption Features

Precedence and Preemption (PP) is a part of the DSN/AUTOVON network for operating routine and precedence calls used primarily by the military.

Originating: Precedence and Preemption codes are stored in the OLHB. Automatic Recall activations are considered to have routine precedence and can be preempted by calls with higher precedence. When a call is preempted, the activation attempt is canceled and the caller is given precedence alerting.

If an ISDN user presses PP feature button during an AR activation, it is rejected.

Terminating: No interaction.

NOTE: The MLPP on SS7 - Stage 1 (99-5E-2844) and MLPP on SS7 - Stage 2 (99-5E-2845) features provide prioritized call handling for Signaling System Number 7 (SS7) trunks in a 5ESS[®]-2000 switch. MLPP assigns a priority or precedence level to each call so that it can preempt a call of a lower precedence for one of a higher precedence. See *Business and Residence Feature Descriptions*, 235-190-103, for more information.

4.1.3.183 Priority Queuing

Priority Queuing is used to assign a queue priority level that establishes precedence for facilities when immediate access is not obtainable.

Originating/Terminating: No interaction.

4.1.3.184 Private Option for the Last Incoming Number

The Private Option for the Last Incoming Number (POLIN) feature is a secured and optioned feature that provides the capability to have the last incoming call considered private in all cases, even if the calling party had not marked the number as private.

Originating: When an AR user at an ISDN station with display capabilities is given ringback alerting because the called party became idle, the call is set up when the user answers. If the user previously used AC to call back this party, and immediately invokes AR to recall the same party, the number of the called party (originally obtained from the incoming line history block) is copied in the outgoing line history block. If the POLIN feature is invoked, the number stored in the outgoing line history block is not displayed when AR is activated. The number is not displayed even if the calling party had not marked the number private. The display message indicates that the number is private.

The POLIN feature does not affect the display received on ringback of the last outgoing party's number for an analog user of AR who has the ICLID calling number delivery assigned. When the user receives ringback alerting due to AR, the display message given to the user by ICLID reveals the number of the last outgoing call.

Terminating: No interaction.

4.1.3.185 Radio Paging Access

Radio Paging Access allows attendants and station users to access radio paging equipment and page individuals carrying pocket radio receivers.

Originating/Terminating: No interaction.

4.1.3.186 Recall From Subscriber

Recall From Subscriber allows the customer to recall an Operator Services Position System (OSPS) operator for certain classes of operator-assisted calls by flashing the switchhook. The operator recalled is not necessarily the operator who originally assisted on the call.

Originating/Terminating: No interaction.

4.1.3.187 Recorded Telephone Dictation

Recorded Telephone Dictation (RTD) permits access to and control of customer-owned dictating equipment from a station in the customer group. The station must be equipped for dual tone multifrequency signaling.

Originating/Terminating: No interaction.

4.1.3.188 Remote Activation of Call Forwarding (Remote Access to Call Forwarding)

Remote Activation of Call Forwarding (RACF) provides the ability to remotely activate/deactivate Call Forwarding by using dialed codes.

Originating/Terminating: When a user tries to initiate Automatic Recall toward an RACF remote access number,

the user receives long-term denial.

4.1.3.189 Remote Call Forwarding

Remote Call Forwarding allows all calls to a specified DN to forward-to a remote 7- or 10-digit telephone number.

Originating/Terminating: The AR activations to forwarded DNs receive short-term denial or a Call Forwarding denied announcement.

4.1.3.190 Revertive Pulsing

Revertive Pulsing is the method of interoffice signaling originating with the panel systems and continuing with the No. 1 Crossbar.

Originating/Terminating: No interaction.

4.1.3.191 Ringback Queuing

Ringback Queuing allows a station user encountering a busy network facility to queue for an idle facility by dialing a function code and going on-hook in a preselected time following the queuing confirmation code. The caller is rung back when the appropriate facility becomes idle.

Originating: The Automatic Recall feature does not camp on to trunks or Simulated Facilities Groups; therefore, this feature has no direct interaction with Ringback Queuing. However, Ringback Queuing shares originating queuing resources with AC, AR, and ACBC. If a call set up after Automatic Recall activation results in the end-user getting a busy facility, the end-user may choose to use ringback queuing. Since Automatic Recall activation is already complete, actions after call setup are not affected by Automatic Recall. If Ringback Queuing is applying ringback to a terminal, the Automatic Recall feature will not apply ringback at the same time.

Terminating: No interaction.

4.1.3.192 Satellite Attendant Transfer

Satellite Attendant Transfer provides the same service as the Call Transfer Attendant feature to a satellite location having no attendant.

Originating/Terminating: No interaction.

4.1.3.193 Screen List Editing

Screen List Editing (SLE) is used in conjunction with all LASS Selective feature lists.

Originating: If an Automatic Recall is activated by an analog user and the user is in an SLE session, ringback will not occur. The analog user is treated as busy. The ISDN users in an SLE session are treated as busy only if all terminating call appearances for the DN are occupied. Dialing an SLE access code does not update the OLHB.

Terminating: No interaction during an editing session.

4.1.3.194 Selective Call Acceptance

Selective Call Acceptance (SCA) allows residential and business users to restrict that incoming voice calls are allowed to terminate.

Originating: If the SCA user activates SCA before AR ringback/notification is given, the SCA user receives ringback even though the DN is not on the list (since the SCA user initiates this AR call). Dialing an SCA access code does

not update the OLHB.

Automatic Recall camp-on to a line with SCA active is not affected by SCA if the DN of the AR caller is on the SCA screening list.

If the DN of the AR caller is not on the SCA customer's SCA screening list, AR camp-on to a line with SCA active will not occur. If the DN of the AR caller is not on the SCA screening list and SCA is active with recording as not accepted treatment (NAT), the AR caller is connected to an SCA denial announcement. If the DN of the AR caller is not on the SCA screening list and SCA is active with forwarding as NAT, the AR caller receives a Call Forwarding denial announcement in 5E7 software release) and, if applicable, feature button rejection treatment.

A party answering ringback as a result of AR camp-on to the line of an SCA customer is connected to an SCA denial announcement, if SCA is active with recording as NAT on the SCA user's line and the DN of the party answering the AR ringback is not on the SCA screening list. If the NAT is forwarding instead of recording, a call directed to the RTN of the SCA user will automatically originate from the line of the party answering ringback after ringback is answered.

Terminating: No interaction.

4.1.3.195 Selective Call Forwarding

Selective Call Forwarding (SCF) allows a customer to preselect that calls will forward based on the telephone number of the calling party.

Originating: If user A desires to recall the LOCDN, user A can activate the Automatic Recall feature toward user B who has SCF active. The DN for user A is checked against the SCF list and, regardless of the busy/idle status, the Automatic Recall invocation is denied if user A's DN is on the SCF list. Short-term denial is returned to user A. If the DN for user A is not on the SCF list, the invocation is accepted subject to all other applicable feature interactions. Dialing an SCF access code does not update the OLHB.

The AR activations toward a line with SCF receive a Call Forwarding Denial Announcement (if the calling party's DN is on the forward list of the called party). The terminating switch returns an indication that SCF is active; the originating switch applies the Call Forwarding denial announcement.

Terminating: No interaction

4.1.3.196 Selective Call Rejection

Selective Call Rejection (SCR) allows a customer to reject calls from telephone numbers that are on the customer's SCR list.

Originating: If user A desires to recall the LOCDN, user A can activate the Automatic Recall feature toward user B who has SCR active. The DN for user A is checked against the SCR rejection list. If the DN is on the list, regardless of the busy/idle status of the line, the Automatic Recall invocation is set up so that the calling party receives the rejection announcement; no camp-on is allowed. If the DN is not on the SCR list, the automatic recall invocation is accepted and proceeds normally.

Terminating: No interaction

4.1.3.197 Selective Carrier Denial

Selective Carrier Denial (SCD) allows the local office to selectively inhibit certain calls normally handled by a carrier from lines designated as nonpaying subscribers by the particular inter-LATA carrier that will handle the call.

Originating/Terminating: No interaction.

4.1.3.198 Selective Control of Facilities

Selective Control of Facilities (SCOF) allows the customer to busy out private facilities via key control and, thereby, deny all originating access.

Originating: An Automatic Recall user can activate Selective Control of Facilities during an Automatic Recall activation.

Terminating: No interaction.

4.1.3.199 Selective Distinctive Alert (Distinctive Alert)

Selective Distinctive Alert (SDA) allows a customer to preselect that calls will have distinctive alerting treatment based on the telephone numbers of the calling parties.

Originating: No interaction.

Terminating: If Automatic Recall is activated to a line that has SDA active, terminating treatment for calls set up via Automatic Recall is the same as normal call setup.

4.1.3.200 Semirestricted Station Originating and Terminating

Semirestricted Station Originating and Terminating provides the ability to restrict a business group line from originating and/or receiving any calls from outside the group. Intragroup calls, attendant calls, and calls over private facilities are permitted.

Originating: Automatic Recall works within the bounds of TGSr screening. If calls are restricted to be within a terminal group, and a call is made that does not honor the restrictions, the user will receive long-term denial. The restrictions that apply to an AR call are the restrictions in effect at the time of call origination.

Terminating: No interaction.

4.1.3.201 Series Completion

Series Completion is a type of hunting in which DN's are grouped into a prearranged ordered list.

Originating/Terminating: The Automatic Recall feature can camp on to Series Completion lines. Automatic Recall queuing toward the initially called line in the Series Completion group is allowed. Queuing is not supported for the entire group. Automatic Recall does not follow around a Call Forwarding "chain," but only camps on to the base station.

The base station is defined as the originally called line in the group. When the base station goes idle, only then is the originating switch notified that the called line is idle. The busy/idle status of other lines in the series completion group will not affect the individual camp-on to the originally called DN. If other lines in the group are idle and the base station is still busy, "busy" would still be returned for busy/idle queries from an originating switch.

A user receives ringback after camping on to a Series Completion group line when a busy line becomes available. However, if the line becomes busy again before the Automatic Recall call is completed, the Automatic Recall call will either receive busy after ringback or go to the next available line in the Series Completion group.

4.1.3.202 Signaling System 7 Network Interconnect

Signaling System 7 Network Interconnect (SS7 NI) provides an out-of-band signaling interface between local exchange carrier and interexchange carrier networks.

Originating/Terminating: The Automatic Recall feature needs full SS7 connectivity to allow interoffice TCAP querying to handle interswitch camp-ons. Additionally, ISDN User Part (ISUP) call routing is necessary if the last outgoing call directory number (LOCDN) is to be available to Automatic Recall activation.

4.1.3.203 Simulated Facilities Groups for In and Out Calls

The Simulated Facilities Groups for In and Out Calls feature provides the capability to restrict the number of simultaneous DID calls terminating to the group and the number of simultaneous calls originating by the group to Direct Distance Dialing (DDD).

Originating/Terminating: No interaction.

4.1.3.204 Single-Digit Dialing

Single-Digit Dialing permits station users to reach any station of a preselected group or other internal facility by dialing single-digit codes.

Originating/Terminating: See "Speed Calling (Also Known as Abbreviated Dialing)", Section 4.1.3.207 .

4.1.3.205 Smart Set Interface

Smart Set Interface allows customers to use "smart" station sets. Flash requests and feature function codes are associated with unique keys on the station set.

Originating/Terminating: No interaction.

4.1.3.206 Special Intercept Announcement

Special Intercept Announcement allows a unique intercept announcement to be provided to each business group.

Originating/Terminating: No interaction.

4.1.3.207 Speed Calling (Also Known as Abbreviated Dialing)

Speed Calling permits the customer to dial selected numbers using fewer digits than normally required.

Originating: Enough information about the called address of calls placed via Speed Calling may update the OLHB so that Automatic Recall can be utilized to recall this address. The call associated with the Speed Calling number can cause the OLHB to be updated with the Speed Calling number, marked invalid, or not updated, depending on the DN associated with the Speed Calling code.

Automatic Recall feature access codes may be defined on a Speed Calling list.

Terminating: No interaction.

4.1.3.208 Tandem Call Trace

Tandem Call Trace is used when nuisance calls are found to be incoming from a tandem office. The traced DN is marked for tracing at that office to identify the tandem trunk.

Originating/Terminating: No interaction.

4.1.3.209 Tandem Tie Trunk Dialing

Tandem Tie Trunk is another name for Nonsenderized Tie Trunks (NTT). A switching method is used whereby the

station user directly controls, in stages, the routing of an outgoing tie trunk call through the originating switch as well as any intermediate switches.

Originating/Terminating: No interaction.

4.1.3.210 Terminal Group and Station Restriction For ISDN User Part Trunks

The Terminal Group and Station Restriction (TGSR) over ISDN User Part (ISUP) trunk feature allows customers to restrict calls within a terminal group, even if the calls are interswitch, if there is at least one ISUP trunk assigned.

Originating/Terminating: The TGSR for ISUP Trunks special feature allows callers to be treated as unrestricted originating or terminating when AR is invoked interswitch, regardless of what station restriction is assigned.

4.1.3.211 Three-Way Calling

Three-Way Calling (TWC) allows a customer to add a third party to an existing conversation.

Originating: Users cannot invoke Three-Way Calling during an AR activation session. However, once AR call setup is complete, a three-way call can be established. AR can be used to add the new leg to the conversation.

Terminating: No interaction.

4.1.3.212 Tie Trunk Access

Tie Trunk Access connects two or more business customer locations. They can terminate in an attendant console for direct access or have dial access.

Originating/Terminating: No interaction.

4.1.3.213 Time-of-Day

Time-of-Day (TOD) allows a customer to preschedule recent change, thereby, controlling activation and deactivation of certain modular features and changes to feature parameters via dialed codes and key control.

Originating/Terminating: AR cannot be controlled by the Time of Day feature.

4.1.3.214 Toll Diversion to Attendant

Toll Diversion to Attendant (TDA) intercepts toll or code calls from restricted business group lines and routes them to the attendant (or other designated line).

Originating/Terminating: If a DN is toll diverted to an attendant, the OLHB will be updated with the DN, and subsequent AR attempts to that DN result in routing to the attendant.

4.1.3.215 Tracing of Terminating Calls

Tracing of Terminating Calls allows the identification of calling lines while the call is in progress. When incoming calls are to be traced, the terminating DN is placed on the call tracing list where it remains until manually removed.

Originating/Terminating: No interaction.

4.1.3.216 Traveling Class Mark

Traveling Class Mark (TCM) carries class-of-service information along with the called number through a private network. The TCM provides unique downstream routing and screening information.

Originating/Terminating: No interaction.

4.1.3.217 Trunk Answer From Any Station

Trunk Answer From Any Station (TAS) activates a common alerting signal on the customer premises when the attendant positions are in Night Service for calls normally directed to the attendant. These calls can then be answered from any nonrestricted station in the business group by dialing a special answer code.

Originating/Terminating: No interaction.

4.1.3.218 Trunk Dial Transfer

Trunk Dial Transfer provides the Call Transfer Individual feature to tie trunks.

Originating/Terminating: No interaction.

4.1.3.219 Trunk Group Busy Lamps

The Trunk Group Busy Lamps feature provides a visual indication on a private facility trunk group basis when the facility group is all in use.

Originating/Terminating: No interaction.

4.1.3.220 Two-Party Automatic Number Identification/Operator Number Identification Capability

The Two-Party Automatic Number Identification/Operator Number Identification (ANI/ONI) Capability feature allows operating companies the choice of giving two-party lines Automatic Number Identification (ANI) treatment or Operator Number Identification (ONI) treatment.

Originating/Terminating: No interaction since AR cannot be assigned to a two-party line. An AR activation to a two-party line with ONI results in long-term denial. An AR activation to a two-party line with ANI updates the outgoing line history block.

4.1.3.221 Two-Party Line

Two-Party Line provides basic POTS to two customers sharing the same line.

Originating/Terminating: No interaction since AR cannot be assigned to a two-party line. An AR activation to a two-party line results in long-term denial.

4.1.3.222 Unidentified Call Rejection

Unidentified Call Rejection (UCR) is a secured and optioned feature. The UCR feature routes calls to an uninterruptible announcement if the calling party number of an incoming call to an analog user is marked as private.

Originating: Intraswitch activations of an AR user with the user number marked as private toward a party with UCR will attempt immediate call setup regardless of the busy/idle status of the UCR user. The AR user is given a UCR announcement. The UCR announcement indicates that the called party is not accepting calls from parties with private numbers.

The UCR feature has no effect on interswitch activations of AR. The UCR is not checked immediately. AR delayed processing can occur if the called party is busy, even if the party has UCR. When the re-called party becomes idle, the calling party is routed to the UCR rejection announcement if the calling party's number is marked private.

Terminating: No interaction.

4.1.3.223 Uniform Numbering

Uniform Numbering provides a customer-specified 7-digit numbering plan that identifies all business group stations interconnected by the facility network. Each customer switch connected by the Electronic Tandem Network (ETN) is identified by a 3-digit code.

Originating/Terminating: No interaction.

4.1.3.224 Unrestricted Originating and Terminating

This is the absence of originating and/or terminating restriction in a terminal group.

Originating/Terminating: No interaction.

4.1.3.225 User-Side Primary Rate Interface Implementation

This feature allows PRI support in public (private trunks providing access to public facilities) and private networks.

Originating/Terminating: No interaction.

4.1.3.226 Repeat Dial Interworking with ASP Originating Busy Trigger

This feature allows callers to invoke the LASS Automatic Recall (AR) feature after the caller dials a number that is busy.

By using the repeated dial feature, users are able to increase their calling efficiency by making greater use of the existing AR feature which monitors a busy line and notifies the caller when the call can be put through.

Note that there are no changes to LASS AR measurements, billing, or functionality.

Rather than having to remember when and how to use AR by remembering the activation code to dial, callers are simply asked if they want to make use of AR at the most appropriate time - when a call they are making reaches a busy line. If they decide to use AR, then the existing AR feature is invoked automatically for them, and they are advised to hang up and wait for notification when the call can be completed. The existing AR feature monitors the busy line, and rings back the caller when it is no longer busy. The caller picks up their phone in response to the ring back, and the call is put through.

This feature makes use of Advanced Intelligent Network (AIN) functionality to activate the AR feature on behalf of callers. Repeat Dial feature enhances the functionality provided by the "Originating Busy/No Answer Office Triggers with Extended Ringing" feature, 99-5E-3529. When 99-5E-3529 detects a user busy condition, the O_Called_Party_Busy query is sent to the SCP. The SCP may invoke the play and collect announcement to ask the caller if they want to use LASS AR. Based on the caller's response, the SCP may send the AIN Collect_Information message that requests LASS AR to be invoked. The Repeat Dialing functionality starts when the 5ESS[®]-2000 Switch receives the Collect_Information message.

This feature is targeted for service providers whose switches serve end user lines directly. Ultimately, this feature serves a broad spectrum of end users who will take advantage of a simpler interface to the AR feature in order to increase their calling efficiency.

Benefits to the End User include:

- Notification to the end user when AR can be effectively used.
- An easier end user interface to the existing AR feature.
- Increased calling efficiency through greater use of AR, leading to increased user productivity.

Benefits of this feature for Service Providers include:

- Increases usage of an existing switch-based feature which generates revenues on a per-use or subscription basis.
- Helps to prove in the investment in Advanced Services Platform (ASP) functionality.
- Sets the stage for the invocation of additional switch-based features using ASP.
- Helps service providers distinguish themselves from competitors.

For additional information on the Repeat Dial Interworking with ASP Originating Busy Trigger feature (99-CP-3749), refer to 235-190-126, *Advanced Services Platform*.

Originating: The call originator must subscribe to, or have LASS AR made generally available.

Also, if the call originator invokes AR LASS, either with a dial code or feature button, LASS AR has precedence over the "Originating Busy/No Answer Office Triggers with Extended Ringing" feature. In other words, the AR LASS user does not hit the O_Called_Party_Busy trigger if the called party is still busy. An AR camp-on should be made. Similarly, if on the ringback call, the called party becomes busy again, the O-Called_Party_Busy trigger is not encountered. The call originator should either receive the AR Busy After Ringback announcement or busy tone.

Terminating: No interaction.

4.1.4 RESTRICTION CAPABILITY

Lines (terminals) must have the ability to originate calls in order to use Automatic Recall. Lines (terminals) that have denied origination cannot use the feature. Additionally, manual lines cannot use this feature. The Automatic Recall feature cannot be accessed or assigned to the following classes of service:

- 911
- Coin
- Multiparty
- Two-Party
- Hotel/Motel
- Coinless Public Telephones
- Line Time Slot Bridged Lines
- PBX Trunks
- Stand-Alone Test Lines
- Trunk and Line Work Station Callback Phone.

4.1.5 ENGINEERING

4.1.5.1 Special Planning Considerations

The SS7 data to support LASS exists not only in the administrative module (AM) office dependent data (ODD), but also in the common network interface (CNI) data base. The CNI data base is separate from the ODD and is not currently populated by the office data administration (ODA) process. The data base must be populated through Recent Change views after the CNI has been initialized. See 235-190-120, *Common Channel Signaling Service Features*, for more information on general CNI procedures.

In a 5ESS[®] switch, SS7 ISUP trunk signaling is a prerequisite for the operation of LASS as an interswitch service. The data population needed for ISUP will not be discussed in this document. It is presented in 235-190-120, *Common Channel Signaling Service Features*.

Additionally, AR uses direct signaling provided by SS7 TCAP, and additional data in the ODD and the CNI data base is required for this purpose. This data can be inserted independently of any other LASS data. However, it must be consistent with correlated data present in the STP and in the other offices of the network. For additional information, refer to Bellcore TR-TSY-000030.

The Transaction Capabilities Application Part (TCAP) Improvements for a Switch Spanning Multiple LATAs feature permits lines (or groups of lines) to be assigned a LATA NUMBER different from the default LATA NUMBER associated with the office. This feature allows a LATA NUMBER to be associated with a subscriber. The assigned LATA NUMBER will be used to select the appropriate signaling link based on the Signal Transfer Point (STP) for LASS services or will be used to populate the SSP 800 TCAP query to the Service Control Point (SCP). This feature is available in the 5E11 software release. For more information and a complete description of this feature, refer to 235-190-120, *Common Channel Signaling Service Features*.

4.1.5.2 Hardware

No additional hardware is required for this feature. Analog customers who have the Individual Calling Line Identification (ICLID) feature use an attach display unit, and the display feature to receive calling number display. Additionally, this hardware can provide DN information to analog sets during Automatic Recall ringback.

If an Automatic Recall activation is successful, the called DN (if not marked as private) is displayed as well as the date and time when the LOCDN alerted the terminal. If the privacy indicator is set, the called DN will not be displayed; instead, the 5ESS[®] switch sends out a "P" indicating that the number is private, rather than the DN.

A 13A, 14A, 15A, or 16A recorded announcement facility is used to provide long-term denial, CFV denial, confirmation, cancellation, or busy after ringback announcements.

ISDN DISPLAY — ISDN terminals that have display capabilities display the called DN and the feature type (Automatic Recall) during confirmation of activation or ringback. If activation is successful, the called DN (if not marked private) and the Automatic Recall call type are displayed. If a privacy indicator is set, the called DN will not be displayed.

Analog Display — Analog customers must be equipped with an analog display unit or an analog CPE with display to receive the display message during confirmation or ringback.

During ringback, the called DN (if not marked private) and the Automatic Recall call-type indicator will be displayed.

The AR displays are provided in the Normal mode.

4.1.5.3 Software

The Automatic Recall feature requires an OLHB to store information about the calling party. Refer to "Engineering", Section 2.3, for additional information.

4.1.6 IMPLEMENTATION

4.1.6.1 ODA Implementation

Refer to "LASS Forms and Views", Section 2.4, for ODA forms used in implementing the Automatic Recall feature.

4.1.6.2 Recent Change Procedures

4.1.6.2.1 Assigning Customer Service

Service providers will have the capability to provide AR to individual customer lines on an office-wide (GENAVAIL) basis or a subscription basis via a service order (SUBSCR). Telephone companies also have the capability to assign and remove AR on individual customer lines. The telephone company can mark customer lines for AR billing on a flat-rate or usage-sensitive basis.

At the time of subscription, the telephone company needs to know the type of interface (ISDN or analog) the customer has. For ISDN customers, the telephone company determines whether a feature button will be used to access AR and whether display will be used.

4.1.6.2.1.1 Feature Definition

Feature definition is the modular feature construction process used to construct features. The feature may be defined as part of the software release (preconstructed) or may be defined by the telephone company (customized). The feature definition process must be completed before any lines can be assigned to use the feature. The preconstructed features for Automatic Recall are listed in Table 4.1-2.

Table 4.1-2 LASS Automatic Recall BRCS Definitions

MODULAR FEATURE TYPE	PRECONSTRUCTED FEATURE NAMES	WILDCARD FEATURE SYMBOL
MFAR	/LAR1 LAR1D LAR1VD /LARGA LARGAD LARGAVD	/LAR*

Expansions for these preconstructed features are as follows:

- /LAR1 — LASS Automatic Recall, flat rate, voice activations only
- /LAR1D — LASS Automatic Recall, flat rate, CSD activations only
- LAR1VD — LASS Automatic Recall, flat rate, voice and CSD
- /LARGA — LASS Automatic Recall, usage sensitive, voice activations only
- /LARGAD — LASS Automatic Recall, usage sensitive, CSD activations only
- LARGAVD — LASS Automatic Recall, usage sensitive, voice and CSD.

The Automatic Recall Feature Definition View (View 12.48) contains the following attributes:

- Indicate the constructed feature name (FEATURE).
- Allow a remark to be associated with the feature (REMARKS).
- Indicate whether AR for voice is allowed (CSV ALW). The default is Y.

- Indicate whether AR for CSD is allowed (CSD ALW). The default is N.
- Indicate the activation type (ACT TYPE). Set to NONE, it cannot be changed by recent change because the feature is always activated.
- Indicate the deactivation type (DEACT TYPE). Set to NONE, it cannot be recent changed because the feature is always activated.
- Indicate whether billing is on a usage-sensitive basis or a flat-rate basis (AMA REC). Valid entries are Y or N. Y indicates usage-sensitive billing; N indicates flat-rate billing. The default is N.
- Indicate whether line-to-line filtering is intergroup (Y) or (N) intragroup (INTRA GRP). If set to Y, only intragroup invocations are allowed. The default value is N.
- Indicate the callback ringing cadence selector (RNGBK TYPE). This is the default terminal (line) parameter. Valid entries are patterns A through D. The default pattern is type C.

4.1.6.2.1.2 LASS Office Parameters

The LASS Office Parameters View (View 8.21) provides for the LASS features office parameters keyed by office ID. The attributes associated with this view for automatic recall are as follows:

- **B/I SCAN** — This parameter indicates the busy/idle status scan rate before ringback. The range of values for this parameter is 30 to 120 seconds in 15-second intervals. The default value is 60 seconds. This parameter must be set consistently throughout the network for correct operation of the feature (shared with Automatic Callback).

The domain for the B/I SCAN parameter was changed from 45 to 120 seconds to 30 to 120 seconds, with the advent of the Dual Timer and Related AC/AR Enhancements feature.

- **TIMEOUT** — This parameter is used to indicate the feature time-out interval when scanning is being performed. The length of scanning can be from 15 to 45 minutes in 1-minute intervals. The default is 30 minutes. This parameter must be set consistently throughout the network for correct operation of the feature (shared with Automatic Callback). Since AC/AR deletes timed-out activations every 7 minutes, the actual time-out interval can vary from the value of this parameter to this parameter value plus 7 minutes.
- **SCAN MODE** — This parameter is used to indicate the first choice of scanning for the office by Automatic Recall. Originating and terminating are the choices of scanning. This parameter only has significance when the 5ESS[®] switch is acting as an originating switch. This parameter should not be used to decide whether a switch acting as a terminating switch should perform terminating scanning upon request by another switch. Valid entries are ORIG and TERM. The default is TERM scanning (shared with Automatic Callback).
- **TCAP** — This parameter is used to indicate the wait period for a response to interswitch queries. The wait period should be from 1-10 seconds in increments of 1 second. The default value is 3 seconds (shared with Automatic Callback).
- **RNGBK TYPE** — This parameter indicates the distinctive ringing pattern used for ringback only for generally available cases when an Automatic Recall feature is not explicitly assigned to a line. Valid entries are patterns A through D. The default pattern is C (type C ringing) (shared with Automatic Callback).
- **RNG CYCLE** — This parameter is used to indicate the number of cycles of ringing applied during each ringback. From 2 to 7 cycles are available. Each cycle is 6 seconds. The default value is 4 cycles. This parameter must be set consistently throughout the network for correct operation of the feature (shared with Automatic Callback).

- **MAX RNGBK** — This parameter is valid for *Custom ISDN and analog lines only*. It is used by Automatic Recall to indicate the maximum number of ringback attempts per activation. The range of values is from 1 to 12 ringbacks. The default value is 1 (shared with Automatic Callback).
- **RNGBK WAIT** — This parameter is valid for *Custom ISDN and analog lines only*. It specifies the period of time the 5ESS[®] switch should wait after a ringback timer expiration before resuming scanning (either originating scanning or terminating scanning). The range of values for this parameter is from 3 to 12 minutes in increments of 15 seconds. This field must not be greater than 0 if MAX RNGBK is equal to 1 (shared with Automatic Callback).
- **AR GA FEAT** — This parameter contains a feature name for AR Generally Available feature access. The default is /LARGA.
- **AR CNFRM RTI** — This parameter is used by the Automatic Recall confirmation announcement route index. Valid entries are 0 through 3617. The default is 0.
- **LNG TRM DNY RTI** — This parameter is used by Automatic Recall as a long-term denial announcement route index (shared with Automatic Callback). The range for this parameter is 0 through 3617 with a default of 0.
- **AR CNCL RTI** — This parameter is used by Automatic Recall for feature cancellation announcement route index. The range for this parameter is 0 through 3617 with a default of 0.
- **PTY BUSY RTI** — This parameter is used by Automatic Recall calling for a called party busy announcement route index (shared with Automatic Callback). The range for this parameter is 0 through 3617 with a default of 0.
- **INTER LATA AC AR** — This parameter for AR indicates if activations to inter-LATA DNs are permitted. Possible values are Y or N. The default is No.

Global parameters added to the LASS Office Parameters View (View 8.21) for the Dual Timer and Related AC/AR Enhancements feature, are as follows:

- **REINIT SCAN** — This parameter is a threshold value used to indicate if the originating office should reinitiate scanning after terminating scanning has been completed. If a scan should be reinitiated due to some event occurring (for example, an AC reactivation), the amount of time remaining on the timer set by the TIMEOUT parameter must be greater than this threshold value. Valid values are between 0 and 300 seconds. The default value is 300.
- **CF ACTIVE DNY RTI** — This parameter contains the route index for the AR Call Forwarding active denial announcement from the 13A, 14A, 15A, or 16A recorded announcement facility. This announcement is played when an AR activation fails because the line that AR was activated toward has Call Forwarding active. Valid values are values between 0 and 3617 (this value must be defined on the RTIDX form). If zero is given for this field, the 5ESS[®] switch gives the default treatment of reorder tone.
- **AR ORIG CAMP LIM** — This parameter defines the number of Automatic Recall camp-ons that can be originated by a single port. When this parameter limit is reached, the customer will be denied additional camp-ons, and reorder tone is returned when an attempt exceeds the limit. Valid values are between 1 and 30. The default value is 10.
- **TERM CAMP LIM** — This parameter defines the number of LASS Automatic Callback and Automatic Recall camp-ons, that are allowed against a single terminating port. When this parameter limit is reached, the customer will be denied additional camp-ons and reorder tone is returned when an attempt exceeds the limit. Valid values are between 1 and 20. The default value is 10.
- **MAX CAMP TIME** — This parameter indicates the length of time that a LASS Automatic Recall camp-on can

remain active in the same queue position. A single camp-on remains active for the interval specified by the TIMEOUT parameter. A camp-on can be reactivated by the originator before MAX CAMP TIME expires. However, it cannot be reactivated beyond the value specified by this parameter. Valid values are between 120 and 240 minutes in 15-minute intervals. The default value is 180.

4.1.6.2.1.3 Secured Feature Upgrade

The Secured Feature Upgrade View (View 8.22) provides feature security and the Optioned Feature View (View 8.31) is used to set the transparency feature optioning bit used to determine if a customer has the POLIN feature for the 5E6 software release. The feature parameter attributes associated with this view consist of the following:

- **FEATURE ID** — This parameter is a number used to identify the feature. The feature number is 534 for POLIN and 504 for Limited Intragroup Individual Calling Line Identification (LIGI). There is no default value. This attribute is used to set the Transparency Optioning (TFOS) bit and the secured feature bit used to provide activation of the POLIN or LIGI feature.
- **Module** — This parameter identifies the type of processor. It can be a number 1 to 192 for SM, 193 for an AM, or OFC for the entire office. Enter OFC for POLIN and LIGI. There is no default value.
- **PASSWD** — This is the secured feature access password. Obtain the password from the Lucent Technologies Secured Feature Administrator.
- **ACTIVE** — This parameter is used to determine if the POLIN or LIGI feature is active. Enter Y (yes) or N (no). The default is No.

4.1.6.2.1.4 Office Equipment Parameters

The LASS Automatic Recall Office Equipment Parameter View (View 1.48) provides feature line parameters assignment keyed by office equipment (OE) number, plus party (PTY) for an assigned Automatic Recall feature. The attributes associated with this view are as follows:

- **OE** — This parameter is a key that is used to indicate the logical port.
- **PTY** — This parameter is a key that is also used to uniquely identify the logical port.
- **FEATURE** — This parameter is a key that is used to identify the feature.
- **RNGBK TYPE** — This parameter, as mentioned, indicates the callback ringing cadence selector.

4.1.6.2.1.5 Multiline Hunt Group Parameters

The LASS Automatic Recall Multiline Hunt Group Parameter View 3.48 provides line parameters assignment keyed by multiline hunt group (MLHG), plus member for an assigned Automatic Recall feature. The parameter attributes associated with this view consist of the following:

- **FEATURE** — This parameter is a key that is used to identify the feature.
- **MLHG** — This parameter is a key that is used to indicate the logical port.
- **TERM NBR** — This parameter is a key that is also used to uniquely identify the logical port.
- **RNGBK TYPE** — This parameter indicates the callback ringing cadence selector.

RC View 1.48 provides line parameters assignment keyed by multiline hunt group (MLHG) plus terminal number for an assigned Automatic Recall feature.

4.1.6.2.1.6 Telephone Number Parameters

The LASS Automatic Recall Telephone Number Parameter View (View 1.48) provides feature line parameters assignment keyed by telephone number for an assigned Automatic Recall feature. The parameter attributes for this view are as follows:

- **TN** — This parameter is a key that is used to indicate the logical port.
- **FEATURE** — This parameter is a key that is used to identify the feature.
- **OE** — This parameter is the originating equipment line number (composite equipment number consisting of ENTPE and LEN).
- **PTY** — This parameter is the party identifier.
- **MLHG** — This parameter is the multiline hunt group number. The multiline hunt group is defined on View 3.5.
- **MEMB** — This parameter is the multiline hunt group member number. This number can be 1-2015 or 3001-3999.
- **RNGBK TYPE** — This parameter indicates the callback ringing cadence selector.

4.1.6.2.1.7 LASS Feature Access

The LASS Feature Access View (View 8.18) provides LASS feature access option specification; that is, whether LASS is generally available, requires subscription, or is unavailable on a per-SM basis. The AR parameter attribute in this view allows the access option of generally available, subscription, unavailable, temporarily unavailable, or LASS default to be specified for the Automatic Recall feature. This view has the capability of updating the access mode option for one or more LASS features for all the appropriate SMs in the office by allowing the key value of ALL to be specified.

4.1.6.2.1.8 Choke List

A choke network capability allows the terminating switch to inform the originating switch that an Automatic Recall feature should be denied on a call-by-call basis. (The terminating switch and the originating switch may be the same switch.) For mass calling applications, special office codes (NPA, NPA-NXX, and NPA-NXX-XXXX) may be set aside. A choke list of these special office codes is maintained in these switches and is recent changeable. AR can be denied to specific NPAs, NPA-NXX, and NPA-NXX-XXXXs by putting them on the LASS Choke List (LASSCK - Form 5946) or RC View 8.19 (which is shared with LASS Automatic Callback). The maximum number of entries in the list is 16; each entry can be three, six, or 10 digits in length.

The choke list will be checked before permitting intraswitch or interswitch camp-ons. If an NPA, NPA-NXX, or NPA-NXX-XXXX is on the choke list, the user will receive long-term denial treatment when Automatic Recall is attempted toward that DN.

The terminating switch in an interswitch Automatic Recall feature activation attempt will use the choke list to inform the originating switch through the SS7 network that the activation attempt was made on a choke DN. It will respond to the initial SS7 TCAP query with a DN-to-line service type mapping parameter set to "choke line type". The DN match field of the parameter will be set to "No Match". No resources will be reserved at the terminating switch for this activation attempt. A "Return Error - Task Refused" will be returned to the queue resource request component of the response.

The Choke List must exist; if it does not and an attempt is made to read it, the craft assert ARCRTCF2 will print an error message on the ROP. If the data on the choke list has been corrupted, an ERROR assert will be printed out of RTCHOKED indicating bad data. In this case, Recent Change View 8.19 can be used to correct the error.

The LASS Choke List View (View 8.19) provides this choke list which can be changed by recent change. As previously mentioned, up to 16 entries can be in this list. The list is ordered by 3-digit NPA codes, followed by the 6-digit NPA-NXX and 10-digit entries. The attributes associated with this view are as follows:

- **OFFICE ID** — This parameter is the office identification. It can be an inputted ID or a single carriage return.
- **NPA NXX TERM DIGITS** — This attribute allows up to 16 telephone number entries. Either a 3-digit NPA, a 6-digit NPA NXX, or a 10-digit number can be specified in each of up to 16 fields.

4.1.6.2.1.9 Allow Bits

Unlike traditional BRCS feature assignment, the LASS features [except Individual Calling Line Identification (ICLID), calling number delivery] can be made generally available (on an office basis; subscription not required), thereby, extending access to LASS features to non-BRCS lines. Composite Line View, View 11.6 has an attribute AR ALW which determines whether the LASS Automatic Recall feature is allowed access by the line.

4.1.6.2.1.10 Local Digit Interpreter Tables

The OLHB contains the last called DN. If the user dials a 7-digit interswitch DN, the 5ESS[®] switch must be able to derive the NPA. The NPA is derived from data populated from the Local Digit Interpreter Table (LDIT) forms implied NPA fields (RC View 9.3) or from the DEFAULT NPA on RC View 8.1.

A general rule-of-thumb for filling in the implied NPA field on the LDIT form is: For every LDIT, if the incoming digits are NXX (meaning the user can dial the DN as a 7-digit number) where the NPA for that NXX is not the network management (NM) default NPA, the implied NPA field on the LDIT form must be filled in. If no data is found for an NXX, the NPA for that NXX is assumed to be the NM default NPA for the office. The NM default NPA is the DEFAULT NPA.

If this data is not correct, the following errors may be seen when the user tries to camp-on to a 7-digit DN where the NPA is not defined correctly:

- The user will be connected to the wrong party. The correction needs to be made in the originating switch via RC View 9.3 for the LDIT of the user doing the AR camp-on.
- The user will receive long-term denial. If the problem is in the STP data, there will be a craft assert printed on the ROP in the terminating switch indicating that the NPA NXX in the incoming query does not exist in that office (that is, the STP does not recognize the NPA NXX and it should). Fix the STP data. If the problem is in the originating switch (that is, the 5ESS[®] switch is generating an incorrect NPA NXX), the correction needs to be made in the originating switch via RC View 9.3 for the LDIT of the user doing the AR camp-on.
- If an intraswitch-called DN is on the choke list, the NPA in the choke list and the NPA derived from the data will not match. Therefore, camp on to the choked DN will be allowed.
- If DNTRAN is used to split DNs across switches, AR is not able to work. The user receives long-term denial.

4.1.6.2.1.11 Feature Assignment

Features are assigned to a line via RC Line Assignment views. These views contain the basic data for lines. In this data, the BRCS attribute specifies whether the line is a BRCS line or a POTS line. The BRCS Assignment View

(View 1.11) is used to assign the BRCS features to a subscriber line.

In addition to the BRCS Feature Assignment View, LASS features can be assigned via a BRCS Assignment View (Views 1.11, 1.8, and 23.8).

The AR CSD features can only be assigned to National ISDN lines.

4.1.6.2.1.12 BFG Feature Group/Feature Clusters

The AR feature can be assigned as part of a cluster or BRCS Feature Group (BFG). These features can be included in a BFG using the BRCS Construction and Update View. The BFG Construction and Update View (View 12.9) specifies the Automatic Recall feature on Screen 1 under Feature Type Parameters-Screen Number. Also, the feature parameter RNGBK TYPE is specified on Screen 8 of this view. If a group of lines already have the BFG assigned to them, adding the LASS features to that BFG results in all the lines in that group getting those features. However, only one BFG can be assigned to a line at any given time.

The Cluster Definition View (View 12.2) can be used to assign LASS features. A CLUSTER attribute in this view must be the cluster name. This name must be unique among all clusters and may not be the same as any existing BRCS feature. The name can consist of 1-8 characters. The REMARKS attribute is a string of 32 characters which are associated with the cluster name. This attribute can be used to note any pertinent information about the cluster. The FEATLIST of this view is an array of 16 feature entries. Each entry consists of a feature name, the active status of the feature, whether and how automatic presentation of parameter views is to be performed for the associated feature entry, and whether the associated feature entry can be activated or deactivated by the use of an authorization code.

4.1.6.2.1.13 Distinctive Ringing

Individual lines (terminals) are able to assign the type of ringing to be applied during ringback. The ringing patterns for distinctive ringing are used. The ringing pattern type can be assigned or changed via the RNGBK TYPE field on RC View 12.48 (Feature Definition View) and View 1.48 (Line Parameter View). The possible values are as follows:

- Pattern A — A repeated pattern of 2 seconds on, 4 seconds off (normal ringing pattern)
- Pattern B — A repeated pattern of 800 ms on, 400 ms off, 800 ms on, 4 seconds off
- Pattern C — A repeated pattern of 400 ms on, 200 ms off, 400 ms on 200 ms off, 800 ms on, 4 seconds off
- Pattern D — A repeated pattern of 1 second on, 1 second off, 1 second on, 3 seconds off

The default value for recent change assignments is ringing pattern C. If the feature is activated by a user who has not subscribed to the feature and the access office option is GENAVAIL, ringing pattern C is used.

The ISDN attendants always receive type "A" ringing.

Four-wire lines always use pattern F (a repeated pattern of 1.65 seconds on and 350 ms off).

4.1.6.2.2 Deleting Customer Service

The AR feature can be deleted by recent change when removing service from a line with a service order. A temporary unavailable access option can be used to temporarily turn off access while maintaining line history block assignments on a per-SM basis.

4.1.6.2.3 Changing Customer Service

For customers having feature buttons for AR, when a service order is used to activate or deactivate the AR feature,

the feature activation button light will reflect the status after the next CPE restoral (about 15 minutes).

The telephone company can assign one or more dialable codes for accessing AR. For ISDN customers, the telephone company can assign a single station set AR feature button for off-hook activation of AR and on-hook and off-hook deactivation of AR.

4.1.7 SYSTEM OPERATION

4.1.7.1 General

When a user invokes the Automatic Recall feature, the network determines if the request can be successfully processed. Initial processing checks the calling terminal to determine whether it has access to the feature. The originating switch must verify that the calling terminal has access to the feature. An access parameter indicates whether the features are generally available, available on a subscription basis only, or not available at all. If the feature is available on a subscription basis, the 5ESS[®] switch verifies that the originating user is assigned the feature. Features that are available on a subscription basis override Generally Available features. If the feature is generally available in the office, the user must be allowed access. If the user does not have access to the feature, standard BRCS error treatment is returned (reorder tone). Screening based on the attributes of the calling terminal and the called DN is performed. Camp-on resources are checked.

If the feature activation attempt passes initial screening and processing, the location of the called DN is determined (that is, whether the called DN is on the same switch or a different switch). If the Automatic Recall has been activated for an intraswitch call, the DN is checked to see whether it can be camped on. If the feature has been activated for an interswitch call, an initial SS7 transaction capabilities application part (TCAP) query is sent to determine the characteristics of the called DN. The response enables the originating switch to determine whether camp-on can occur to the called DN at the terminating switch.

For users who enter a second AR attempt when a camp-on to this DN is already in progress, the 5ESS[®] switch removes the first AR camp-on, sends a message to the terminating switch to remove its corresponding camp-on entry, and attempts a new AR camp-on to the dialed DN. Due to temporary conditions, the 5ESS[®] switch may provide short-term denial to the user for any subsequent AR activation attempt.

If an AR has previously been activated, and a user is camped on to the LOCDN, the user can reactivate a callback to the same LOCDN the original request is not cancelled, and the timers are reinitialized.

Upon initial activation of an AR, the originating switch determines the busy/idle status of the feature. If the activation results in camp-on treatment, the 5ESS[®] switch sets an originating side feature timer and a maximum continuous service timer. The originating side feature timer limits the amount of time a particular activation can remain active. The continuous timer limits the total amount of time this request may remain in the queue. The initial value of feature timer is set to the value specified in the TIMEOUT parameter (LASS Office Parameters, View 8.21), and the continuous timer is set to the value of the MAX CAMP TIME.

Reactivations result in the feature timer being reset to the minimum value of the TIMEOUT parameter and the continuous timer. For usage-sensitive billing, the 5ESS[®] switch creates an AMA record with a feature type of AR deactivation (if the camp-on has not been previously reactivated) or AR reactivation-deactivation activation (if the camp-on has previously been reactivated). If either timer (the feature timer, or the continuous timer) expires before ringback is given, the feature is deactivated.

If the terminating switch is able to allocate resources to this AR request (a slot is available in the camp-on queue), an acknowledgement message is sent to originating switch. The terminating switch also sets the terminating queue timer to a value specified by the MAX CAMP TIME office parameter in the terminating office. This timer indicates the maximum length of time that the terminating switch will hold resources for this particular AR activation. When initial resources are allocated, the terminating switch sets the maximum continuous resources timer to the value specified by the TIMEOUT office parameter. The terminating queue timer is not timing at this point.

If the feature timer times out and a camp-on is in progress, 3 minutes are added to the timer to allow the camp-on to complete.

4.1.7.2 Network Responses

4.1.7.2.1 Feature Activation

When the user activates the Automatic Recall feature, audible alerting, short-term denial, long-term denial, or confirmation will be returned. A brief synopsis of each condition follows:

- (1) **Audible Alerting Returned (Voice Only)**—Automatic Recall activations are allowed toward the called address, and the called address is found to be idle or have a Call Waiting slot available. Immediate call setup (without camp-on) has occurred and the called address is being alerted.
- (2) **Short-Term Denial Returned**—Short-term denial consists of the end-user being given reorder tone. This tone indicates that either the network resources used to process Automatic Recall requests are temporarily exhausted or that the called address has a feature active that causes the Automatic Recall attempt to be denied (for example, Call Forwarding Variable). A subsequent attempt by the end-user to activate the feature may well succeed. If a feature button is assigned to AR, the feature button lamp flutters (Custom ISDN only) and then goes off when a user receives short-term denial. The feature button does not flutter for National ISDN.

When an AR is activated toward a line with CFV, CFIO, CFIAG, CFNS, SCF, SCA with forwarding, or Computer Access Restriction with forwarding active, the user receives short-term denial in the form of a Call Forwarding denial announcement. When an originator activates AR, a query is sent to check the line status of the terminating side. If forwarding is active, the terminating switch informs the originating switch. If the originating switch has a Call Forwarding denial announcement route index set up, the originating switch sends the announcement to the originating terminal (for CSV only). For CSD, the originating terminal receives reorder. If no announcement route index is set up, the originating switch gives reorder.

- (3) **Long-Term Denial Returned**—Long-term denial will consist of an announcement indicating that Automatic Recall camp-ons toward the called address are not allowed to the end-user. (For CSD, no announcement is provided. For confirmation, National ISDN terminals do not receive a display.) The long-term denial announcement states "The number you are trying to reach cannot be handled by Automatic Callback/Automatic Recall. Please dial directly." (When long-term denial is encountered by feature button users, the feature button flashes indicating rejection). Examples of when the user will receive this announcement are as follows:
 - 800 calls.
 - 900 calls.
 - Special dialed calls of the form N11 (911, 411, and 611)
 - B911 or E911 calls where 911 is not dialed if the originating switch can determine that the call is a B911 or E911 call.
 - Greater than 20-digit calls.
 - IDDD calls.
 - Calls that do not have SS7 connectivity.
 - An AR request to a multiparty line.

- The call is an interswitch call, and the LOCDN is not a public DN.
 - The Automatic Recall camp-ons to the line type of the called address cannot be handled by the terminating switch.
 - The terminating restrictions of the called address deny termination from calling DN's outside the called DN's terminal group, and the calling DN is outside this terminal group.
- (4) **Confirmation Returned**—Automatic Recall confirmation consists of an announcement indicating that the end-user has successfully activated the Automatic Recall feature and that the network will camp on to the called address. The confirmation announcement states "The line you are calling is busy. The system will check the line for ____ minutes: you will be notified by special ringing when the party is free".

If the calling terminal is an ISDN terminal with an Automatic Recall feature button, then the lamp associated with the feature button lights for the duration of the camp-on. If the calling terminal is an ISDN terminal with display capability (Custom ISDN only), then a confirmation display containing the called DN and the Automatic Recall call-type indicator will be sent to the terminal (there is no corresponding requirement for analog terminals).

Short-term denial and long-term denial may be returned after the initial request for the called DN status.

Long-term denial may be returned to out of service and intercepted lines. Long-term denial treatment has the highest precedence of any treatment. For example, if station restrictions prevent the use of AR towards a line, long-term denial is given when the line is out of service or intercepted. (Intercepted lines are lines where all calls are routed to an OSPS announcement.) If no long-term denial conditions apply, denial due to CF or SCR is checked next. Short-term denial is returned for line that are forwarded, and call rejection treatment is returned for SCR or SCA/CAR. If none of these conditions apply (CF or SCR) and the line is out of service, long-term denial is returned.

If confirmation is returned to the end-user, the originating switch must decide whether to handle the activation via originating scanning or terminating scanning. An originating office parameter (the SCAN parameter on RC View 8.21) determines the 5ESS[®] switch preference. (This parameter only has significance when the 5ESS[®] switch is acting as an originating switch). If terminations scanning is not available on the terminating switch, the originating switch will perform originating scanning.

With terminating scanning, the originating switch sends a message to the terminating switch requesting that it be informed when the called address becomes idle. If the called address is found to be idle before the feature timer expires at the terminating switch, a message is sent to the originating switch notifying it of this event. When this message arrives at the originating switch, if the calling DN is idle, the calling terminal is given ringback. If the calling DN is not idle but becomes idle before the feature timer expires, the originating switch requests that the terminating switch resume terminating scanning. If ringback has not been given when the feature timer expires, the request is removed from the queue. If terminating scanning is not available on the terminating switch, originating scanning is performed.

When the originating side receives a terminating side expiration message, the 5ESS[®] switch checks the time remaining on the T1 timer and compares it to the REINIT SCAN office parameter. The REINIT SCAN parameter is a threshold value. Reactivations update the feature timer at the originating end. If a comparison of the feature timer and the office parameter finds time remaining on the feature timer is greater than the office parameter, a request is sent to the terminating switch to re-initialize terminating scanning. If time remaining on the feature timer is less than the office parameter, camp-on entries are released, a dequeue message is sent to the terminating side, and an AMA record is created. The AR request is cancelled. If ringbacks or call setups are in progress, the 5ESS[®] switch adds time to the feature timer to allow these processes to complete.

With originating scanning, the originating switch periodically sends out busy/idle status queries when the calling DN

at the calling terminal is idle. If the called address is found to be idle and the calling DN is idle, ringback is given to the calling terminal. If the calling DN is not idle, the originating switch monitors the calling DN for idle status. If the calling DN becomes idle before the feature timer expires at the originating switch, it resumes sending out busy/idle status queries.

The feature operation of the Automatic Recall feature requires the identification of the last outgoing call. The outgoing line history block stores this data. Automatic Recall uses the outgoing line history block to store information required to identify the address of the last outgoing call. The originating switch determines whether a valid address is stored in the outgoing line history block.

Determining the LOCDN status depends on whether the called DN is intraswitch or interswitch. If the feature activation is for an interswitch call, the originating switch sends out an initial SS7 TCAP query to the terminating switch. This query requests that the terminating switch return the called address line status information to the originating switch. The terminating switch responds to the request with the busy/idle status of the line and terminating characteristics (that is, terminating restrictions for the called address). Based on the SS7 response received, the originating switch continues the Automatic Recall request or provides denial treatment to the end-user. If no response is received before the initial SS7 query response timer expires, short-term denial is returned to the end-user and switch resources are released. If the originating switch and terminating switch are not linked via the SS7 network, long-term denial is returned to the end-user and feature resources are released. If the two switches are linked via the SS7 network, but the terminating switch does not recognize the LASS subsystem number, long-term denial is returned to the end-user. An SS7 network message is returned to the originating switch indicating that the query could not be routed to the terminating switch.

4.1.7.2.2 Feature Cancellation

The end-user may cancel Automatic Recall activations at any time during the Delayed Processing Phase. The user with an analog terminal cancels Automatic Recall activations by going off-hook and dialing the Automatic Recall feature cancellation code. The user with an ISDN terminal may either go off-hook and dial the Automatic Recall feature cancellation code or depress the Automatic Recall cancel button (either while on-hook or off-hook). An Automatic Recall feature cancellation announcement will be returned to the end-user (if the user deactivated the feature while off-hook). The announcement states "All outstanding requests have been deactivated".

If the originating or terminating office has been controlling scanning and a call is successfully queued, the originating office sends a message instructing that office (either originating or terminating) to cancel scanning and remove entries from the queue.

The AR feature can also be cancelled automatically when the associated timers (for example, T1, T13) time-out. When the feature times out and no camp-ons are being served, the 5ESS® switch releases all resources, generates an AMA record, and cancels the AC feature.

4.1.7.3 Automatic Recall Delayed Processing

After the end-user has successfully activated the Automatic Recall feature, the called address is found to be busy, and Automatic Recall confirmation is returned, the Automatic Recall delayed processing (camp-on) phase is initiated. Automatic recall delayed processing consists of the called address and the calling DN at the calling terminal being monitored for simultaneous idle status. An Automatic Recall feature timer determines the maximum duration for busy/idle status scanning. If both the called address and the calling DN are found to be idle before the duration timer expires, then the calling terminal is given Automatic Recall ringback alerting/notification. (For National ISDN, only the called address needs to be idle.) Otherwise, the Automatic Recall activation is terminated when the maximum number of ringbacks are given and the user does not answer.

Multiple camp-on requests toward the same DN are queued in an FIFO queue on the 5ESS® switch. The calling terminal at the front of the queue is informed first when the called DN becomes idle. If the calling terminal is busy when the called DN becomes idle, the terminating switch informs the next calling terminal camped on the called DN.

Once a calling terminal is found, other calling terminals in the queue are not informed of the idle status. Calling terminals found to be busy when the called DN becomes idle retain their place on the queue. They are marked inactive and do not receive called DN idle indications. Once the calling terminal becomes idle, the originating switch notifies the terminating switch and the entry in the queue is reactivated. When the initial request is made, two timers are set. A maximum continuous service timer is set with the initial activation. This timer limits the amount of time a request may remain in the queue. An additional timer is set with initial activation and is reset with any subsequent reactivations toward the same DN. This timer limits the amount of time any particular (re)activation is active.

The Dual Timer Queuing Activation feature allows a call to maintain its queue position when a reactivation request is made.

4.1.7.4 Automatic Recall Ringback/Notification

4.1.7.4.1 Automatic Recall Ringback for Analog and Custom ISDN

When both the calling DN and the called address are idle, the calling terminal is given Automatic Recall distinctive ringback alerting.

If the calling terminal is an ISDN terminal with an Automatic Recall feature button, the feature button lamp will flash during ringback. The lamp associated with an idle call appearance at the calling DN at the calling terminal will also flash. If the call appearance selected for ringback is shared, then the status lamps at terminals of the shared members light to indicate that the call appearance is in use. These terminals will not receive ringback alerting.

A ringback timer is set by the originating switch to control the maximum duration of the ringback alerting. If the ringback is not answered before the timer expires, Automatic Recall activation is suspended or halted, depending on an office parameter that specifies the maximum number of ringback attempts per activation.

If the calling terminal answers the ringback before the ringback timer expires, a final called address busy/idle status query will be sent to the terminating switch. If the called address is found to be idle at the time of the final busy/idle status query, then the originating switch will proceed with call setup. If the called address is found to be busy, an announcement indicating this situation will be returned to the calling terminal. If the called address is found to be idle (after the last busy/idle status query), the call appearance status lamp remains lighted to indicate the in-use condition. The end-user will then hear either audible alerting if the called address is still idle or, if the called address has subsequently become busy, busy treatment or a busy after ringback announcement will be given. In either case, the Automatic Recall activation will be complete.

If the calling terminal is an ISDN terminal with display capability, the called address will be displayed as well as a new call type indicator. If the calling terminal has subscribed to the Electronic Directory Service Calling Name Display feature, then the name associated with the called address will also be displayed (if available). If a customer has an analog set with the analog ICLID display feature, only the calling address is displayed during ringback.

4.1.7.4.2 Automatic Recall Notification for National ISDN

When the called DN becomes idle, the calling terminal is given Automatic Recall notification regardless of whether the calling terminal is busy or idle. If the calling terminal has an Automatic Recall feature button, the feature button lamp will flash during ringback. If the calling terminal has display capability, the following is displayed:

XXX-XXX-XXXX is idle for XXX-XXXX **LOC** (for voice)

OR

XXX-XXX-XXXX is idle for D:XXX-XXXX **LOC** (for data)

A notification timer is set by the originating switch to control the duration of notification. No call position is allocated at this time.

If the notification timer expires before the user responds, a second notification will be sent to the user to indicate that monitoring of the called party is being discontinued.

If the calling terminal responds to notification before the notification timer expires, a call will be placed to the called party. (Responding to notification is defined as the terminal sending in a Q.931 SETUP message with no keypad information, feature activators, called address, etc.)

If the feature times out because the called party never went idle, a notification will be sent to the terminal to indicate that monitoring is being discontinued. If this is the last active AR activation, the feature button lamp (if provisioned) will turn off.

4.1.7.5 Abnormal User/System Interactions

The end-user may encounter several abnormal situations after attempting to activate the Automatic Recall feature as follows:

- If the end-user dials the Automatic Recall feature access code incorrectly, the user may activate an unexpected feature or reorder will be returned.
- The line history block may contain unexpected information resulting in the end-user reaching an unexpected party; such as, the user forgot who they called last.
- The end-user may receive busy treatment or short-term denial (for example, TCAP final busy/idle query time-out) after activating Automatic Recall or after answering ringback. This situation may also occur if the called address becomes busy after the originating exchange is informed that the called address is idle. When a user gets busy after ringback announcement, the OLHB is updated again with the called DN. The end-user may choose to attempt yet another Automatic Recall activation at this time.
- If the end-user activates Automatic Recall and then abandons before some form of activation response is returned by the originating switch, the activation attempt will be canceled.
- If the end-user has access to both voice and CSD AR, and the call type of the last outgoing call does not match the call type of the current activation attempt, the AR user will get short term denial.
- If the end-user has access to only voice or CSD AR, then only calls of that type will update the OLHB.

4.1.8 ADMINISTRATION

4.1.8.1 Measurements

Traffic counts are kept on a per-office basis in the originating 5ESS[®] switch for the Automatic Recall feature. These counts apply to both CSV and CSD calls. The counts are as follows:

- **Total Automatic Recall Activation Attempts** — The number of customer requests for Automatic Recall.
- **Total Automatic Recall Deactivation Attempts** — The number of customer requests for the cancellation of Automatic Recall.
- **Total Automatic Recall Immediate Processing Peg Counts** — The number of Automatic Recall feature uses that result in immediate call setup.
- **Total Automatic Recall Delayed Processing Peg Counts** — The number of times an attempt to access the Automatic Recall feature results in camp-on to the called DN.
- **Total Automatic Recall Overflow Counts** — The number of times an attempt to access the Automatic Recall feature is unsuccessful due to the lack of Automatic Recall feature processing resources on the originating switch.

- **Total Automatic Recall Long-Term Denial Peg Counts** — The number of times an attempt to access the Automatic Recall feature results in long-term denial being returned to the end-user.
- **Total Automatic Recall Short-Term Denial Peg Counts** — The number of Automatic Recall feature attempts that result in short-term denial being returned to the end-user. This peg count also includes the number of AR activation attempts that are denied because the terminating party has Call Forwarding active.
- **Total Automatic Recall Request Time-Outs** — The number of Automatic Recall feature attempts that result in time-out of the feature before ringback can be given to the end-user.
- **Total AR Requests That Result in Busy After Ringback** — The number of Automatic Recall features that result in the end-users receiving busy after ringback announcement.

The previously mentioned peg counts are included in the 30-Minute Traffic Report in Section 76. However, these new peg counts are not available as part of the BRCS customer traffic sent to an applications processor.

A feature ID assigned to each feature allows the use of existing capabilities for controlling the reporting of this information as part of Section 29 of the Engineering Administration Data Acquisition System (EADAS) report. Activations and deactivations are covered by the standard counts provided within Section 29.

Reporting these traffic counts can be turned on or off according to the needs of the telephone company.

4.1.8.2 Billing

4.1.8.2.1 General

The telephone company has the ability to charge Automatic Recall customers a flat rate for the feature (flat rate) or to charge according to the amount the feature is used (usage sensitive). Additionally, AMA records must be created to accommodate billing for customers who do not subscribe to the feature. If the Automatic Recall feature is generally available, the default billing action is usage sensitive. For subscription access, the default billing is flat rate.

An AMA record is generated for the following events:

- Immediate processing
- Delayed processing
- Busy after ringback
- Customer deactivation
- Time-out of activation requests (feature expiration, ringback retries have been exhausted)
- AR Reactivation.

As mentioned in the previous paragraph, an AMA record is generated for each AR activation (either immediate or delayed processing). However, an AMA record is also generated for each successful AR reactivation. The originating switch is responsible for recording a reactivation.

The service provider must be able to indicate the way in which access to the feature is allowed/restricted. An office option indicates whether the feature requires subscription or is made available (generally available) to all lines. Subscription indicates that the customer must subscribe to the features in order to gain access to them. If telephone companies choose to require subscription, individual lines (terminals) can be marked to allow or not to allow an AMA record for that feature via service order.

4.1.8.2.2 Types of Billing

Table 4.1-3 illustrates the precedence in determining the type of billing recording [usage sensitive (US) or flat rate (FR)] to be made for the LASS Automatic Recall feature. NA is used to indicate that a particular option/column is nonapplicable for the specified combination. See Table 4.1-3 .

Table 4.1-3 Access/Billing Matrix

	FEATURE ACCESS OFFICE OPTION (View 8.18)	GENAVAIL BILLING OPTION (View 8.21)	SUBSCR BILLING OPTION (View 12.48)	FEATURE ALLOW (View 1.6...View 23.1)	FEATURE ASSIGN (View 1.11...View 23.8)	SWITCH RESPONSE	BILLING ACTION
1	GENAVAIL	US	NA	NO	NO	BLOCK	-
2	GENAVAIL	FR	NA	NO	NO	BLOCK	-
3	GENAVAIL	US	NA	YES	NO	ALLOW	US
4	GENAVAIL	FR	NA	YES	NO	ALLOW	FR
5	GENAVAIL	NA	US	YES	YES	ALLOW	US
6	GENAVAIL	NA	FR	YES	YES	ALLOW	FR
7	SUBSCR	NA	US	NA	NO	BLOCK	-
8	SUBSCR	NA	FR	NA	NO	BLOCK	-
9	SUBSCR	NA	US	YES	YES	ALLOW	US
10	SUBSCR	NA	FR	YES	YES	ALLOW	FR
11	UNAVAIL	NA	NA	NA	NA	BLOCK	-
12	TEMPUNAVAIL	NA	NA	NA	NA	BLOCK	-

Generally Available — For row 1 through row 4 combination, the feature access office option for Automatic Recall on RC View 8.18 and the AR GA FEAT field on RC View 8.21 are used to determine whether FR or US recording is done for the end customer. For these scenarios, the feature is not assigned via service order (column 5), but the feature access office option for Automatic Recall is set to GENAVAIL. The feature allow field (column 4) turns the access on or off for the applicable classes of service or denies access to specific lines regardless of the class of service. The AR GA FEAT field (column 2) specifies the feature name, which is either defined as a preconstructed feature (/LARGA or /LAR1) or modified with the feature definition, RC View 12.48.

Assigned — For row 5 and row 6 combination, the feature access office option is set to GENAVAIL although the feature is assigned to the end customer via service order (column 5). The feature definition assigned will determine whether usage-sensitive AMA is recorded.

Subscription — For row 7 through row 10 combination, the feature access office option is set to subscription. The feature allow indicators are automatically set to "yes" and the end customers must be assigned either a preconstructed or a customized feature via the applicable RC view (for example, 1.11, 23.8).

Unavailable — The feature access option for initial provisioning is set to UNAVAIL. Access to the feature will be blocked until recent change procedures are used to change the option to either GENAVAIL or SUBSCR.

Temporary Unavailable — The TEMPUNAVAIL option is used to temporarily turn off the feature while maintaining the line history block assignments. Access to the feature will be blocked until recent change procedures are used to change the option back to either GENAVAIL or SUBSCR.

4.1.8.2.3 Billing Records

Generation of AMA records allows usage-sensitive billing. Flat-rate billing requires a service order but does not require the generation of billing records. A combination of billing methods can be supported when a service order is required and billing records are generated. These values are assigned per terminal for the outgoing feature.

Only one AMA record is generated per feature activation. This record applies to busy after ringback, time-out, or customer deactivation following the delayed activation. The structure code/record format for this feature is 01030. The fields within the structure code billing record are as follows:

- Fields 1 through 6 are standard.
- Field 7, Service Feature, identifies the specific LASS feature event (such as, a value of 69 indicates deactivation of the Automatic Recall feature).
- Fields 8 and 9 together are the full national number of the served subscriber.
- Fields 10, 11, and 12 together form the complete called number in the case of an activation; otherwise, they are filled with zeros.
- Field 13 is the time at which the AMA record is generated.
- Fields 14 through 19 are filled with zeros.
- For CSD an ISDN Abbreviated Core Module 071 is appended to the 1030 AMA record. The 071 Module provides the Bearer Capability information (Table 412) so that AR data AMA records can be distinguished from AR voice AMA records.

Refer to "LASS Billing", Section 2.9, for a detailed layout of the structure code.

There is no Automatic Recall specific MDR record; however, an MDR record is provided for call setup that is the result of invoking the Automatic Recall feature.

Essentially three types of billing records can be created for an Automatic Recall call as follows:

- (1) An LASS AMA record (structure code/record code 01030)
- (2) An AMA record for the routed call (not a LASS record)
- (3) An MDR record for the routed call (not a LASS record).

Any combination of the records, or none of the records, can be created for an Automatic Recall call.

4.2 Automatic Recall (AR)/Automatic Callback (AC) Destination Point Code

4.2.1 Description

The Automatic Recall (AR)/Automatic Callback (AC) Destination Point Code feature allows the 5ESS®-2000 switch, acting as the terminating switch in an Automatic Recall (AR)/Automatic Callback (AC) session, to send all AR/AC Transaction Capabilities Application Part (TCAP) responses using Point Code routing.

For information on Automatic Callback, see "LASS Automatic Callback," 3 .

4.2.2 Availability

The Automatic Recall (AR)/Automatic Callback (AC) Destination Point Code feature is available as a software update to the 5E13 software release and with the 5E14 and later software releases.

4.2.3 Environment

This feature applies to a switch supporting AR/AC TCAP protocol.

4.2.4 Cross References

The following cross-references are applicable to the Automatic Recall (AR)/Automatic Callback (AC) Destination Point Code feature:

- 99-5E-7118
- This feature is compatible with the following Bellcore Technical References (TRs):
 - TR-217
 - TR-225

4.2.5 Background

During an Automatic Recall (AR) or Automatic Callback (AC) session, the terminating switch (where the target DN resides) may be requested by the originating switch (where the AR/AC subscriber resides) to do terminating scanning. When the target DN becomes idle, the 5ESS®-2000 switch uses Global Title Translation (GTT) Signaling Connection Control Part (SCCP) routing to route the Transaction Capabilities Application Part (TCAP) message with this response to the originating switch. New Bellcore requirements (R-217 in TR-215 and R-231 in TR-227) require that the terminating switch save the Point Code and Subsystem Number of the originating switch (received in the messages from the originating switch) and use Point Code SCCP routing (instead of GTT SCCP routing) for all messages sent to the originating switch during the AR/AC session. This would have the effect of reducing the need for the Signaling Transfer Point (STP)/Service Control Point (SCP) to do Global Title Translation.

The AR/AC Destination Point Code feature allows AR/AC to work without a fix for the Bellcore SCP, removes the 5ESS®-2000 switch non-compliance with TR-217 and TR-225, and reduces the number of GTT operations that the STP/SCP needs to perform.

4.2.6 Feature Operation

When the AR/AC Destination Point Code feature is enabled, and the 5ESS®-2000 switch receives an AR/AC TCAP message from an originating AR/AC switch, the 5ESS®-2000 switch stores the Point Code of the originating switch and the subsystem number, both contained in the SCCP calling party address of the received AR/AC TCAP

message. The 5ESS®-2000 switch also stores the Point Code associated with the 5ESS®-2000 signaling platform (such as, PSU-2 or CNI) which delivered the message. These Point Codes and Subsystem Number are used for Point Code routing of any subsequent AR/AC TCAP message which is sent to the originating AR/AC switch and which is associated with this AR/AC session.

Unless the AR/AC Destination Point Code feature is enabled, the following TCAP messages are sent to the originating AR/AC switch using Global Title Translation (GTT) routing:

- Terminating Scanning Idle Response,
- Terminating Scanning Timer Expired Response.

Whether or not the AR/AC Destination Point Code feature is enabled, the following messages are sent using Point Code routing:

- Initial Response,
- Terminating Scanning Request Conversation,
- Originating Scanning Busy/Idle Response,
- Final Busy/Idle Response.

Note that since the messages which use GTT routing (unless the AR/AC Destination Point Code feature is active) are associated with terminating switch scanning for busy/idle status, the AR/AC Destination Point Code feature only modifies the terminating switch busy/idle scanning procedures, and does not impact originating switch busy/idle scanning procedures.

4.2.7 User Operation

4.2.7.1 For Subscribers

No subscriber operations are required to activate this feature.

4.2.7.2 For Switch Personnel

Switch personnel unlock the AR/AC Destination Point Code feature for the office using the Secured Feature Upgrade view (8.22) and Special Feature ID (SFID 518).

4.2.8 Engineering

4.2.8.1 Hardware Resources

No new hardware considerations are associated with this feature.

4.2.8.2 Software Resources

No new software considerations are associated with this feature.

4.2.8.3 Transition Considerations

No new transition considerations are associated with this feature.

4.2.9 Interactions and Limitations

4.2.9.1 Interactions

4.2.9.1.1 Automatic Callback and Automatic Recall Features

The AR/AC Destination Point Code feature modifies the Automatic Recall (AR) and Automatic Callback (AC) features at a 5ESS®-2000 switch so that all AR/AC TCAP responses sent to the originating switch use Point Code routing. Without this feature some of the messages use Global Title Translation (GTT) routing.

4.2.9.2 Limitations

The AR/AC Destination Point Code feature has no effect unless the 5ESS®-2000 switch is provisioned to provide terminating scanning in response to an AR/AC TCAP request.

For information on Automatic Recall and Automatic Callback, see this chapter and "LASS Automatic Callback," 3 .

4.2.10 Incompatibilities

Not applicable.

4.2.11 Dependencies

The AR/AC Destination Point Code feature has no effect unless the 5ESS®-2000 switch is provisioned to provide terminating scanning in response to an AR/AC TCAP request.

4.2.12 Isolation Constraints

No isolation constraints are associated with this feature.

4.2.13 Recent Change Provisioning

See 235-118-2xx, 5ESS® -2000 Switch Recent Change Reference, for detailed information on allowed values.

The service provider enables the AR/AC Destination Point Code feature by populating the following fields in recent change and verify (RC/V) view 8.22 (SECURED FEATURE UPGRADE):

FIELD	VALUES
FEATURE ID	518
MODULE	OFC
PASSWD	(Obtain from Lucent Technologies SFID Administrator)
ACTIVE	Y

4.2.14 Customer Premises Equipment (CPE)

Not applicable.

4.2.15 Maintenance Considerations

Not applicable.

4.2.16 Administration

4.2.16.1 Measurements

Not applicable.

4.2.16.2 Billing

This feature does not impact billing.

4.3 Global Recent Change Interaction with LASS AR

4.3.1 Description

The Global Recent Change Interaction with LASS AR (99-5E-4377) feature is an enhancement to the Global Recent Change feature and includes the ability to find all lines on the switch that have LASS AR (Automatic Recall). A new parameter is added to list all lines that are (or are not) allowed to use the LASS AR feature.

The Global Recent Change Interaction with LASS AR feature is a secured feature (SFID 305) and a right-to-use (RTU) fee must be paid to Lucent Technologies before enabling information is provided.

4.3.2 Availability

The Global Recent Change Interaction with LASS AR feature is available as a software update to the 5E12 and 5E13 software releases and with the 5E14 and later software releases.

4.3.3 Environment

The Global Recent Change Interaction with LASS AR feature is provided on a per office basis.

4.3.4 Cross References

The following cross-references are applicable to the Global Recent Change Interaction with LASS AR feature:

- 99-5E-4377
- This feature is compatible with the following Bellcore Technical References (TRs):
 - N/A

4.3.5 Background

The Global Recent Change Interaction with LASS AR feature offers a great time savings and convenience to the service provider. Without this feature, service providers have to manually determine which lines can not invoke LASS AR, then have to inhibit the Originating Busy trigger on each line.

4.3.6 Feature Operation

The Global Recent Change Interaction with LASS AR feature allows service providers to inhibit the Originating Busy/No-Answer Office Triggers feature (99-5E-3529) for lines that are not allowed to use the LASS AR feature.

The Global Recent Change (GRC) feature enables customers to inhibit the Originating Busy/No-Answer Office Triggers feature for a particular Class of Service. The Global Recent Change Interaction with LASS AR feature enables the Global Recent Change feature to "find" all lines on the switch that have the LASS AR allow field set to "NO". RC/V view A.2, MULTIPLE LINE QUERY, used by the GRC feature, is enhanced to include a new parameter (LASS AR ALLOWED). When the new parameter is set to "Y", then a list of all lines that were allowed to use the LASS AR feature is retrieved. When the new parameter is set to "N", then a list all lines that were not allowed to use the LASS AR feature is retrieved.

4.3.7 User Operation

4.3.7.1 For Subscribers

No subscriber actions are associated with this feature.

4.3.7.2 For Switch Personnel

Once all the lines that are not allowed to use the LASS AR feature are identified, inhibit those lines from encountering the O_Called_Party_Busy trigger.

4.3.8 Engineering

4.3.8.1 Hardware Resources

No hardware considerations are associated with this feature.

4.3.8.2 Software Resources

No software considerations are associated with this feature.

4.3.8.3 Transition Considerations

No transition considerations are associated with this feature.

4.3.9 Interactions and Limitations

No interactions or limitations are associated with this feature.

4.3.10 Incompatibilities

No incompatibilities are associated with this feature.

4.3.11 Dependencies

The Global Recent Change Interaction with LASS AR feature is secured separately from all other ASP Generic and Special features. This feature requires the ASP 0.1B feature and the ASP Originating Busy/No-Answer Office Triggers feature (99-5E-3529) to be purchased and unlocked before this feature may operate.

4.3.12 Isolation Constraints

No isolation constraints are associated with this feature.

4.3.13 Recent Change Provisioning

See 235-118-2xx, 5ESS® -2000 Switch Recent Change Reference, for detailed information on allowed values.

The service provider enables the Global Recent Change Interaction with LASS AR feature by populating the following fields in RC/V view 8.22, SECURED FEATURE UPGRADE:

FIELD	VALUES
FEATURE ID	305
MODULE	OFC
PASSWD	(Obtain from Lucent Technologies SFID Administrator)
ACTIVE	Y

The service provider enables the Global Recent Change Interaction with LASS AR feature feature by populating the fields in the following RC/V view:

VIEW	VIEW NAME	FIELD	ALLOWED VALUES

NUMBER			
A.2	MULTIPLE LINE QUERY	LASS AR ALLOWED	a Y
			b N
Notes: a. Lists all lines that are allowed to use the LASS AR feature. b. Lists all lines that are not allowed to use the LASS AR feature.			

4.3.14 Customer Premises Equipment (CPE)

Not applicable.

4.3.15 Maintenance Considerations

Not applicable.

4.3.16 Administration

4.3.16.1 Measurements

This feature does not impact measurements.

4.3.16.2 Billing

This feature does not impact billing.

5. LASS CUSTOMER-ORIGINATED TRACE

5.1 GENERAL

5.1.1 Definition

The Local Area Signaling System (LASS) Customer-Originated Trace (COT) feature allows an end-user to request an automatic trace of the last incoming call. This feature provides a user with an easy way to trace an obscene, threatening, or harassing call. The trace includes the directory number of the calling line along with the time and date of the call. The results of the trace are not provided directly to the end-user, but rather to an authorized agency, such as the service provider or a law enforcement agency. The end-user can follow instructions provided by the service providers to obtain the information about a trace.

The information about the last incoming call is stored in the incoming line history block (ILHB) which is needed for both the COT and Automatic Callback (AC) features. The ILHB is assigned on a per-terminal basis. If COT (or AC) is available only by subscription, only those users (terminals) who have subscribed to COT (or AC) have an ILHB allocated. If COT (or AC) is a Generally Available feature, all the users who have a line class code (class of service) allowing COT (or AC) have an ILHB allocated.

For an intraswitch call, the calling directory number (DN) is readily available. For an interswitch call, the calling DN is available to COT if the call was completed over trunks that support Signaling System 7 (SS7). The ILHB is updated for every call terminating to that terminal. If the last calling party information is available, the ILHB is updated accordingly. If the last calling information is not available, the ILHB is marked invalid.

The trace message sent to the authorized agency contains the following data:

- The DN of the calling party
- The COT originator's DN and line equipment number (LEN)
- The date and time of the call
- The date and time of the COT request
- The date and time when the trace message was sent
- A calling line uniqueness indicator, a type of address indicator, a screening indicator, and a numbering plan indicator
- A multiple call indicator, which indicates that a user's ILHB was updated when the user was on an active call (for example, due to a Call Waiting feature).

The authorized agency may process the information as it chooses when receiving the trace message.

5.1.2 Economic Worth

The economic worth to the service provider is in terms of revenue generation and ease of implementation. The LASS features use existing customer lines to provide end-users with call management capabilities. These features are based on the delivery of calling party number via the SS7 signaling network. The revenue-generating LASS features are available for both residence and business customers.

5.1.3 Availability

The LASS COT feature is a member of the LASS Customer-Originated Trace modular feature group.

The **Limited Two-Level Activation of the Customer-Originated Trace** feature is only available for analog users.

The **COT Data Link** transparency feature allows service providers to provide the COT feature without requiring a dedicated data link to print the trace messages. This allows the flexibility of sending the COT messages over an existing data link, if desired. In addition, with this feature the COT message buffer size has been increased from 100 to 300 messages.

The **Removal of ISDN Customer-Originated Trace Agency Follow-Up Number** feature eliminates the requirement that an agency follow-up number must be specified by the service provider when providing the COT feature.

5.1.4 Feature Application

The Customer-Originated Trace feature is provided on a per-line basis. For ISDN users, the feature is provided on a per-terminal basis and is only available for voice or voice band calls. This feature does not apply to circuit-switched data or packet-switched data calls.

For Limited Two-Level Activations of COT, ISDN users are not supported. The ISDN terminals and line time slot bridging lines are given One-Level Activation treatment for COT activations.

The Enhanced Two-Level Activation of COT feature supports both ISDN and analog terminals.

5.2 USER PERSPECTIVE

5.2.1 User Profile

In the past, tracing the origin of a phone call was a difficult task. Some people have taken advantage of the resulting anonymity provided for the originating party. Analog and ISDN users desiring automatic traces of obscene, threatening, or harassing calls without intervention of the operating company personnel are likely candidates for this service. Results of the trace can be delivered to a dedicated or nondedicated data link to a printer in the service provider, or a law enforcement agency. In the dedicated mode of operation, COT messages are sent to TTY 45; in the non-dedicated mode of operation, COT messages are sent to what is specified on the classdef form (160). The COT Data Link transparency feature eliminates the need for a dedicated data link for the COT printer. This transparency feature allows service providers to use existing links to route the COT trace messages. Users can follow the instructions provided by the service providers to get information about the trace.

5.2.2 Customer Premises Equipment

The type of customer premises equipment (CPE) expected to be the most widely used with COT is an analog station set. Both dual tone multifrequency (DTMF) and dial pulse (DP) sets are supported.

Other CPE supporting COT are ISDN types A, B, C, and D terminals with and without display capability, and ISDN types A, B, C, and D terminals with and without a COT feature button. A COT feature button cannot be assigned without display capabilities.

For two-level activations of COT, type C terminals must support in-band signaling; that is, terminals must be able to respond to interactive announcements via in-band DTMF signals when the switch informs the CPE that further information is available in band. The CPE must respond in-band using DTMF signals. See 235-900-341, *National ISDN Basic Rate Interface Specification*. Part IV (Basic Call) ISDN terminals are not supported.

5.2.3 User Operation

5.2.3.1 Invoking the Feature — Analog Users

One-Level Activations: After hanging up on a nuisance call, a user can invoke COT by going off-hook, receiving

dial tone, and then dialing the COT access code. If the ILHB contains valid information about the last calling party, the user receives a confirmation announcement including the instructions that should be followed. If a call is traced that has been traced before, the user still receives the confirmation announcement. However, no message is sent to the agency for the second try and no AMA record is generated.

Two-Level Activations: After hanging up on a nuisance call, analog users go off-hook and dial the COT access code. Instead of activating Customer-Originated Trace immediately, the user hears an interruptible announcement indicating that the Customer-Originated Trace feature has been accessed along with a message stating that the user is charged a fee to trace the last incoming call. The exact cost associated with tracing the call can be included in the announcement, based on the COT COST office parameter (RC View 8.21), if the service provider desires. If this field is left empty, the user is notified that there is a cost for each trace. The user is prompted to enter a "1" to trace the last incoming call, or to hang up to cancel the request. After entering a "1", the user receives a confirmation announcement including the instructions that should be followed. If a user dials something other than "1" or does nothing (times-out), a retry announcement is heard urging the user to dial "1" to trace the call or to hang up to cancel the request. If a user dials incorrect digits three times or does not dial anything three times, the call times out. On the fourth try, a noninterruptible announcement instructs the user to hang up, look at the written instructions, and try again later. In this case, no trace is performed. If a customer hangs up before hearing any announcement, the request is canceled. An office parameter determines the number of times a user is allowed to dial incorrectly or dial nothing after hearing an announcement. Valid values for this parameter are 1 to 5. However, if the user hangs up after hearing the trace announcement, no trace is performed. If a call is traced that has been traced before, the interruptible announcement is avoided and the user receives the confirmation announcement. However, no message is sent to the agency for the second try and no AMA record is generated.

In some cases, the user cannot invoke COT successfully. For example, if the user is not allowed to use the COT feature because either COT is not generally available or COT has not been subscribed to, reorder tone, which is BRCS error treatment, is received. If the user tries to trace a call on which the switch does not have the information (the ILHB is marked invalid), a *trace not available* announcement should be received. When the COT Data Link (TTY45) is dedicated and out of service and the buffer that temporarily holds COT messages is full, the user receives a *temporarily unable to trace call* announcement. The dedicated data link (TTY45) became optional with the COT Data Link feature. If a user receives a *temporarily unable to trace* announcement, COT should be invoked later. If COT is invoked when the switch is overloaded, the user receives reorder tone. For Two-Level Activations, if the DSU2-RAF is not accessible, the trace is performed by reverting to One-Level Activation.

5.2.3.2 Invoking the Feature — ISDN Users

5.2.3.2.1 General

For Custom ISDN users with a terminal that has display capability, the user receives both an announcement and a display message. The display message remains on the screen for 60 seconds and will not be cleared for incoming or outgoing calls. However higher priority messages such as two-level AC, two-level COT, and inspect clears the screen before 60 seconds. National ISDN users only get the display as part of one-level activation. Additionally, an ISDN user with a terminal that has a COT feature button configuration can also invoke COT whenever dial tone is received or during the call.

5.2.3.2.2 Invocation After the Call

After hanging up on a nuisance call, the user can invoke COT by going off-hook, receiving dial tone, and either dialing the COT access code or pressing a COT feature button. When an ISDN user invokes COT on a call for which the switch contains valid information, and the user has a display capability, both the confirmation announcement and the display message are received. If a call is traced that has been traced before, the user still receives the confirmation announcement and display message; however, no message is sent to the authorized agency for the second attempt and no AMA record is generated.

5.2.3.2.3 Invocation During the Call

An ISDN user with a COT feature button can invoke COT while still on the call. The user can press the COT feature button after the talking path with the nuisance caller has been established. For this case, the response is sent to the user's display and no announcement is provided. The COT feature button configuration requires a display capability on the terminal for the on-call invocation. If a call is traced that has been traced before, the user receives confirmation via the display message; however, no message is sent to the authorized agency for the second attempt and no AMA record is generated.

5.2.3.2.4 ISDN Enhanced Two-Level Activations

After hanging up on a nuisance call, ISDN users go off-hook, select an idle call appearance, and may either dial the COT access code or depress a COT feature button. Instead of activating Customer-Originated Trace immediately, the user hears an interruptible announcement indicating that the Customer-Originated Trace feature has been accessed along with a message stating that the user is charged a fee to trace the last incoming call. The exact cost associated with tracing the call can be included in the announcement based on the COT COST office parameter (RC View 8.21), if the service provider desires. If this field is left empty, the user is notified that there is a cost for each trace. The user is prompted to enter a "1" to trace the last incoming call or to hang up to cancel the request. After entering a "1", the user receives a confirmation announcement including the instructions that should be followed. If a user dials something other than "1" or does nothing (times out), a retry announcement is heard urging the user to either dial "1" to trace the call, or hang up to cancel the request. An office parameter (COT MAX ERRS) determines the number of times a user is allowed to dial incorrectly or dial nothing (COT MAX TIMEOUT) in response after hearing an announcement. Valid values for this parameter are 1 to 5. After exceeding these number of attempts, if the user dials incorrectly or does not dial anything, whichever comes first, a noninterruptible announcement instructs the user to hang up, look at the written instructions, and try again later. In this case, no trace is performed. If a customer hangs up before hearing any announcement, the request is canceled. If a call is traced that has been traced before, the interruptible announcement is avoided and the user receives the confirmation announcement. However, no message is sent to the agency for the second try and no AMA record is generated.

When the user is not allowed to invoke COT, because COT is either not generally available or has not been subscribed to, reorder tone is received. If the user tries to trace a call on which the switch does not have the information (the ILHB is marked invalid), a *trace not available announcement* and display message is sent. When the dedicated COT data link is out of service and the buffer that temporarily holds COT messages is full, the user receives a "temporarily unable to trace call" announcement and display message. (The COT Data Link feature, available via a software update, allows service providers to provide the COT feature without requiring a dedicated data link for COT messages.) The user should invoke COT later. If COT is invoked when the switch is overloaded, the user receives reorder tone.

For both Custom and National ISDN, the default display messages shown on the terminal are as follows:

NOTE: The display messages are recent changeable (RC View 8.65).

- Confirmation: "CALL NPA-NXX-XXXX FOR OFFICIAL FOLLOW-UP" where NPA-NXX-XXXX is the global parameter AGENCY on RC View 8.21. The Removal of COT Agency Follow-Up Number feature makes the agency number optional. If this feature is active and the AGENCY field on RC View 8.21 is empty, the display states "CONTACT AUTHORITIES FOR FOLLOW-UP"
- Trace not available: "UNABLE TO TRACE CALL--NUMBER UNAVAILABLE"
- Temporarily unable to trace call: "TEMPORARILY UNABLE TO TRACE CALLS".

Refer to Table 5-2, for COT two-level and one-level display messages, and "Default Announcements and Displays", Section 7.6.2, for the standard default announcements.

5.2.3.2.5 Feature Button Lamps For Typical Customer Premises Equipment

For Custom ISDN, when the COT feature button is pressed, the feature button lamp flashes at a steady rate until the switch gives either confirmation or denial to the user. If the response is confirmation, the lamp changes to steady on for 2 seconds and then off. If the response is denial, the lamp changes to broken flutter for 2 seconds and then off.

For National ISDN, the feature button lamp blinks once for one-level activations and stays on steady during two-level activations.

5.2.3.3 COT Message Format

The trace message format of the Customer-Originated Trace sent to the authorized agency (for example, COT printer) is as follows:

```
CUST OT aa:aa:aa bbb-bbb-bbbb cc:cc dd/dd e f
[ggg-]ggg-gggg hhhhhhhh [hhh]
```

i j k

a = hour, minute, and second of COT request
 b = DN of calling line
 c = hour and minute of call
 d = month and day of call
 e = calling line uniqueness indicator
 N = the calling DN is nonunique
 U = the calling DN is unique
 f = multiple call indicator
 M = a call was already active when this call updated the ILHB
 S = no call was already active when this call updated the ILHB
 g = the initiator's DN, showing an option of ten digits and a default of seven digits
 h = the initiator's LEN
 i = screening indicator
 N = network-provided DN
 U = user-provided — not screened
 A blank character (" ") is printed when screening indicator is not supported.
 j = type of address
 I = international
 N = national
 L = local
 ? = unknown
 k = numbering plan
 T = telephony
 P = private
 ? = unknown

5.2.3.4 Abnormal User/System Interactions

During a Two-Level Activation of Customer-Originated Trace, the following occurs:

- If a user dials something other than "1," dials the wrong digit(s), or dials nothing after receiving a Two-Level announcement an interruptible announcement instructs the user to dial "1" immediately or hang up. If no input is received on the fourth time, the user receives reorder and no trace is performed.
- The number of times a user is allowed to dial nothing following an announcement is determined by an office

parameter (COT MAX TIMEOUT). After exceeding these numbers of attempts, if the user dials incorrectly or does not dial anything (whichever comes first), a noninterruptible announcement instructs the user to hang up, look at the written instructions, and try again later. The feature is not activated.

- Switchhook flashes received during a COT activation while a user is connected to an announcement frame are interpreted as disconnects.
- If a two-level announcement cannot be played, the switch performs one-level COT processing; if a user cannot activate a two-level COT for any reason, the switch performs one-level COT processing.

As soon as a COT activation is initiated, the number in the ILHB is used for the trace. If another incoming call occurs, the number that is traced is the number that was in the ILHB when the feature was initiated.

If COT is invoked when the switch is overloaded, the user receives reorder tone.

If the COT feature is invoked and the mode of operation is dedicated, the COT Data Link provided is out of service, and the COT buffer is not full, the user receives confirmation treatment and the trace message is stored in the COT buffer (/log/COTbuffer).

NOTE: The COT Data Link feature does not require a dedicated data link for the COT messages. This software update makes the dedicated data link optional.

These stored messages are automatically sent when the data link becomes available. When the buffer reaches 50 percent or 100 percent capacity, an output message with alarm is sent to the read-only printer (ROP) indicating that COT Data Link needs to be put into service as soon as possible. Once the COT buffer reaches 300 traces (100 percent full), no COT invocation is allowed until the data link becomes in service again. However, the mode of operation could be switched to nondedicated to get COT active.

If COT is invoked when the optional dedicated COT Data Link is out of service and no buffer space is available, the user receives *temporarily unable to trace call* treatment. No trace message is stored. It is suggested that the user attempt the trace again later.

If the trace cannot be done for any other reason, the user receives reorder tone. (For an invocation during a call, the feature button indicates denial.)

To prevent the trace messages from getting lost during transmission from the switch to the authorized agency, the last five messages that are sent from the switch right before the COT dedicated data link goes down are stored in the COT buffer. Those messages are retransmitted once the dedicated data link becomes available.

5.2.4 Operational Limitations

This feature is limited to tracing the originating location of calls only if SS7 connectivity exists between the originating and terminating office. If an office is not equipped with SS7 signaling, this feature functions with intra-office calls only. If the traced call is an interoffice call for which SS7 connectivity does not exist, the line history is set to invalid and no trace message should be sent. The customer receives an announcement stating that the trace cannot be completed.

Calls cannot be originated by, or terminated to, an analog user in a Two-Level Activation session until it is completed. During a Two-Level Activation session, while a user is connected to an announcement, switchhook flashes are interpreted as disconnects. This is true regardless if the user has a feature assigned that utilizes flash capabilities.

5.3 INTERACTIONS

5.3.1 General Rules

Unless otherwise noted, feature interactions apply to Customer-Originated Trace (COT). The interactions between COT and other features are described in terms of originating feature interactions and terminating feature interactions. An originating interaction is when the COT user is the originating party, while a terminating interaction is when the COT user is the terminating party on a call.

"No interaction" is used when COT does not interact with the feature. If a feature is not listed in the interaction section, assume that there is no interaction.

A distinction is made between One-Level and Two-Level Activations because a One-Level Activation sequence does not involve the RAF announcements. The interaction of features during the RAF announcements for two-level are more obvious to the user. Therefore, the interactions during the activation session are specified in the relevant feature sections.

Enhanced two-level Activation of COT supports ISDN terminals.

Analog users in a COT activation session are considered busy. The ISDN users are considered busy if all non-reserved call appearances are busy.

When a call is forwarded, the originating party's DN is sent to the forwarded-to DN. The ILHB is updated with the originating party's DN.

The ILHB is updated any time the phone is alerted due to an incoming call; for example, barge-in tone and call waiting tone, with the exception of ping ring.

5.3.2 800 Service [Also Known as Inward Wide Area Telecommunications Service (INWATS)]

The 800 Service feature provides inward service from one or more predetermined areas at a rate based on expected usage.

NOTE: The 800 Service feature is not limited to the 800 NPA if the switch has implemented a toll-free treatment feature that allows additional toll-free Service Access Codes (SAC) such as 888 or 877.

Originating/Terminating: No interaction.

5.3.3 800 Service Simulated Facilities Group

The 800 Service Simulated Facilities Group feature can restrict the number of simultaneous INWATS calls through software, rather than by the physical size of a dedicated trunk group.

Originating/Terminating: No interaction.

5.3.4 900 Services

The 900 Services provide inward service from one or more predetermined areas at a rate based on expected usage.

Originating/Terminating: No interaction.

5.3.5 Account Codes (Electronic Tandem Switching Optional Account Codes)

The Account Codes (ACCT) feature allows the customer to add an account code to an Automatic Message Accounting (AMA) or Message Detail Recording (MDR) record for customer allocation of telecommunication charges.

Originating: A business customer that has the COT feature may also have the Account Code feature. Invoking the

COT feature does not result in a routed call. No AMA or MDR records are produced as a result of a call. Therefore, if a user invokes COT, they are not prompted for an account code.

Terminating: No interaction.

5.3.6 Add-On/Consultation Hold - Incoming Only

Add-On/Consultation Hold - Incoming Only is a terminal group variation of the Three-Way Calling feature. It provides three-way calling restricted to incoming direct inward dialed (DID) calls.

Originating: A user can put a call on hold and, following receipt of dial tone, use a COT activation procedure to activate a trace. However, switchhook flashes are treated as disconnects during a two-level Activation, and analog users are not able to invoke Add-On/Consultation Hold - Incoming Only during a COT Limited two-Level Activation. For ISDN users, transfer or conference button depressions are rejected, and attempts result in standard denial treatment being given for those call appearances. Parties on hold remain on hold.

Terminating: No interaction.

5.3.7 Advanced Services Platform

Advanced Services Platform (ASP) provides a platform of service-independent capabilities on a 5ESS®-2000 switch allowing the switch to interact with external network elements. For further information and for the latest details on LASS features and ASP interactions, please see the following documents:

235-190-125 Advanced Services Platform Release 0 and 0.1A

235-190-126 Advanced Services Platform Release 0.1B

Originating: COT can be used to trace calls from ASP callers.

Terminating: Advanced Services Platform (ASP) calls are identified in COT records by the public DN of the originator.

COT can be assigned to dedicated ASP lines. For COT to work for an ASP dedicated line, the ASP dialing must include the definition of the COT activation code. However, COT cannot be activated by a dedicated ASP line since the ASP dialing plan does not allow the definition of LASS activation codes.

In the offering of ASP, the switch does not associate DN triggers with physical ports. Routing is determined by the service control point (SCP). When the call upon which a trace is activated is triggered by a DN trigger, the true public DN of the originator, rather than the dialed DN trigger is used by COT.

5.3.8 Attendant Call Hold

Attendant Call Hold allows the attendant to hold a call in progress to originate another call, answer a call, or pick up a call on hold. Timed Reminder is activated when the call is placed on hold by the attendant.

Originating: A Two-Level Activation session may not be placed on hold by an analog attendant. Switchhook flashes are treated as disconnects. An attendant can put a call on hold, and following receipt of dial tone, use a COT One-Level or Two-Level Activation procedure to activate a trace. For Two-Level Activations, the attendant is not able to return to the party on hold before completing the Two-Level Activation procedures. If the user hangs up on the COT activation session, they are rung back by Call Hold and connected to the party on hold.

Terminating: No interaction.

5.3.9 Attendant Call Transfer (Also Known as Call Splitting)

Attendant Call Transfer allows the attendant to flash and dial a code before dialing the third leg of a three-way call.

Originating: Since switchhook flashes are treated as disconnects during Two-Level Activation, analog attendants cannot invoke this feature.

Terminating: No interaction.

5.3.10 Attendant Camp-On

Attendant Camp-On allows calls the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: Attendant Camp-On is disabled for calls to analog users during a Two-Level Activation. The user does not receive camp-on tone; the attendant receives busy treatment.

Terminating: No interaction.

5.3.11 Attendant Conference Six-Way

Attendant Conference Six-Way allows an attendant to initiate a conference call involving up to six parties (including the attendant).

Originating/Terminating: A Two-Level Activation session cannot be put on hold nor included in a conference call.

5.3.12 Attendant Control of Facilities

Attendant Control of Facilities (ACOF) permits an attendant to restrict dial access from a station to tie trunks, foreign exchange trunks, and wide area telecommunications service (WATS) by operating a key or dialing a code. When control is activated, calls to these facilities are routed to an attendant for appropriate action.

Originating: An attendant can activate this feature while on a Two-Level Activation session by depressing the appropriate feature button.

Terminating: No interaction.

5.3.13 Attendant Direct Station Selection

Attendant Direct Station Selection (DSS) allows an attendant with a console to place calls to stations in the business group by simply pressing a nonlocking pushbutton key associated with the desired station line.

Originating: An attendant can use Direct Station Selection to monitor the status of selected DN's during a Two-Level Activation. If the attendant attempts to complete a call to a specific DN within the monitored group, the attempt is rejected and the attendant receives error treatment.

Terminating: No interaction.

5.3.14 Attendant Identification of Incoming Calls

Attendant Identification of Incoming Calls provides identification, via incoming call indicator lamps on the attendant console, of listed directory number (LDN) calls directed toward different LDNs, but served by the same attendant.

Originating/Terminating: No interaction.

5.3.15 Attendant Position

Attendant Position allows a customer to designate a particular station within a business customer group as an

attendant position.

Originating/Terminating: No interaction.

5.3.16 Attendant Recall from Satellite

Attendant Recall from Satellite gives stations located at remote locations without an attendant, but with the Satellite Attendant Transfer feature, the ability to transfer an incoming call by flashing the switchhook to generate a recall to the main location attendant, who performs the transfer for the remote station.

Originating/Terminating: No interaction.

5.3.17 Authorization Codes (Electronic Tandem Switching Authorization Codes)

The Authorization Codes (ATH) feature allows the station user to input an assigned code to change the restrictions associated with the originating station to those associated with the assigned authorization code.

Originating: A business customer that has the COT feature may also have the Authorization Code features. Depending upon the option specified by the business customer, the switch may require a COT user to enter an authorization code before the COT access code, or after the COT access code is dialed.

A COT feature can be marked to require an authorization code by setting the ATH field to "yes" on the feature assignment view. In this case, the user is prompted for an authorization code after entering the COT access code.

The ATH information used with a COT activation is saved for subsequent inclusion in AMA/MDR records.

Terminating: No interaction.

5.3.18 Automatic Alternate Routing

Automatic Alternate Routing (AAR) provides alternate routing capability similar to ARS-Deluxe. The difference is that AAR is used to route calls to stations on the customer's private network.

Originating/Terminating: No interaction.

5.3.19 Automatic Callback

The LASS Automatic Callback (AC) feature allows users to call back the most recent calling party.

Originating/Terminating: COT and AC use the same ILHB which contains the last incoming calling directory number (LICDN) used to initiate a callback or a trace. Ringback does not update the ILHB. The AC feature updates the ILHB when busy after ringback occurs. When busy after ringback occurs, the users receive a special announcement instructing them to try AC again. The ILHB gets updated with the original camped-on DN.

5.3.20 Automatic Callback-Calling

Automatic Callback-Calling (ACBC) allows a user, after reaching a busy station, to hang up and dial an activation code to activate ACBC. This feature only applies to two stations in the same Business and Residence Custom Services (BRCS)/Centrex group.

Originating: Ringback does not update the ILHB for ACBC.

Terminating: If Automatic Callback-Calling is used to place a call, the incoming line history block is updated with the calling party's DN.

5.3.21 Automatic Intercept System (Also Known as Remote Intercept System)

Automatic Intercept System (AIS) allows Class 5 offices to route calls to nonworking telephone numbers or to telephone numbers placed on trouble intercept to an AIS where they are connected to announcements and/or operators.

Originating/Terminating: No interaction.

5.3.22 Automatic Recall

The LASS Automatic Recall (AR) feature allows users to redial the most recent called party.

Originating: Ringback does not update the ILHB for AR.

Terminating: No interaction.

5.3.23 Automatic Route Selection (Also Known as Flexible Route Selection)

Automatic Route Selection (ARS) directs outgoing, Business Group Line calls to the customer's most preferred available route.

Originating/Terminating: No interaction.

5.3.24 Automatic Voice Network Interface

Automatic Voice Network (AUTOVON) Interface provides an interface with the AUTOVON network, including provisions for prioritizing call handling.

Originating/Terminating: A COT activation session can be preempted. The activation session is considered to have routine precedence and can be preempted by calls with higher precedence. This preemption results in the incoming line history block being updated. Therefore, the precedence level is maintained through the call. If an activation attempt is preempted, the attempt is canceled and the caller is given precedence alerting.

5.3.25 Basic Emergency Service (911)

Basic Emergency Service provides a 3-digit universal telephone number (911) for public use throughout the United States to report an emergency or request emergency assistance.

Originating: A 911 terminal cannot have COT since it is denied origination.

Terminating: No interaction.

5.3.26 Basic Queuing (Queuing for Lines)

Basic Queuing provides queuing for lines, call waiting lamps control, and delay announcements.

Originating/Terminating: No interaction.

5.3.27 BRCS Compatibility with ISDN

The BRCS Compatibility features ensure that many of the existing BRCS features and services function with supported ISDN station sets so that users experience equivalent, similar, or expanded circuit-switched voice service by subscribing to these ISDN BRCS features and services.

Originating/Terminating: The ISDN users can invoke COT by dialing an access code or pressing a feature button (if one is assigned for COT).

5.3.28 Business Group Line

Business Group Line provides capabilities similar to those for individual lines, but is classified as a member of a group of business lines belonging to a single customer.

Originating/Terminating: Business Group Lines can be assigned the Customer-Originated Trace feature.

5.3.29 Business and Residence Custom Service Feature Groups/Feature Clusters

The Business and Residence Custom Service (BRCS) Feature Grouping provides a logical grouping of features and groups that are used by business customers receiving communication services from a central office switch. This feature works with both analog and ISDN BRCS features.

Originating: The COT feature is a BRCS feature and may be offered as part of a BRCS Feature Group (BFG) and/or feature clusters.

5.3.30 Busy Line Verification

Busy Line Verification allows an operator to complete a connection to a busy line to determine the off-hook/on-hook status of the line or if a conversation exists on the line.

Originating: No interaction.

Terminating: The incoming line history block is updated when an operator performs a busy line verification toward another DN.

5.3.31 Call-by-Call Access from a 5ESS®-2000 Switch in a Private Network to Interexchange Carrier Services

This feature allows the private network customer to generate a request for services from an interexchange carrier or local exchange carrier on a per-call basis.

Originating/Terminating: No interaction.

5.3.32 Call Forwarding Busy Line - All Calls

Call Forwarding Busy Line - All Calls (CFBLAC) permits all calls attempting to terminate to a busy line to be redirected to another customer-specified line.

Originating: If the end-user requests a trace of a call that was forwarded, the identification of the party originating the call is used for the trace.

When a call is forwarded via Call Forwarding Busy Line All Calls, the ILHB of the forwarded-to station is updated with the original caller's DN. The ILHB of the forwarding station is not updated.

Terminating: No interaction.

5.3.33 Call Forwarding Busy Line - Incoming Only

Call Forwarding Busy Line - Incoming Only (CFBLIO) ensures that only incoming DID calls are forwarded to the specific business group line.

Originating: When a call is forwarded via Call Forwarding Busy Line - Incoming Only, the ILHB of the forwarded-to station is updated with the original caller's DN. The ILHB of the forwarding station is not updated.

Terminating: No interaction.

5.3.34 Call Forwarding Do Not Answer - All Calls

Call Forwarding Do Not Answer - All Calls (CFDAAC) forwards all calls to a station to another preselected station within the same customer group, or to an attendant when the called station is not answered after a customer-specified number of rings.

Originating: When a call is forwarded via Call Forwarding Do Not Answer (CFDA), the ILHB of the forwarding station is updated.

Terminating: The CFDAAC does not affect the COT feature. If the terminating station is idle, normal call setup occurs. If it is busy, normal camp-on procedures occur.

5.3.35 Call Forwarding Do Not Answer - Incoming Only

Call Forwarding Do Not Answer - Incoming Only (CFDAIO) ensures that only incoming DID calls to the Business Group Line forward, if not answered, after a customer-specified number of rings.

Originating: When a call is forwarded via Call Forwarding Do Not Answer - Incoming Only, the ILHB of the forwarded-to station is updated with the original caller's DN. The ILHB of the forwarding station is not updated.

Terminating: No interaction.

5.3.36 Call Forwarding Incoming Only

Call Forwarding Incoming Only (CFIO) forwards calls terminating from outside the group via DID.

Originating: Calls to a user with CFIO are forwarded while the user is in a Two-Level Activation session.

Terminating: If the terminating DN has CFIO active and the originator of the call is from outside the terminator's terminal group, the ILHB of the terminating DN is not updated. The ILHB of the forwarded-to party is updated.

5.3.37 Call Forwarding Over Private Facilities

Call Forwarding Over Private Facilities (CFPF) is a Call Forwarding Variable option allowing business customers to automatically forward voice calls over the outgoing Private Facility Access (PFA) or Automatic Route Selection (ARS) service selected by the customer.

Originating: The CFPF feature is only applicable to customers with Call Forwarding Variable and Dial Access to Private Facilities or Automatic Route Selection. During activation of Call Forwarding Variable, the desired remote station DN is specified during the activation procedure and the (voice) calls are placed and forwarded over the Direct Distance Dialing (DDD) network.

Terminating: When the CFPF feature is active, the ILHB of the terminating DN is not updated; the ILHB of the final destination party is updated.

5.3.38 Call Forwarding Variable

Call Forwarding Variable (CFV) allows a station user to redirect calls intended for that station to another station.

Originating: Calls to a user with CFV are forwarded while the user is in a Two-Level Activation session.

Terminating: When the CFV feature is active, the ILHB of the terminating DN is not updated; the ILHB of the final destination party is updated.

5.3.39 Call Forwarding In (Within) A Group

The Call Forwarding In (Within) A Group (CFIAG) restricts DN of forward-to numbers dialed during activation to intragroup extension numbers.

Originating: Calls to a user with CFIO are forwarded while the user is in a Two-Level Activation session.

Terminating: When the CFIAG feature is active, the ILHB of the terminating DN is not updated; the ILHB of the final destination party is updated.

5.3.40 Call Hold

Call Hold (CHD) allows a station user to *hold* a call in progress by flashing and then dialing the call hold code.

Originating: A COT user can put a call on hold and, following receipt of dial tone, invoke COT.

A Two-Level Activation session may not be placed on hold. Switchhook flashes result in disconnect. A user can put someone on hold, and following receipt of dial tone, use an Enhanced Two-Level Activation procedure.

Terminating: No interaction.

5.3.41 Call Pickup (Also Known as Call Pickup Originating and Regular Call Pickup)

Call Pickup (CPU) allows a station user to answer any call within an associated preset pickup group.

Originating: No interaction.

Terminating: The incoming line history block, associated with the terminal from which the end-user uses Call Pickup to answer a call, is not updated.

5.3.42 Call Tracing

Call Tracing allows central office personnel to determine the source of annoying or threatening calls, or identify lines in emergency or demand situations.

Originating/Terminating: No interaction.

5.3.43 Call Transfer Attendant

Call Transfer Attendant (CTA) allows the called business group station user to transfer the call to the attendant while connected to a DID or private network incoming call.

Originating: For Two-Level Activation sessions, since switchhook flashes are treated as disconnects, analog attendants cannot invoke this feature.

Terminating: No interaction.

5.3.44 Call Transfer Individual - All Calls

Call Transfer Individual - All Calls (CTIAC) allows a station user to transfer any established call to another station within or outside the private branch exchange (PBX) or business group without the assistance of the attendant.

Originating: For Two-Level Activations, since switchhook flashes are treated as disconnects during Two-Level COT announcements, analog users are not able to invoke Call Transfer Individual - All Calls. For ISDN one-level users, transfer or conference button depressions are rejected, and attempts result in standard denial signal being given for those call appearances.

Terminating: The ILHB of the terminal that receives the transfer is updated with the DN of the party performing the transfer.

5.3.45 Call Transfer Individual - Incoming Only

Call Transfer Individual - Incoming Only (CTIIO) allows a business group station user to transfer an incoming call to another station in the same business group without assistance of the attendant.

Originating/Terminating: See "Call Transfer Individual - All Calls", Section 5.3.44 .

5.3.46 Call Transfer Internal Only

Call Transfer Internal Only (CTIO) allows a business group station user to transfer any established intragroup call to another station in the same customer group without the assistance of an attendant.

Originating/Terminating: See "Call Transfer Individual - All Calls", Section 5.3.44 .

5.3.47 Call Transfer Outside

Call Transfer Outside (CTO) allows a station user to add on a dial "9" off-network, Common Control Switching Arrangement (CCSA), or WATS facility to an external call. A call using CTO can be transferred to a private facility.

Originating/Terminating: See "Call Transfer Individual - All Calls", Section 5.3.44 .

5.3.48 Call Waiting Incoming Only

Call Waiting Incoming Only (CWIO) is a version of Call Waiting Terminating (CWT). It gives an analog station user who is engaged in a telephone conversation an audible alert indicating that an incoming DID or private facility call is attempting to terminate. See "ISDN Priority Calling - Incoming Only", Section 5.3.146 , for the ISDN version of CWIO.

Originating: The CWIO is disabled for calls to analog users attempting to activate COT. The user does not receive call waiting tone. The calling party receives busy treatment.

The CWIO feature can be activated for calls to ISDN users with multiple call appearances provided a call appearance is available and the call is from outside the user's terminal group.

Terminating: The incoming line history block is not updated because the user is not notified/alerted of the incoming call. For an intraswitch call, if the user is alerted, the ILHB is updated.

5.3.49 Call Waiting Originating

Call Waiting Originating (CWO) allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The CWO feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active. It is automatically invoked any time a busy intragroup station is encountered. The CWO feature is only operational for intraterminal group calls.

Originating: When in a COT activation session, the user does not receive call waiting tone. The calling party receives busy treatment.

Terminating: The CWO is disabled for calls to analog users attempting to activate COT. An incoming call does not affect a trace in progress.

5.3.50 Call Waiting Terminating

Call Waiting Terminating (CWT) uses a burst tone to inform a busy analog station user that another call is waiting.

Originating: No interaction.

Terminating: The CWT feature is disabled for calls to analog users attempting to activate COT. The user does not receive call waiting tone. The calling party receives busy treatment.

5.3.51 Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment

This feature allows the 5ESS®-2000 switch PBX to send the calling party number (CPN)/billing number (BN) of the originator to the public network or to another PBX on a per-trunk group basis for all calls.

Originating/Terminating: The screening indicator is used to tell whether the CPN is user- or network-provided. Currently, a "U" indicates when the CPN is user-provided, and an "N" indicates when the CPN is network-provided. CPN/BN optioning screens subscriber-provided CPNs and sets the indicator to **user-provided, screened and passed**, and to **user-provided, screened and failed**. A "P" indicates when the user-provided number passes screening and an "F" indicates when it fails screening.

5.3.52 Cancel Call Waiting

Cancel Call Waiting (CCW) allows a customer with Call Waiting to inhibit the application of the call waiting tone for the duration of one call.

Originating/Terminating: No interaction.

5.3.53 Carrier Interconnection

Carrier Interconnection provides an interface between the local exchange, inter-LATA, and interexchange carriers.

Originating/Terminating: No interaction.

5.3.54 Centrex Complex

Centrex Complex associates multiple business groups in a single switch with a single common *Complex*. All business groups in the complex share intercom calling privileges, yet may have separate private facility groups or separate dialing plans.

Originating/Terminating: No interaction.

5.3.55 Code Calling

Code Calling allows attendants and station users to dial an access code and a 2- or 3-digit called party code to activate signaling devices with a coded signal corresponding to the called code.

Originating: No interaction.

Terminating: When a call is routed using Code Calling, the incoming line history block of the called party is not updated with the calling party number.

5.3.56 Code Restriction

Code Restriction blocks outgoing calls to customer-specified codes [numbering plan area (NPA), NXX].

Originating/Terminating: No interaction.

5.3.57 Signaling System 7 Network Interconnect

Signaling System 7 Network Interconnect (SS7 NI) provides an out-of-band signaling interface between local exchange carrier and interexchange carrier networks.

Originating: No interaction.

Terminating: The COT feature needs full SS7 connectivity to allow interoffice traces. The ISDN User Part (ISUP) 7 call routing is necessary if the LICDN is to be available to COT activation.

5.3.58 Common Control Switching Arrangement Access

Common Control Switching Arrangement (CCSA) Access provides access to the customer's CCSA network.

Originating/Terminating: No interaction.

5.3.59 Computer Access Restriction

Computer Access Restriction (CAR) allows the customer to restrict access to a computer connected through a modem to the telephone line. The CAR feature, operational only for voice calls, is not operational for ISDN Packet-Switched or Circuit-Switched Data calls.

Originating/Terminating: No interaction.

5.3.60 Conference Calling Six-Way (Also Known as Station Dial Conference)

Conference Calling Six-Way allows a station user to establish a conference call involving up to five other parties without attendant assistance.

Originating: Since flashes result in termination of a Two-Level Activation session, analog users are not able to use Conference Calling during a Two-Level session. An Enhanced Two-Level Activation session can be used on any portion of a conference call. For One-Level ISDN users, conference or transfer feature button depressions are rejected while invoking COT. This also applies to adding additional parties to the conference.

Terminating: If a COT user is called and added onto a conference call, the user's incoming line history block is updated with the calling party's DN. However, the incoming line history block is not updated at any time later during the call when other parties are added to the conference call.

5.3.61 Critical Interdigit Timing

Critical Interdigit Timing is activated when the digits received provide sufficient information to complete a call, but the possibility of receiving additional valid digits exists.

Originating/Terminating: Critical Interdigit Timing is applied to users dialing a COT access code.

5.3.62 Customer Access Treatment Code Restriction

Customer Access Treatment (CAT) Code Restriction allows the creation of subgroups in a business group to provide additional restriction or access functions.

Originating/Terminating: Customer Access Treatment (CAT) codes can block/allow COT access codes.

5.3.63 Customer-Changeable Speed Calling

Customer-Changeable Speed Calling (CCSC) allows customers to assign their own speed calling codes directly and immediately from their own telephone by dialing a change speed calling list access code, an abbreviated code, and a new telephone number.

Originating/Terminating: A COT access code can be defined in a non-IDP and IDP speed call list.

5.3.64 Customer Dialed Account Recording

Customer Dialed Account Recording (CDAR) allows a business group customer to associate a personal account number with a given call and have it recorded on the AMA record. The customer can use this record for allocating charges on both outgoing and incoming calls.

Originating/Terminating: No interaction.

5.3.65 Customer Station Rearrangement via Remote Memory Access System

Customer Station Rearrangement (CSR) via Remote Memory Access System (RMAS) allows business customers to make changes affecting their telephone service from an on-premises terminal.

Originating/Terminating: If a business customer has both the COT feature and the Customer Station Rearrangement capability, then the business customer has the ability to use CSR to assign/unassign COT to lines in the business group and to perform line moves on lines having the COT feature. Note that having COT available includes having an ILHB assigned. After the move, the user is able to access COT provided the old location and the new location have the same COT access option. During the move, the old location of the ILHB is de-allocated and the new location is allocated the ILHB. Data in the old location is not transferred to the new location. Calls to a DN while the station is being moved do not update the ILHB.

5.3.66 Delayed Announcement for Queued Calls on Hunt Group

Delayed Announcement for Queued Calls on Hunt Group allows a customer-generated automatic announcement for multiline groups with queuing.

Originating/Terminating: No interaction.

5.3.67 Deluxe Automatic Route Selection

Deluxe Automatic Route Selection (DARS) extends the choice of private routes for each NPA/NXX to 16 versus 4 for basic ARS.

Originating/Terminating: No interaction.

5.3.68 Deluxe Queuing

Deluxe Queuing is composed of the following two parts: Priority Queuing and Ringback Queuing.

Originating/Terminating: No interaction.

5.3.69 Dial Access to ISDN Attendant

Dial Access to ISDN Attendant provides dial access from the station to the ISDN attendant within the customer group.

Originating/Terminating: No interaction.

5.3.70 Dial Access to Private Facilities

Dial Access to Private Facilities (DAPF) lets a customer choose to terminate the private facilities at the central office and access those facilities by dialing a unique access code per facility.

Originating/Terminating: No interaction.

5.3.71 Dial Call Waiting

Dial Call Waiting (DCW) allows an originating business group station to invoke Call Waiting service on selected intragroup calls by dialing an access code followed by the extension number of the station to be call waited. Dial Call Waiting allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The DCW feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations, if all unreserved call appearances of the ISDN station are active.

Originating: No interaction.

Terminating: Dial Call Waiting is disabled for calls to analog users during Two-Level Activation. An incoming call does not affect a trace in progress.

5.3.72 Dial Pulsing

Dial Pulsing provides the capability to transmit and receive direct current address signals between offices.

Originating/Terminating: No interaction.

5.3.73 Dial Through Attendant

Dial Through Attendant (DTA) allows a station user to complete the dialing on other than station-to-station calls after the attendant selects the private facility on attendant-handled calls.

Originating/Terminating: No interaction.

5.3.74 Dial Transfer to Tandem Tie Line

Dial Transfer to Tandem Tie Line makes the Call Transfer feature compatible with tie lines (trunks). After flashing, a station user with normal access to tie lines can dial a call through the tie line and transfer the original call to it.

Originating/Terminating: No interaction.

5.3.75 Direct Connect

Direct Connect automatically places a call to a preselected called number when a station goes off-hook. Direct Connect cannot be assigned COT.

Originating/Terminating: COT cannot be assigned to direct connect lines.

5.3.76 Directed Call Pickup with Barge-In

Directed Call Pickup with Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, barge-in alert tone is provided and a three-way call is established.

Originating: Users cannot barge-in on a Two-Level Activation session. Users attempting to barge-in receive error treatment. The ILHB of the party picking up the call is not updated.

Terminating: No interaction.

5.3.77 Directed Call Pickup without Barge-In

Directed Call Pickup without Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, the party dialing the pickup code is routed to reorder rather than permitted to barge-in on the established connection and create a three-way call.

Originating/Terminating: The ILHB of the party picking up the call is not updated.

5.3.78 Distinctive Ringing

Distinctive Ringing (DR) applies a distinctive ringing or call waiting tone pattern enabling a station user to determine the source of an incoming call.

Originating/Terminating: No interaction.

5.3.79 Dual Call Coverage (Also Known as Dual Telephone Coverage)

Dual Call Coverage allows calls originating internal to a customer's terminal group to route to a message center other than the one servicing outside calls.

Originating/Terminating: No interaction.

5.3.80 Electronic Tandem Switching Trunk Access (Also Known as Access to ETS Trunks)

Electronic Tandem Switching Trunk Access provides access to a customer's ETS facilities on a distant switch.

Originating/Terminating: No interaction.

5.3.81 Electronic Tandem Switching on Primary Rate Interface Trunks

The Electronic Tandem Switching (ETS) on Primary Rate Interface (PRI) Trunks feature allows the 5ESS[®]-2000 switch to provide Electronic Tandem Network (ETN) trunking between a 5ESS[®]-2000 switch central office node and one or more digital PBX nodes in an ETN.

Originating/Terminating: No interaction.

5.3.82 Electronic Tandem Network Interworking in the 5ESS[®]-2000 Switch Private Network Environment

This feature gives the 5ESS[®]-2000 switch private network customer, currently using the Electronic Tandem Switching feature, expanded capabilities using the primary rate interface to connect multiple private ETN nodes.

Originating/Terminating: No interaction.

5.3.83 Emergency Access to ISDN Attendant

Emergency Access to ISDN Attendant allows a station user to dial an emergency code to gain immediate access to the attendant.

Originating: No interaction.

Terminating: When a user places an emergency call to an attendant with the COT feature, the attendant's associated incoming line history block is updated with the calling DN.

5.3.84 Emergency Ringback

Emergency Ringback is associated with the basic 911 Emergency Service used to recall a customer station immediately following disconnect from, and at the request of, an emergency bureau.

Originating: The public safety answering point (PSAP) attendants can complete a connection to a user during a Two-Level Activation to verify off-hook status. An intrusion tone is provided just before the barge-in. The activation session is not affected and the user can continue to hear announcements and enter digits.

Terminating: No interaction.

5.3.85 Enhanced Private Switched Communications Service Access

Enhanced Private Switched Communications Service (EPSCS) Access provides the ability to terminate access lines to the EPSCS switch.

Originating/Terminating: No interaction.

5.3.86 Expensive Route Warning Tone

Expensive Route Warning Tone (ERWT) indicates when a more expensive route is about to be used.

Originating/Terminating: No interaction.

5.3.87 Facility Restriction Level

Facility Restriction Level (FRL) defines the calling privileges associated with a line.

Originating/Terminating: No interaction.

5.3.88 Feature Code Definition

The Feature Code Definition is the access code defined by the service provider.

Originating: Customer-Originated Trace use codes (active) are defined via Feature Code Definition.

Terminating: No interaction.

5.3.89 Flexible Night Service (Also Known as Attendant Call Forwarding)

Flexible Night Service (FNS) forwards calls normally directed to the attendant group to a different location (night location, also known as a night directory number).

Originating/Terminating: No interaction.

5.3.90 Foreign Exchange Line

Foreign Exchange (FX) Line provides line termination in a central office different from the line providing service to the customer.

Originating/Terminating: No interaction.

5.3.91 Four- and Eight-Party

Four- and Eight-Party provides POTS for up to four- or eight- customers sharing the same line. Customer-Originated Trace cannot be assigned to four- and eight-party POTS lines.

Originating/Terminating: COT cannot be assigned to four- and eight-party lines.

5.3.92 Fully Restricted Originating and Terminating

Fully Restricted Originating and Terminating (FROT) provides the ability to deny a station's ability to originate and/or receive calls to or from outside the business group. It also blocks "dial 0" calls to an attendant and calls from an attendant to the station.

Originating/Terminating: No interaction.

5.3.93 Home Intercom (Also Known as Home Intercom/Single Line Variety Package)

Home Intercom/Single Line Variety Package (HI/SVP) allows the HI/SVP user to ring all telephone sets (extensions) associated with the line by dialing specified codes from the station.

Originating/Terminating: No interaction.

5.3.94 Hunt Group Transfer for Circuit-Switched Data Calls

This feature allows circuit-switched data (CSD) calls to a CSD multiline hunt group (MLHG) to forward-to a second CSD MLHG.

Originating/Terminating: No interaction.

5.3.95 In-Progress Call Tracing

In-Progress Call Tracing is one type of Call Tracing feature that identifies a call in progress.

Originating/Terminating: No interaction.

5.3.96 Individual Calling Line Identification Calling Number Delivery (Analog)

Individual Calling Line Identification (ICLID) Calling Number Delivery transmits data on an incoming call to the terminating station set.

Originating/Terminating: No interaction.

5.3.97 Individual Calling Line Identification Directory Number Privacy

Individual Calling Line Identification (ICLID) Directory Number Privacy allows the calling party to prevent delivery of the originating DN to the terminating station set.

Originating: No interaction.

Terminating: The originating DN is available for COT if SS7 connectivity exists, regardless of whether the privacy feature of ICLID is invoked.

If the calling party uses Per-Call Privacy or All-Call Privacy to call the called party, the calling party's DN is not displayed to the called party. However, the calling party's information is stored in the called party's ILHB (provided the calling party's information is available at the terminating end). This information allows the COT user to trace privacy calls.

5.3.98 Individualized Dialing Plan

The Individualized Dialing Plan (IDP) feature allows digits to be interpreted according to the IDP of the customer

instead of the office dialing plan (ODP) and/or the standard office abbreviated dialing list.

Originating/Terminating: A COT access code can be defined in the IDP.

The LASS Dialed Code Restrictions on IDP Users feature affects access to LASS features AC, AR, COT, ICLID CND, PCP, SCA, SCR, CAR, SCF, and SDA. This feature, is an optioned feature available on an SM basis via the Secured Feature Upgrade View (View 8.22). The LASS Dialed Code Restrictions on IDP Users feature, controls dial code access to LASS features for IDP users. The default value for this feature is disabled (inactive). When this feature is disabled, IDP users can use the access codes defined in their IDP in addition to the ODP defined dialed access codes to access LASS features. Using an ODP defined dial access code for access to a LASS feature by an IDP user may require the dialing of an IDP defined "escape to POTS access code" (9, or *9) immediately prior to dialing the ODP defined access code. Dialing of an ODP defined access code directly (not preceded by an escape to POTS code) is allowed if the error treatment for the user's IDP has been set to use the office code on RC View 9.10.

When the LASS Dialed Code Restrictions on IDP Users feature is enabled (active), an IDP user cannot use an ODP defined dial access code to access a LASS feature. The ODP defined dial access code cannot be used whether or not the ODP LASS code is preceded by an escape to POTS code and regardless of the error treatment for the user's IDP group. Reorder tone is returned to an IDP user after an ODP access code is dialed to access a LASS feature.

Additionally, with this feature enabled, neither an ODP nor an IDP defined dial access code for a LASS feature will be accepted by the 5ESS[®]-2000 switch at any time after an escape to POTS code has been dialed by an IDP user in a single, off-hook dialing scenario. However, an IDP user can dial an escape to POTS code followed by an automatic route selection (ARS), authorization, or an account code prior to the dialing of an IDP (but not ODP) LASS code. Dialing an ARS, authorization, or account code in conjunction with an IDP LASS dialed access code is allowed regardless of the activation status of the LASS Dialed Code Restrictions on IDP Users feature.

The LASS Dialed Code Restrictions on IDP Users feature requires dialed codes used for access to LASS features to be defined in the IDP. Except for ARS, authorization, or account codes, activation of this optioned feature requires that access to non-LASS features allowed to be dialed prior to the LASS access codes must also be defined in the IDP. This allows IDP users to use non-LASS features in conjunction with LASS features.

Refer to 235-080-100, *Translation Guide*, for COT activation and cancellation codes to build in the IDP.

5.3.99 Inspect for ISDN Terminals

Inspect for ISDN Terminals retrieves and displays call-related information about any call appearance having a call associated with it. Inspect also displays feature button identification.

Originating: Inspect is used to inspect the COT feature buttons, and the default display message is "Customer-Originated Trace".

While Inspect is active, a COT activation may be initiated, but display messages are not provided for the activation session. Display messages for the Inspect session are provided. If a user is in a COT activation and activates Inspect, the COT session remains active, but the display message for the COT activation is not provided. Note that RC View 8.65 can be used to customize ISDN display messages.

Terminating: No interaction.

5.3.100 Intercom Calling Restriction

Intercom Calling Restriction counts and limits the number of intercom calls that can be in progress at any one time within a customer group. It also sets a maximum total simultaneous call volume that includes intercom and calls external to the customer group.

Originating/Terminating: No interaction.

5.3.101 Intercom Dialing

Intercom Dialing, in conjunction with the special dialing plan, permits station users in the business group to place calls to each other on a 1- to 7-digit basis.

Originating/Terminating: The ILHB is updated with the full 10-digit DN when alerted by a call made with intercom dialing.

5.3.102 Intra-LATA Presubscribed Inter-LATA Carrier (Intra-LATA PIC)

The Intra-LATA PIC capability allows the Local Exchange Carrier (LEC) to open up certain Intra-LATA toll routes which were previously handled exclusively by the LEC, to competition on an equal access basis between the LEC and Inter-LATA Carriers (ICs).

The Intra-LATA PIC capability allows a subscriber to presubscribe to an Intra-LATA Toll Carrier (PTC) that handles all of his/her Intra-LATA Toll traffic (7 digit or 10 digit calls with or without a "1/0" prefix), if dialed without a 10XXX (or 101XXXX) prefix, but which may or may not be the same as the Presubscribed Inter-LATA Carrier (PIC).

Originating: No interaction.

Terminating: COT will work properly with incoming Intra-LATA PIC calls provided that the calling number is delivered. However, if the LEC does not transmit the calling party number to the IC or the IC does not transmit the calling party number to the LEC, then COT will not work properly. Note that the CPN SUBSC option on RC/V View 10.2 can be used to allow/disallow passing of the SS7 Calling Party Number parameter to an IC.

5.3.103 Intermodule Trunking

Intermodule Trunking provides trunking between modules connected to the same base 5ESS®-2000 switch.

Originating/Terminating: Intermodule trunks with SS7 pass call setup information (such as, the calling DN and the uniqueness indicator). For calls from one remote switching module (RSM) or optically remoted module (ORM) to another RSM or ORM using intermodule SS7 trunks, the calling DN and uniqueness indicator are available in the terminating ILHB as for other intraswitch calls.

5.3.104 Intraswitch/Interswitch Calling Party Number/Billing Number Optioning to Terminating User

This feature allows the terminating PRI or BRI user to request delivery of the calling party number or billing number on an *exclusive* or *preferred* basis on every call for circuit-switched voice/data calls.

Originating/Terminating: No interaction.

5.3.105 ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants

The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature allows a supervisor, or attendant, to display data about an attendant position.

Originating: If the ISDN attendant invokes this feature during a COT activation session, the switch sends the display messages for Aggregate Work Time/Number of Calls Handled, and not for COT. A Two-Level session proceeds with announcements only. However, if the ISDN attendant invokes COT while the Aggregate Work Time/Number of Calls Handled display is active, the 5ESS®-2000 switch does not send the COT display messages.

Terminating: No interaction.

5.3.106 ISDN Attendant Busy Verification of Lines and Trunks

The ISDN Attendant Busy Verification of Lines and Trunks feature allows an attendant to determine whether a line or trunk within the same customer group is busy or idle.

Originating: With this feature, attendants can verify whether a user on a COT activation is busy. The attendant is not able to barge-in on the COT activation session; attempts result in error treatment. An attendant busy verification does update the ILHB.

Terminating: No interaction.

5.3.107 ISDN Attendant Call Hold

The ISDN Attendant Call Hold feature allows the ISDN attendant to either hold a call in progress to originate another call or pick up a call on hold.

Originating: A COT activation session may not be placed on hold by an ISDN attendant. If the attendant presses the feature button, it is rejected. A user can put someone on hold and, following receipt of dial tone, dial the Two-Level COT Activation code.

Terminating: No interaction.

5.3.108 ISDN Attendant Call Splitting

The ISDN Attendant Call Splitting feature allows the ISDN attendant to consult privately with the called party without the calling party hearing.

Originating: No interaction.

Terminating: The ISDN Attendant Call Splitting feature does not result in the incoming line history block of the called terminal being updated.

5.3.109 ISDN Attendant Call Transfer

The ISDN Attendant Call Transfer feature is the ISDN version of Attendant Call Transfer.

Originating/Terminating: See "Attendant Call Transfer", Section 5.3.9 .

5.3.110 ISDN Attendant Camp-On

The ISDN Attendant Camp-On feature is the ISDN version of the Attendant Camp-On feature. It allows calls that the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating/Terminating: See "Attendant Camp-On", Section 5.3.10 .

5.3.111 ISDN Attendant Conference Calling

The ISDN Attendant Conference Calling feature allows the attendant to set up conference calls with any combination of extensions or trunks on the internal conference bridge. The maximum number of parties on the conference call is limited to the capacity of the multiport conference circuit.

Originating/Terminating: See "Three-Way Calling", Section 5.3.211 , and "Conference Calling Six-Way", Section 5.3.60 .

5.3.112 ISDN Attendant Control of Facilities

The ISDN Attendant Control of Facilities feature is the ISDN version of Attendant Control of Facilities.

Originating: An ISDN attendant can activate Attendant Control of Facilities while on a COT activation session by depressing the appropriate feature button.

Terminating: No interaction.

5.3.113 ISDN Attendant Control of Voice Terminals

The ISDN Attendant Control of Voice Terminals (ACVT) feature enables an attendant to impose an originating or terminating restriction (or both) on a DN or group of DNs. The ACVT feature routes calls destined for a line or group of lines to the attendant for handling. It is activated by the attendant or automatically by the switch.

Originating/Terminating: An ISDN attendant can activate Attendant Control of Voice Terminals while on a COT activation session by depressing the appropriate feature button.

Any originations or terminations of a terminal with the Attendant Control of Voice Terminal feature must check the terminal's restrictions. This feature will not disallow access to Two-Level Activation sessions even though calls may be disallowed. Users can still activate Two-Level COT. The COT feature has higher precedence order than ACVT.

5.3.114 ISDN Attendant Direct Station Selection

The ISDN Attendant Direct Station Selection (DSS) feature allows the attendant to display the status of up to 10,000 DNs in 100 groups of 100 contiguous DNs starting at 00.

Originating: An attendant can use Direct Station Selection to monitor the status of selected DNs during a COT activation session.

Terminating: No interaction.

5.3.115 ISDN Attendant Emergency Override

The ISDN Attendant Emergency Override (AEO) feature allows the attendant to complete incoming calls to stations as follows:

- Calls that are busy from setting the make-busy key
- Calls that have a series completion or multiline hunt arrangement
- Calls with Call Forwarding active
- Calls with terminating restrictions.

Originating: No interaction.

Terminating: Emergency Override cannot be used to barge in to a user on a Limited or Enhanced Two-Level Activation session. The attendant is given error treatment. The activation of the ISDN Attendant Emergency Override does not update the incoming line history block of the terminal being overridden.

5.3.116 ISDN Attendant Incoming Call Identification

The ISDN Attendant Incoming Call Identification feature allows an attendant to identify the type of facility over which an incoming call to the attendant was routed.

Originating: When an ISDN attendant with display capability and an available call appearance is performing a COT activation, incoming call identification information is sent by the 5ESS®-2000 switch when a call is offered. This information may overwrite the COT display, depending on the attendant CPE.

Terminating: No interaction.

5.3.117 ISDN Attendant Make-Busy Key

ISDN Attendant Make-Busy Key allows an attendant to make a line busy.

Originating/Terminating: An attendant can activate a Make-Busy Key while on an Enhanced Two-Level Activation session.

5.3.118 ISDN Attendant Night Service

The ISDN Attendant Night Service feature routes calls directed to the ISDN attendant to a different station.

Originating: An attendant can activate Night Service while on a COT activation session.

Terminating: See "Call Forwarding Variable", Section 5.3.38 .

5.3.119 ISDN Attendant Position Busy

The ISDN Attendant Position Busy feature allows the position to be made busy by the attendant. When the attendant position is made busy in a single position arrangement, new calls to the position receive busy treatment. In a multiple position arrangement, new calls are directed to a different console position.

Originating: An attendant can activate Position Busy while on a COT activation session.

Terminating: If the position is considered busy, no alerting is performed and the incoming line history block is not updated.

5.3.120 ISDN Attendant Selective Customer Control of Facilities

The ISDN Attendant Selective Customer Control of Facilities (ASCCOF) feature allows an attendant to deny access to a trunk or Simulated Facility Group.

Originating: An attendant can press the SCCOF feature button during a COT activation session. When this feature is used to deny origination to physical or simulated private facilities, this feature disallows access to a Two-Level Activation session using these facilities.

Terminating: No interaction.

5.3.121 ISDN Attendant Through Dialing

The ISDN Attendant Through Dialing feature allows an attendant to access an outgoing facility for a calling party within the group who has restrictions or difficulty in placing an outgoing call.

Originating/Terminating: No interaction.

5.3.122 ISDN Attendant Timed Reminder

The ISDN Attendant Timed Reminder provides a timer that is started when a call is camped on, when the called party has not answered after a transfer, or when a call is on hold. When the timer expires, the attendant is alerted and can pick up the call to talk to the calling party.

Originating: No interaction.

Terminating: If an ISDN attendant does a transfer with Timed Reminder, the incoming line history block of the terminal associated with the called DN is updated with the attendant's DN.

5.3.123 ISDN Attendant Traffic

The ISDN Attendant Traffic feature provides the traffic counts for each attendant console position.

Originating/Terminating: No interaction.

5.3.124 ISDN Attendant Trunk Identification

The ISDN Attendant Trunk Identification feature provides a display of the trunk group and member number of the incoming or outgoing trunk in use at the request of the attendant, or automatically on incoming trunk calls.

Originating: If the ISDN attendant invokes this feature during a COT activation session, the switch sends the display messages for Attendant Trunk Group Identification and not for COT. The COT session proceeds with announcements only. However, if the ISDN attendant invokes COT while the Attendant Trunk Identification display is active, the 5ESS®-2000 switch does not send the COT display messages. The attendant can hear the COT announcements and be able to proceed with the COT activation.

Terminating: No interaction.

5.3.125 ISDN Automatic Customer Station Rearrangement

The ISDN Automatic Customer Station Rearrangement (ACSR) feature allows users to rearrange their DNs automatically when an ISDN station set is moved.

Originating/Terminating: See "Customer Station Rearrangement", Section 5.3.65. These features are similar; however, ACSR is done by the end-user while Customer Station Rearrangement is done by the service provider or the switch administrator.

5.3.126 ISDN Automatic-Hold/Drop Preference

The ISDN Automatic-Hold/Drop Preference feature automatically determines how to handle a call active on one call appearance when the user shifts to another appearance. Two types of treatment are provided: Automatic-Drop and Automatic-Hold.

Originating: A user attempting to activate COT may choose another call appearance at the terminal. If the user has Automatic-Drop preference, the COT activation is dropped when a new call appearance is chosen. If a user has responded to the prompt with a "1", the trace is made. Otherwise, the connection to the announcement frame is terminated and the two-level attempt is not processed.

Terminating: No interaction.

5.3.127 ISDN Basic Message Service

The ISDN Basic Message Service (BMS) feature provides basic personalized message service for customer groups.

Originating: When a message service system attendant with display capability and an available call appearance is performing a COT activation, incoming call identification information is sent by the switch when a call is offered. This information may overwrite the COT display, depending on the attendant CPE.

Terminating: No interaction.

5.3.128 ISDN Bridging

The ISDN Bridging feature allows the multibutton key system (MBKS) set user to bridge onto a currently active call by pressing the active call appearance button on the MBKS set and going off-hook. This establishes a three-way call. This is different from standard Three-Way Calling because the third party initiates the bridge to the active call. Bridging is inhibited if Manual Exclusion is activated at an MBKS set engaged in the active call.

Originating: Bridging onto a One-Level COT Activation is allowed. Bridging onto a Two-Level COT Activation is not allowed.

Terminating: No interaction.

5.3.129 ISDN Customer Station Rearrangement via **MACSTAR®** I and II Software

The ISDN Customer Station Rearrangement via **MACSTAR®** I and II software feature expands the manual Customer Station Rearrangement (CSR) capabilities to include customer control over the ISDN feature.

Originating/Terminating: See "Customer Station Rearrangement via Remote Memory Access System", Section 5.3.65 .

5.3.130 ISDN Delayed and Abbreviated Ringing

The ISDN Delayed and Abbreviated Ringing (DAR) feature alerts an MBKS set for a predetermined interval before ringing another designated MBKS set.

Originating/Terminating: No interaction.

5.3.131 ISDN Drop

The ISDN Drop feature allows the MBKS set user to drop the last party added to a conference call. For a 2-party call, pressing this button disconnects the MBKS set from the call.

Originating/Terminating: If an ISDN user invokes drop during an Enhanced Two-Level Activation session, the two-level call is dropped.

5.3.132 ISDN Electronic Directory Service Calling Name Display

The ISDN Electronic Directory Service Calling Name Display (CND) feature gives the calling party's name and telephone number to the called party.

Originating: If a user is in a COT activation and has Calling Name Display, the **5ESS®**-2000 switch sends the calling name display information. This information may or may not be displayed depending on the CPE. The CND information is sent in the Normal display mode, while the COT display information is sent in the Miscellaneous mode.

There is no interaction between CND and the number which is displayed during confirmation. The user sees either the LICDN or an indication that the LICDN is private.

Terminating: No interaction.

5.3.133 ISDN Electronic Directory Service Directory Query Display/Autocall

The ISDN Electronic Directory Service Directory Query Display (DQD) allows the user to query the electronic

directory data base for a name using the ISDN station set. The user can generate an Automatic Call Setup (Autocall) by pressing the appropriate button.

Originating: If a user has Directory Query and Display and a COT Two-Level Activation session active, simultaneously, and attempts Autocall, the request is denied. The user receives standard denial (for example, broken flutter) and neither directory query display nor the COT session is affected.

Terminating: No interaction.

5.3.134 ISDN Electronic Directory Service Query Service (Also Known as Application Processor Query Service)

The ISDN Electronic Directory Service Query Service allows a user to query the applications processor (AP) directory using a video display terminal for call and personnel information on a per-customer group basis.

Originating/Terminating: If a user is in a DQD session and initiates a Two-Level COT Activation session, the request is accepted as usual. The display information normally associated with the Two-Level session is not provided while a user is in a DQD session.

5.3.135 ISDN Hold

The ISDN Hold feature allows the MBKS set user to place a call on hold by pressing the function button. Any MBKS set with a call appearance for call on hold can pick up the call by pressing the call appearance button.

Originating: If a user invokes Hold during a COT activation session, the request is rejected.

Terminating: No interaction.

5.3.136 ISDN ICLID Calling Number Delivery

This feature provides calling party data on calls originated from both analog and digital lines on the same 5ESS®-2000 switch for ISDN subscribers and attendants.

Originating: When an ISDN user with display capability and an available call appearance is performing a COT activation, ICLID information is sent when a call is offered. This information may overwrite the COT display depending on the CPE.

Terminating: No interaction. (An ISDN user does not have to subscribe to ICLID CND to get a COT display.)

5.3.137 ISDN Initiated Priority Calling

The ISDN Initiated Priority Calling (IPC) feature provides the ISDN equivalent of Dial Call Waiting.

Originating: If an ISDN user presses a priority calling feature button during an enhanced Two-Level Activation session, it is rejected.

Terminating: ISDN-Initiated Priority Calling is disabled for calls to analog users during a Two-Level Activation.

5.3.138 ISDN Manual Exclusion

The ISDN Manual Exclusion feature allows an MBKS set user to inhibit other stations from picking up a call on hold or bridging onto a call that is active at that station.

Originating/Terminating: No interaction.

5.3.139 ISDN Message Service Automatic Call Setup (Also Known as Autocall)

The ISDN Message Service Automatic Call Setup feature allows ISDN clients with the Message Retrieval Display or Direct Access to Message Data Base feature to automatically set up a call to the directory number being displayed during the retrieval session.

Originating: If a user has an MRD session and an Enhanced Two-Level COT session active, simultaneously, and attempts automatic call setup, the request is denied. The user receives standard denial and neither Message Retrieval display nor the two-level session is affected.

Terminating: The ILHB is updated with the DN of the MLHG of the Message Services. Therefore, if a user attempts to use COT to trace the DN of the originator, they will actually be tracing the message service DN.

5.3.140 ISDN Message Service Message Retrieval Display

The ISDN Message Service Message Retrieval Display (MRD) allows ISDN station users to directly retrieve their Message Service Center or Leave Word Calling messages.

Originating/Terminating: If a user is in an MRD session and initiates a Two-Level COT Activation, the request is accepted. The display information normally associated with the Two-Level Activation is not provided while a user is in an MRD session.

If the Time and Date Display feature is deactivated during a two-level session, the switch sends two-level display messages, when appropriate. However, no two-level messages are sent immediately for "refresh" purposes.

5.3.141 ISDN Multiple Call Appearances

The ISDN Multiple Call Appearances feature allows an MBKS set to have more than one DN button assigned to the same DN. Incoming calls for this DN are handled in much the same way as Series Completion. A hunt is made for an idle call appearance of the called DN when a call is made to a DN that has multiple call appearances on an MBKS set.

Originating: No interaction.

Terminating: The incoming line history block associated with an ISDN terminal is updated whenever that terminal is alerted on a call appearance for an incoming call regardless of whether the call appearance is on the primary DN.

It is possible for a user to be in an Enhanced Two-Level COT Activation session and receive another call; thus, the ILHB is overwritten. The Enhanced Two-Level Activation feature saves the corresponding information in the ILHB before the user interaction is initiated; therefore, the user will trace the original DN.

Terminating: The ILHB is updated no matter what DN is used to call the line.

5.3.142 ISDN Number of Calls on Queue (Attendant)

Number of Calls on Queue can display each ISDN Incoming Call Identification (ICI) type. By repeating the request, the attendant can display all ICI queues.

Originating: If the ISDN attendant invokes this feature during a COT Two-Level Activation session, the 5ESS®-2000 switch sends the display messages for Number of Calls on Queue and not for Two-Level COT. The COT activation session proceeds with announcements only.

If an ISDN attendant invokes the Two-Level COT Activation feature while the Number of Calls on Queue Display is active, the switch does not send the two-level display message. However, the attendant can hear the two-level announcements and can proceed with the COT feature activation.

Terminating: No interaction.

5.3.143 ISDN Number of Calls on Queue (Multiline Hunt Group)

Originating/Terminating: No interaction.

5.3.144 ISDN Originating Priority Calling

The ISDN Originating Priority Calling (OPC) feature provides the ISDN equivalent of Call Waiting Originating.

Originating/Terminating: See "Call Waiting Originating", Section 5.3.49 .

5.3.145 ISDN Outgoing Called Line Identification

The ISDN Outgoing Called Line Identification (OCLID) feature provides a user originating a call with information about the called party and the facility or destination. Facility and call destination information is provided via the ISDN ICI call types.

Originating: No interaction.

Terminating: Calling ISDN terminals are not required to have access to the OCLID feature to receive the COT display. However, the ISDN terminal must have the display capability.

5.3.146 ISDN Priority Calling - Incoming Only

The ISDN Priority Calling - Incoming Only (PCIO) feature is the ISDN equivalent of the Call Waiting Incoming Only feature. With this feature, calls outside the business group can terminate to an idle call appearance reserved for incoming calls (calls from outside the terminal group) when all unreserved call appearances are active.

Originating: No interaction.

Terminating: The incoming line history block of the called terminal is updated when the calling DN from outside of the group using Priority Calling - Incoming Only alerts the called DN's terminal.

5.3.147 ISDN Shared Call Appearances of a Directory Number

The ISDN Shared Call Appearances of a Directory Number feature allows several MBKS station sets to share one or more DNs.

Originating: When a user is performing a Two-Level COT Activation, bridging is not allowed for Multibutton Key System (MBKS) users who share the same call appearance. Attempts to bridge on to the call are denied. The blocked call appearance is rejected; the user attempting to bridge onto the call hears silence. An analog user attempting to bridge on to the call hears busy.

Terminating: The ILHB associated with an ISDN terminal is updated whenever that terminal is alerted on a call appearance for an incoming call, regardless of whether the call is answered on this terminal or another terminal.

5.3.148 ISDN Single-Digit Intercom

The ISDN Intercom (ICOM) feature is a form of ISDN station-to-station calling. The ICOM user can originate a call to the ICOM group member by pressing the ICOM buttons.

Originating/Terminating: No interaction.

5.3.149 ISDN Time and Date Display

The ISDN Time and Date Display feature is a subscription feature for ISDN attendants and ISDN station set users. The 5ESS®-2000 switch provides the time and date to the ISDN station set.

Originating: If the Time and Date Display feature is active, two-level COT display messages are not provided by the 5ESS®-2000 switch. The user can continue the Two-Level Activation, but only announcements are provided the user.

User can activate the Time and Date Display feature during a Two-Level Activation session. The switch sends time and date display messages. The two-Level Activation continues, but the two-Level COT display messages are not provided.

If the Time and Date Display feature is deactivated during a two-Level session, the switch sends two-level display messages when it becomes appropriate. How the display messages for Time and Date for COT will be displayed depends on the CPE.

Terminating: No interaction.

5.3.150 ISDN Total Number of Calls Handled Display for ISDN Attendants

Total Number of Calls Handled Display for ISDN Attendants provides supervisors with traffic data information about each attendant in the ISDN attendant group.

Originating/Terminating: ISDN ICOM calls update the ILHB of the called terminal.

5.3.151 Line Time Slot Bridging

Line Time Slot Bridging (LTSB) provides an off-premises extension to a single directory number and bridging of two separate DNs in two separate locations with barge-in capabilities for customers served by the same 5ESS®-2000 switch. The Line Time Slot Bridging feature is only available via a service order.

Originating: The COT feature is only allowed to one-DN LTSB line bridging. However, if one party activates Two-Level COT, the other party cannot bridge-in the activation session. The COT feature is not allowed from 2-DN LTSB lines.

Terminating: No interaction.

The Internally Bridged Dual Service Package 2 (99-5E-3739) feature permits the 5ESS®-2000 switch to allow one DN LTSB lead and non-lead lines to access and use a subscription COT feature assigned to the line in the same manner as those LTSB lines can access and use the generally available COT feature. Note that there is only one Incoming Line History Block for both the lead and non-lead lines.

Internally Bridged Dual Service Package 1 (99-5E-3338), available as a software update to the 5E11 software release and with the 5E12 and later software releases, Internally Bridged Dual Service Package 2 (99-5E-3739), available as a software update to the 5E12 software release and with 5E13 and later software releases, and Internally Bridged Dual Service Package 3 (99-5E-4184), available with the 5E13 and later software releases, are LTSB feature interaction modifications designed to enhance the current 5ESS®-2000 Switch LTSB feature by allowing more features to be assigned to and used on 1-DN LTSB lines. For more information, see 235-190-103 *Business and Residence Feature Descriptions*, Line Time Slot Bridging.

5.3.152 Loudspeaker Paging

Loudspeaker Paging allows dial access to customer-owned loudspeaker paging equipment.

Originating/Terminating: No interaction.

5.3.153 Main Satellite Service

Main Satellite Service allows a customer receiving business group service provided by two or more separate switching machines in the same geographic area to receive the same service available as if all locations were served by a single switch.

Originating/Terminating: No interaction.

5.3.154 Make-Busy Key

Make-Busy Key (MBK) allows designated lines to look busy to the central office by means of a key operation.

Originating: The make-busy key can be operated when an MLHG member is in a Two-Level COT Activation session. Normal make-busy treatment is provided.

Terminating: No interaction.

5.3.155 Message Detail Recording on Customer Premises

Message Detail Recording (MDR) on Customer Premises provides call detail information on public telephone network and private facility calls via a tape unit located on the customer premises.

Originating/Terminating: No interaction.

5.3.156 Message Service Automatic Call (History) Display

Message Service Automatic Call (History) Display uses the 5ESS[®]-2000 switch call history information with the AP data base to display call information, client status information, and messages to the message service attendant when the message service client calls from his/her station set to receive messages.

Originating/Terminating: No interaction.

5.3.157 Message Service Automatic Control of Message Waiting Indicator

Message Service Automatic Control of Message Waiting Indicator automatically activates the Message Waiting Indicator at the client's station set when a message is recorded in the message data base.

Originating: The Message Waiting Indicator can be activated for a user during a COT activation.

Terminating: No interaction.

5.3.158 Message Service Direct Access to Message Data Base

Message Service Direct Access to Message Data Base allows clients to update their status information, leave messages for one or more clients, and retrieve messages without assistance from the message service attendant.

Originating/Terminating: No interaction.

5.3.159 Message Service Leave Word Calling

Message Service Leave Word Calling (LWC) allows a client to leave a *canned* message for another client of the message service without assistance from a message service attendant.

Originating: If the LWC feature button is depressed during a COT activation, it is rejected.

Terminating: No interaction.

5.3.160 Message Service Message Data Base

Message Service Message Data Base stores customer organizational data, client status data, and standard *canned* messages. A message data base is available to the Message Service attendant on the applications processor.

Originating/Terminating: No interaction.

5.3.161 Message Service Print Message On Demand

Message Service Print Message On Demand provides a printout of messages at a predetermined printer upon request from the Message Service client.

Originating/Terminating: No interaction.

5.3.162 Multifrequency Pulsing

Multifrequency Pulsing provides the capability to transmit alternate current address signals between offices. Each address digit is transmitted as a pulsed pair of frequencies.

Originating/Terminating: No interaction.

5.3.163 Multiline Hunt Service Circular Hunting

Multiline Hunt Service Circular Hunting allows all lines in a multiline hunt group to be tested for busy, regardless of the point of entry into the group.

Originating: COT activation attempts for calls from multiline hunt group members are allowed.

Terminating: Refer to "Unique/Nonunique Directory Numbers", Section 5.6.3, for rules concerning ILHB updates on calls from MLHG members.

5.3.164 Multiline Hunt Service ISDN Attendant

Multiline Hunt Service for ISDN Attendant (ISAT) is a type of multiline hunting arrangement for ISDN attendant positions.

Originating: COT activation attempts for calls from multiline group members are allowed.

Terminating: Refer to "Unique/Nonunique Directory Numbers", Section 5.6.3, for rules concerning ILHB updates on calls from MLHG members.

5.3.165 Multiline Hunt Service Multiple Position Hunt

Multiline Hunt Service Multiple Position Hunt provides the ability to distribute calls over a group of console positions, each of which can handle several types of incoming calls received on dedicated terminals.

Originating: COT activation attempts for calls from multiline group members are allowed.

Terminating: No interaction.

5.3.166 Multiline Hunt Service Precedence Regular Hunt

Multiline Hunt Service Precedence Regular Hunt starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating: COT activation attempts for calls from multiline group members are allowed.

Terminating: Refer to "Unique/Nonunique Directory Numbers", Section 5.6.3, for rules concerning ILHB updates on calls from MLHG members.

5.3.167 Multiline Hunt Service Regular Hunting

Multiline Hunt Service Regular Hunting starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating: COT activation attempts for calls from multiline group members are allowed.

Terminating: Refer to "Unique/Nonunique Directory Numbers", Section 5.6.3, for rules concerning ILHB updates on calls from MLHG members.

5.3.168 Multiline Hunt Service Uniform Call Distribution Hunt

Multiline Hunt Service Uniform Call Distribution Hunt provides an even distribution of incoming calls among the available members of a hunt group.

Originating: COT activation attempts for calls from multiline group members are allowed.

Terminating: Refer to "Unique/Nonunique Directory Numbers", Section 5.6.3, for rules concerning ILHB updates on calls from MLHG members.

5.3.169 Multiline Variety Package Service

Multiline Variety Package Service provides a packaged group of services for customers with a small group of lines that are not defined as a Business Group Line.

Originating/Terminating: No interaction.

5.3.170 Multiple DNs per Line with Distinctive Ringing (Multiple DNs per Line)

Multiple DNs per Line (MDNL) with Distinctive Ringing provides multiple DNs per single port [Line Equipment Number (LEN)]. An originating call from any of the DNs is always associated with the *Master DN*, pointed to by the LEN translator; therefore, any call placed from a DN associated with the LEN passes the *Master DN* as the calling party number.

Originating: No interaction.

Terminating: Originations are only considered to come from one master DN. Thus, a call from a multiple DN user contains the master DN, not a dependent DN in the ILHB.

5.3.171 National ISDN Calling Number Identification Services Intra-Group Only Delivery Optioning

The Calling Number Identification Services (CNIS) Intra-Group Only Delivery Optioning (CNIGI) feature allows restriction of the Calling Party Number (CPN) delivery, Redirecting Number (RN) delivery, and Calling Party Subaddress (CgPS) delivery features from members of a terminal group. It also restricts the provisioning of ICLID, CNAM, and EDS displays to intra-group calls. CNIGI does not effect delivery of information to residential parties. Whether the CNIGI restriction applies depends on the settings of the CNIGI option for the office, business group, and individual line/PRI trunk. The CNIGI restriction applies to all members of the terminal group, including National ISDN BRI/PRI, Custom BRI/PRI, and analog lines.

Originating/Terminating: No interaction.

5.3.172 National ISDN Electronic Key Telephone System

The National ISDN Electronic Key Telephone Service feature allows a user served by an National Intergrated Services Digital Network (ISDN) terminal to have access to multiple directory number (DNs). Additionally, a DN can be accessed by more than one user (that is, a Shared DN). Directory numbers (DNs) may be shared on the same basic rate interface (BRI) and or on different ISDN BRIs.

See "ISDN Shared Call Appearances of a Directory Number", Section 5.3.147 .

5.3.173 National ISDN Hold

National ISDN Hold allows a National ISDN station user to hold a call in progress by flashing and then dialing the Call Hold code or operating a function key if one is available.

Originating: An ISDN COT 2-level activation session can not be put on hold. If a user on Custom BRI tries to put a 2-level activation on hold, he/she receives a visual indication of rejection. When a National ISDN COT user tries to put a 2-level activation session on hold the user will not see any indication of rejection.

Terminating: No interaction.

5.3.174 National ISDN Three-Way Calling

National ISDN Three-Way Calling allows a customer to add a third party to an existing conversation.

See "Three-Way Calling", Section 5.3.211 .

5.3.175 National ISDN Interswitch Calling Number Identification Services

See "Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment", Section 5.3.51 , and "User-Side Primary Rate Interface Implementation", Section 5.3.224 .

5.3.176 Night Service

Night Service forwards calls normally directed to the attendant to preselected station lines in the customer group when regular consoles are not attended.

Originating/Terminating: No interaction.

5.3.177 Non-Data-Link Attendant Console

Non-Data-Link Attendant Console is a small desk-top position from which the attendant handles calls.

Originating/Terminating: No interaction.

5.3.178 On-Hook/Off-Hook Queuing for Outgoing Trunks (Also Known as Queuing for Outgoing Trunks)

Queuing for Outgoing Trunks allows on-hook or off-hook queuing for a busy outgoing trunk. With on-hook queuing, the station is notified with a distinctive ring when a trunk is available. With off-hook queuing, the user remains off-hook, and the call is completed when the trunk is available.

Originating/Terminating: No interaction.

5.3.179 Outgoing Call Tracing

Outgoing Call Tracing is used when nuisance calls are found to be coming from one particular line. The terminating DN is put on the trace list and all originating calls from that office are checked against the list. When a call is made to the number on the list, the originating DN is identified.

Originating/Terminating: No interaction.

5.3.180 Outward Calling for PBX Via Automatic Route Selection

Outward Calling for PBX Via Automatic Route Selection (ARS) allows a PBX to take advantage of Business Group features relating to outgoing private facilities by terminating them at the serving switch via special access lines.

Originating/Terminating: No interaction.

5.3.181 Outward Wide Area Telecommunications Service (OUTWATS)

Outward Wide Area Telecommunications Service (OUTWATS) allows customers to make calls to certain zone(s) or band(s) on a direct dialing basis for a flat monthly charge or a charge based on accumulated usage.

Originating/Terminating: No interaction.

5.3.182 OUTWATS with Simulated Facilities Group

The OUTWATS with Simulated Facilities Group feature can restrict the number of simultaneous OUTWATS calls by software rather than by the physical size of a dedicated trunk group.

Originating/Terminating: No interaction.

5.3.183 Power Failure Transfer Attendant

The Power Failure Transfer Attendant routes calls destined for the attendant to a preassigned DN during a commercial power failure at the customer premises.

Originating/Terminating: No interaction.

5.3.184 Precedence and Preemption Features

Precedence and Preemption (PP) is a part of the DSN/AUTOVON network for operating routine and precedence calls used primarily by the military.

Originating/Terminating: A COT Two-Level Activation session is considered to have routine precedence and can be preempted by calls with higher precedence. When a call is preempted, the activation attempt is canceled and the caller is given precedence alerting.

If an ISDN user presses a PP feature button during COT activation, it is rejected.

Terminating: No interaction.

5.3.185 Priority Queuing

Priority Queuing is used to assign a queue priority level that establishes precedence for facilities when immediate access is not obtainable.

Originating/Terminating: No interaction.

5.3.186 Private Branch Exchanges and Trunks

Private Branch Exchanges (PBXs) are customer switching systems that can be at a central office (CO) or located on the customer premises.

In this interaction section, the differences between a 5ESS®-2000 switch PBX located on the customer premises and CO requirements are identified. Except for these differences, all information in the other sections of this document apply both to the CO and to the PBX.

Originating/Terminating: When the user who activates COT is served by a PBX, the activation can be considered intraswitch or interswitch. In intraswitch COT, the call that is traced originates at the same PBX that serves the user who activates COT. In interswitch COT, the call that is traced originates at a switch different from the PBX that serves the user who activates COT.

When used as a PBX, the 5ESS®-2000 switch only knows the calling party's DN if it is passed to it by the switch interconnecting with the 5ESS®-2000 switch PBX. A subscription feature on a PRI trunk group provides the means of obtaining the calling party number when it connects to the other office. With the User Side PRI feature, a 5ESS®-2000 switch PBX can have a PRI interface to a central office or to a toll office.

In private network applications, the 5ESS®-2000 switch PBX can have PRIs to other PBXs that support user side procedures. For those cases, the calling party DN can be passed between PBXs via the PRI, and the COT feature is provided the calling DN.

The PBX may also receive calling party information on incoming calls over PRIs. For calls from a public switch, the PBX can specify (on a trunk group basis) which number CPN or BN is preferred, or that only the CPN or BN is to be delivered.

5.3.186.1 Port-to-Port Connections for Customer-Originated Trace

The 5ESS®-2000 switch PBX supports Customer-Originated Trace (COT) with User side procedures (User Side PRI); thus, PRI connections between a 5ESS®-2000 switch PBX and other 5ESS®-2000 switches (used as a PBX or central office) and PRI connections to an interconnect switch are supported.

5.3.186.2 Intersystem Signaling — Primary Rate Interface

Call processing on PRI trunks is done using the Q.931 protocol.

5.3.186.3 Data Link

When COT is activated from a station served by the 5ESS®-2000 switch PBX, the PBX puts out the trace message on an RS-232C data interface. If the authorized agency receiving this message is at a different location, the optional dedicated data link with modems can be used (same as for the 5ESS®-2000 switch CO). No SS7 or Q.931 signaling is used in connection with sending or receiving the trace message.

5.3.186.4 Calling Party Number Sent by the 5ESS®-2000 Switch PBX

The COT feature requires the 5ESS®-2000 switch PBX to send the Calling Party Number (CPN) on every outgoing call if the CPN is available. In a private network, each station typically has a commercial DDD number and, also, one or more numbers used in private dialing plans. When a station served by the 5ESS®-2000 switch PBX originates an interswitch call, the CPN sent out over a PRI is a 10-digit DDD number.

5.3.186.5 Availability of CPN in the 5ESS®-2000 Switch PBX

The COT feature requires that the calling line DN be delivered to the terminating 5ESS®-2000 switch PBX and stored in the user's line history block. A 5ESS®-2000 switch PBX receives calls from a variety of networks and

switches. For calls arriving at the PBX over PRI from a *non-5ESS*[®]-2000 switch PBX (such as System 85/75), the CPN is received (if available at the far-end switch).

5.3.186.6 Choice of Authorized Agency in Private Networks

The authorized agency receiving trace reports from the *5ESS*[®]-2000 switch PBX may differ from the agency used by a Bell Operating Company (BOC) switch. For example, the police department might accept trace messages from a BOC switch, but not from a private-network switch. An alternative is to send trace messages from the *5ESS*[®]-2000 switch PBX to the security department of the private network owner. The security department could then make appropriate requests to the service provider or police department based on the trace information.

5.3.187 Radio Paging Access

Radio Paging Access allows attendants and station users to access radio paging equipment and page individuals carrying pocket radio receivers.

Originating/Terminating: No interaction.

5.3.188 Recall From Subscriber

Recall From Subscriber allows the customer to recall an Operator Services Position System (OSPS) operator for certain classes of operator-assisted calls by flashing the switchhook. The operator recalled is not necessarily the operator who originally assisted on the call.

Originating/Terminating: No interaction.

5.3.189 Recorded Telephone Dictation

Recorded Telephone Dictation (RTD) permits access to, and control of, customer-owned dictating equipment from a station in the customer group. The station must be equipped for Dual Tone Multifrequency signaling.

Originating/Terminating: No interaction.

5.3.190 Remote Activation of Call Forwarding (Remote Access to Call Forwarding)

Remote Activation of Call Forwarding (RACF) provides the ability to remotely activate/deactivate Call Forwarding by using dialed codes.

Originating/Terminating: No interaction.

5.3.191 Remote Call Forwarding

Remote Call Forwarding allows all calls to a specified DN to forward-to a remote 7- or 10-digit telephone number.

Originating/Terminating: No interaction.

5.3.192 Revertive Pulsing

Revertive Pulsing is the method of interoffice signaling originating with the panel systems and continuing with the No. 1 Crossbar.

Originating/Terminating: No interaction.

5.3.193 Ringback Queuing

Ringback Queuing allows a station user encountering a busy network facility to queue for an idle facility by dialing a function code and going on-hook in a preselected time following the queuing confirmation code. The caller is rung back when the appropriate facility becomes idle.

Originating/Terminating: No interaction.

5.3.194 Satellite Attendant Transfer

Satellite Attendant Transfer provides the same service as the Call Transfer Attendant feature to a satellite location having no attendant.

Originating/Terminating: No interaction.

5.3.195 Screen List Editing

Screen List Editing (SLE) is a capability used in conjunction with all LASS Selective feature lists.

Originating/Terminating: No interaction.

5.3.196 Selective Call Acceptance

Selective Call Acceptance (SCA) allows residential and business users to restrict which incoming voice calls are allowed to terminate.

Originating/Terminating: No interaction.

5.3.197 Selective Call Forwarding

Selective Call Forwarding (SCF) allows a customer to preselect which calls are forwarded, based on the telephone number of the calling party.

Originating/Terminating: No interaction.

5.3.198 Selective Call Rejection

Selective Call Rejection (SCR) allows a customer to reject calls from telephone numbers which are on the customer's SCR list.

Originating/Terminating: No interaction.

5.3.199 Selective Carrier Denial

Selective Carrier Denial (SCD) allows the local office to selectively inhibit certain calls normally handled by a carrier from lines designated as nonpaying subscribers by the particular inter-LATA carrier that handles the call.

Originating/Terminating: No interaction.

5.3.200 Selective Control of Facilities

Selective Control of Facilities (SCOF) allows the customer to busy-out private facilities via key control and, thereby, deny all originating access.

Originating: A COT user can activate Selective Control of Facilities during a COT activation.

Terminating: No interaction.

5.3.201 Selective Distinctive Alert (Distinctive Alert)

Selective Distinctive Alert (SDA) allows a customer to preselect which calls have distinctive alerting treatment based on the telephone numbers of the calling parties.

Originating/Terminating: No interaction.

5.3.202 Semirestricted Station Originating and Terminating

Semirestricted Originating and Terminating provides the ability to restrict a Business Group Line from originating and/or receiving any calls from outside the group. Outside the group means "dial 9" and DID. Intragroup calls, attendant calls, and calls over private facilities are permitted. Semirestricted calls are routed to the special group intercept announcement.

Originating/Terminating: No interaction.

5.3.203 Series Completion

Series Completion is a type of hunting in which DNs are grouped into a prearranged ordered list.

Originating/Terminating: No interaction.

5.3.204 Simulated Facilities Groups for In and Out Calls

The Simulated Facilities Groups for In and Out Calls feature provides the capability to restrict the number of simultaneous DID calls terminating to the group and the number of simultaneous calls originating by the group to Direct Distance Dialing (DDD).

Originating/Terminating: No interaction.

5.3.205 Single-Digit Dialing

Single-Digit Dialing permits station users to reach any station of a preselected group or other internal facility by dialing single digit codes.

Originating/Terminating: No interaction.

5.3.206 Smart Set Interface

Smart Set Interface allows customers to use *smart* station sets. Flash requests and feature function codes are associated with unique keys on the station set.

Originating/Terminating: No interaction.

5.3.207 Special Intercept Announcement

Special Intercept Announcement allows a unique intercept announcement to be provided to each business group.

Originating/Terminating: No interaction.

5.3.208 Speed Calling (Also Known as Abbreviated Dialing)

Speed Calling permits the customer to dial selected numbers using fewer digits than normally required.

Originating: A user can invoke COT by Speed Calling if the COT access code is defined in the Speed Calling list.

Terminating: No interaction.

5.3.209 Tandem Call Trace

Tandem Call Trace is used when nuisance calls are found to be incoming from a tandem office. The traced DN is marked for tracing at that office to identify the tandem trunk.

Originating/Terminating: No interaction.

5.3.210 Tandem Tie Trunk Dialing

Tandem Tie Trunk is another name for Nonsenderized Tie Trunks (NTT). It uses a switching method whereby the station user directly controls, in stages, the routing of an outgoing tie trunk call through the originating switch as well as any intermediate switches.

Originating/Terminating: No interaction.

5.3.211 Three-Way Calling

Three-Way Calling (TWC) allows a customer to add a third party to an existing conversation.

Originating: Since flashes result in termination of a Two-Level Activation session, analog users are not able to use Three-Way Calling during a Two-Level session. For ISDN users, conference or transfer feature button depressions are rejected while users are invoking COT. This also applies to adding additional parties to the conference.

Limited Two-Way Activation of COT is allowed on a line that has Three-Way Calling. The first leg of a three-way call can be a Limited Two-Level Activation.

A user can flash and put an existing call on hold and then activate an Enhanced Two-Level Activation session.

Terminating: No interaction.

5.3.212 Tie Trunk Access

Tie Trunk Access connects two or more business customer locations. The tie trunks can terminate in an attendant console for direct access or have dial access.

Originating/Terminating: No interaction.

5.3.213 Time-of-Day

Time-of-Day (TOD) allows a customer to preschedule recent change, thereby controlling activation and deactivation of certain modular features and changes to feature parameters via dialed codes and key control.

Originating/Terminating: COT cannot be controlled by TOD.

5.3.214 Toll Diversion to Attendant

Toll Diversion to Attendant (TDA) intercepts toll or code calls from restricted Business Group Lines and routes them to the attendant (or other designated line).

Originating/Terminating: No interaction.

5.3.215 Tracing of Terminating Calls

Tracing of Terminating Calls allows the identification of calling lines while the call is in progress. When incoming calls are to be traced, the terminating DN is placed on the call tracing list where it remains until manually removed.

Originating/Terminating: No interaction.

5.3.216 Traveling Class Mark

Traveling Class Mark (TCM) carries class-of-service information along with the called number through a private network. The TCM provides unique downstream routing and screening information.

Originating/Terminating: No interaction.

5.3.217 Trunk Answer From Any Station

Trunk Answer From Any Station (TAS) activates a common alerting signal on the customer premises when the attendant positions are in Night Service for calls normally directed to the attendant. These calls can then be answered from any nonrestricted station in the business group by dialing a special answer code.

Originating/Terminating: No interaction.

5.3.218 Trunk Dial Transfer

Trunk Dial Transfer provides the Call Transfer Individual feature to tie trunks.

Originating/Terminating: See "Call Transfer Individual - All Calls", Section 5.3.44 .

5.3.219 Trunk Group Busy Lamps

The Trunk Group Busy Lamps feature provides a visual indication on a private facility trunk group basis when the facility group is in use.

Originating/Terminating: No interaction.

5.3.220 Two-Party Automatic Number Identification/Operator Number Identification Capability

The Two-Party Automatic Number Identification/Operator Number Identification (ANI/ONI) Capability allows operating companies the choice of giving two-party lines Automatic Number Identification (ANI) treatment or Operator Number Identification (ONI) treatment.

Originating/Terminating: The COT feature cannot be assigned to a two-party line.

5.3.221 Two-Party Line

Two-Party Line provides basic POTS to two customers sharing the same line.

Originating/Terminating: The COT feature cannot be assigned to a two-party line.

5.3.222 Uniform Numbering

Uniform Numbering provides a customer-specified 7-digit numbering plan that identifies all business group stations interconnected by the facility network. Each customer switch connected by the Electronic Tandem Network (ETN) is identified by a 3-digit code.

Originating/Terminating: The number sent in trace is the office DN not the Uniform Numbering Plan number.

5.3.223 Unrestricted Originating and Terminating

This is basically the absence of originating and/or terminating restriction in a terminal group.

Originating/Terminating: No interaction.

5.3.224 User-Side Primary Rate Interface Implementation

This feature allows PRI support in public (private trunks providing access to public facilities) and private networks.

Originating/Terminating: Any time the calling party number is sent over the PRI, a user can initiate a trace to that number. Refer to "Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment", Section 5.3.51.

5.4 ENGINEERING

5.4.1 Special Planning Considerations

The SS7 data to support LASS exists not only in the administrative module office dependent data (ODD), but also in the common network interface (CNI) data base. The CNI data base is separate from the ODD and is not currently populated by the Office Data Administration (ODA) process. The data base must be populated through recent change views after the CNI has been initialized. See 235-190-120, *Common Channel Signaling Service Features*, for more information on general CNI procedures.

In a 5ESS®-2000 switch, SS7 ISDN User Part (ISUP) trunk signaling is a prerequisite for the operation of LASS as an interswitch service. The data population needed for ISUP is not discussed in this document. It is presented in 235-190-120, *Common Channel Signaling Service Features*.

The COT feature does not need any additional SS7 data. It works interoffice as long as SS7 ISUP is used for all trunk signaling in the network.

5.4.2 Hardware

5.4.2.1 General

The COT feature uses 13A, 14A, 15A, or 16A announcement facilities to provide the necessary announcements for successful and unsuccessful activation. The route indexes for these announcements are defined on the LASS Office Parameter View (View 8.21). For additional information, refer to "LASS Office Parameters View", Section 5.5.4.1.3.4.

5.4.2.2 DSU2-RAF

The existing announcement system, Digital Service Unit 2-Recorded Announcement Function (DSU2-RAF), is used to provide announcements for the Two-Level COT Activation feature. The DSU2-RAF includes a TN833 digital services circuit control board, a TN1053 announcement storage circuit, and an optional TN1054 expansion announcement storage circuit.

5.4.2.3 Growth of Customer-Originated Trace Data Link

The Customer-Originated Trace (COT) feature originally required a data channel (TTY45) for outputting the trace messages to the authorized agency. The COT Data Link feature allows service providers to provide the COT feature without requiring a dedicated data link to print the trace messages. The advent of this feature allows the modes of operation for COT to be dedicated or nondedicated. In the dedicated mode of operation, COT messages are sent to TTY45. In the nondedicated mode of operation, COT messages are sent to what is specified on the classdef form

(160). The SET:COT input message is used to set the mode of operation.

If the mode of operation is dedicated, the dedicated channel used is TTY45. The COT dedicated data link (TTY45) needs to be grown before COT becomes available in the office. The COT data link growth/degrowth procedure (235-105-231, *Hardware Change Procedures - Growth*, and 235-105-331, *Hardware Change Procedures - Degrowth*) should be used to grow/degrow the COT data link.

If the mode of operation is nondedicated, set up the assignment on the Equipment Configuration Data Base View (160).

The COT *UNIX*® system process handles the interface with the data link (TTY45). Before COT is made available to the user, the COT *UNIX*® system process has to be up and running. When the COT data link has been put in place, the COT *UNIX*® system process, ASctsys, that is monitored by *UNIX*® System-Level Automatic Restart Process (ULARP), needs to be started by entering the following input message from a craftsperson's terminal:

init:ularp

Service providers have the option to send COT messages to the devices specified on the classdef form (COT Data Link feature) without requiring a dedicated channel or to specify the existing dedicated COT channel (TTY45) mode of operation. If an office has a dedicated channel and switches do not requiring a dedicated channel, any messages in the COT buffer are sent to the devices specified on the classdef form. If there are no devices specified on the classdef form, the COT messages are lost.

TTY45 can still be specified on the classdef form. This allows the channel to be controlled by the spooler. Additionally, other devices [such as the read-only printer (ROP), the SCC maintenance channel, or a log file] can be specified on the classdef form.

5.4.3 Software — Memory Requirement for the ILHB

A block of dynamic memory is needed for the Incoming Line History Blocks (ILHBs) before COT can be generally available. Refer to "Line History Block Memory", Section 2.3.3.1 .

5.5 IMPLEMENTATION

5.5.1 Customer-Originated Trace Data Link

The COT Data Link feature allows service providers to provide the COT feature without requiring a dedicated data link to print the trace messages. Input messages allow service providers to select the mode of operation for COT messages, set the priority of the COT messages, and obtain status information.

The input message **SET:COT** selects the mode of operation and the priority of COT messages. If the "mode" keyword associated with this message is set to nondedicated, the COT messages are sent to the channel(s) specified on the classdef form (not requiring a dedicated channel). If the mode keyword is set to dedicated, COT messages are sent to a dedicated (TTY45) channel and, optionally, additional channels specified on the classdef form. An additional keyword "priority" selects the appropriate priority of printing for the COT message. The priority range is 0 through 5. The priority only takes affect if the queuing algorithm for the device the messages are printed is based on priority (for example, the ROP is not queued by priority; the SEC is queued by priority). The office default is the dedicated mode of operation with a priority of 4. When the dedicated TTY channel is not used, a COT buffer is not available.

The input message **OP:COT,STATUS** allows users to request the status of the COT mode of operation, message priority, and the number of messages in the COT buffer (300 maximum).

5.5.2 COT Log File

The Customer-Originated Trace data link feature, allows service providers to provide the COT feature without

requiring a dedicated data link. service providers have the option of sending COT messages to the devices specified on the classdef form.

It is recommended that a log file be created for COT messages so that if the messages scroll off screen, a history of the trace messages will remain. Creating a log file involves adding an ECD device form to create a log file. The log file is automatically added to the classdef form when it is created. The classdef form is 160.

To create a 15,000 byte log file which can hold up to 100 COT messages, insert a record into the "device" form of the ECD. Refer to the *Low-level Data Base Forms* section of 235-600-3xx, *ECD/SG Data Base Manual*. The form that is added should be filled in as follows:

```

                                device      (1/3)

Device Definition Record          (Recent Change and Verify)

    1.logical_devname:COTLOG

    2.path:/log/log/COTLOG

    3.seqn:n      4.logfile:y      5.temp:n      6.priority:n

    7.maxq:50                                8.blksize:512

    9.linelen:0                                10.logflimit:15000

    11.time_stamp:msgon                        12.multiple_msg:y
  
```

After defining the device COTLOG, add this device (COTLOG), to the device list on the "classdef" form (160). Note that the devices on the classdef form may differ from switch to switch. If there is only one device, null, on the form, this null should be replaced with COTLOG. If other devices are already on the classdef form, then COTLOG should be added on a blank line. Refer to 235-600-3xx, *ECD/SG Data Base Manual*.

The following is an example of adding COTLOG to the classdef form 160 where null was replaced with COTLOG:

```

                                classdef    (1/1)

Class Definition Record          (Recent Change and Verify)

    1.class_name:160    2.alarm:y

    3.device_list      logical_devname      8.rep_dest:TRCERSP

        1) COTLOG      11) _____
        2) _____  12) _____
        3) _____  13) _____
        4) _____  14) _____
        5) _____  15) _____
        6) _____
  
```

The classdef form accepts any logical device name. The device can be an SCCS link, the ROP, the MCC, any TTY, or a log file. The logical device name is the same name used as a key for the ECD device form. A typical classdef form for COT might specify the messages should go to the ROP and a COT log file. The name of the COT log file can not conflict with the COT buffer (/log/COTbuffer).

If a device on the classdef form is out of service, or its message buffer has reached its limit, the message destined for that device is sent to the alternate device specified. If no alternate device is specified on the device form, then the messages are lost.

5.5.3 Office Data Administration Implementation

Refer to "LASS Forms and Views", Section 2.4, for Office Data Administration (ODA) forms used in implementing the LASS COT feature.

5.5.4 Recent Change Procedures

5.5.4.1 Assigning Customer Service

Service providers have the capability to provide COT to all customers on an office-wide (GENAVAIL) basis or a subscription basis via a service order (SUBSCR). Service providers also have the capability to assign and remove COT on individual customer lines or ISDN terminals. The service provider can mark customer lines or terminals for COT billing on a flat-rate or usage-sensitive basis.

At the time of subscription, the service provider needs to know the type of interface (ISDN or analog) the customer has. ISDN customers must determine whether a feature button will be used to access COT.

Obtain the assistance from the Lucent Technologies Secured Feature Administrator to enable the secured features associated with COT. See "Secured Feature Upgrade", Section 5.5.4.1.3.1, for information on RC View 8.22.

5.5.4.1.1 Application

The ability to allow or deny access to the COT feature is provided for all customers' analog lines and ISDN terminals within business groups. A COT indicator associated with each analog line and ISDN terminal indicates whether the analog line or ISDN terminal is restricted from accessing the COT feature. All analog and ISDN terminal lines in the office have DEFAULT_ALLOW as the default value and are initialized as such. This value allows the service provider to offer the feature as requiring, or not requiring, subscription while not forcing it to modify the default status of each analog line and ISDN terminal in the office.

An office option is provided for the service provider to offer COT without requiring a service order or on a subscription basis. The COT can be assigned as a separate feature or as a feature in a BRCS Feature Group (BFG).

5.5.4.1.2 Feature Definition

Feature Definition is the modular feature construction process used to construct features. The feature used can be defined as part of the software release (preconstructed) or defined by the service provider (customized). The Feature Definition process must be completed before any lines can be assigned to use the feature. The preconstructed features for COT are listed in Table 5-1.

Table 5-1 LASS COT BRCS Definitions

MODULAR FEATURE TYPE	PRECONSTRUCTED FEATURE NAMES	WILDCARD FEATURE SYMBOL
MFCOT	/COT1 /COTGA	/COT*

Expansions for these preconstructed features are as follows;

- /COT1 — Customer-Originated Trace Subscription (flat rate)
- /COTGA — Customer-Originated Trace Generally Available (usage sensitive)

The COT Feature Definition View (View 12.49) contains attributes that are as follows:

- Indicate the constructed feature name (FEATURE).
- Allow a remark to be associated with the feature (REMARKS).
- Indicate the activation type (ACT TYPE). Set to NONE, the activation type cannot be altered by recent change.
- Indicate the deactivation type (DEACT TYPE). Set to NONE, the deactivation type cannot be altered by recent change because the feature is always activated.
- Indicate whether billing is on a usage-sensitive basis (Y) or on a flat-rate basis (N) (AMA REC). The default is N.

The fields ACT TYPE and DEACT TYPE are not changeable. The ACT TYPE field defaults to "AUTO," and the DEACT TYPE field defaults to "NONE".

5.5.4.1.3 Feature Access

5.5.4.1.3.1 Secured Feature Upgrade

The Secured Feature Upgrade View (View 8.22) provides feature security and the Optioned Features View (View 8.3) is used to set the transparency feature optioning bit (on a per switch basis) which is used to determine if a customer has Limited Two-Level Activation of COT. The feature parameter attributes associated with this view consist of the following:

- **FEATURE ID** — This parameter is a number used to identify the feature. The feature number of Limited Two-Level Activations is 533 for COT Limited Two-Level Activations. There is no default value. This attribute is used to set the Transparency Feature Optioning System (TFOS) bit and the secured feature bit to provide activation of the secured features.
- **MODULE** — This parameter identifies the type of processor. It can be a number 1 to 192 for an SM; 193 for the AM; or OFC for the entire office. For Two-Level COT, enter "OFC." There is no default value.
- **PASSWD** — This is the secured feature access password. Obtain the password from the Lucent Technologies Secured Feature Administrator.
- **ACTIVE** — This parameter is used to determine if Two-Level Activation is active. Enter **Yes** or **No**. The default value is **N**.

5.5.4.1.3.2 Availability

An allow flag (COT_ALW) that is associated with each analog line or ISDN terminal flags whether access of COT is allowed when COT is generally available in a specific switching module (SM). The indicator defaults to "Y" except for coin, multiparty, two-party, manual, denied origination, denied termination, PBX lines, coinless public phone, and PODS classes of service. The allow flag is found on RC Views 23.2 and 1.6.

5.5.4.1.3.3 Subscription

Subscription is required to access COT, if COT is on per-subscription basis in a specific SM. Subscription is also allowed when COT is generally available in the specific SM. If a user subscribes to COT on the SM where COT is generally available, the subscription feature takes precedence over the generally available feature.

Since COT can be either universally accessible by the user or accessible via subscription, the COT access option defines the accessibility of the feature. Office access to the COT feature is controlled on a per-SM basis. The LASS Feature Access View (View 8.18) allows the feature access mode to be specified as generally available (GENAVAIL), available by subscription (SUBSCR), unavailable (UNAVAIL), or temporarily unavailable (TEMPUNAVAIL). The default value is "UNAVAIL" for COT. An update of COT access mode from unavailable to available by subscription or generally available fails if the dedicated COT data link (TTY45) has been provisioned and is not in place.

The COT Data Link feature allows service providers to provide the COT feature without requiring a dedicated data link to print the trace messages.

The COT feature access mode is allowed to be set to TEMPUNAVAIL, which temporarily turns the COT service off. For this case, the allocated LHB blocks remain. Later on, COT can be put into service again by changing the COT access mode back to the original value.

The feature access mode must be specified as GENAVAIL before it can be universally allowed in the SM. The feature access mode must be specified as available by SUBSCR or GENAVAIL before the feature can be assigned.

On the LASS Feature Access View, the field "SM" should always be keyed with "ALL" for all the SMs and the AM. The AM feature access parameter is updated only when ALL is entered for the SM field. The AM feature access parameter indicates the feature access mode of the majority of SMs in the office.

5.5.4.1.3.4 LASS Office Parameters View

The LASS Office Parameters View (View 8.21) provides the LASS feature office parameters keyed by office ID. The following office parameters must be populated correctly before the COT feature access mode can be changed from unavailable to available by subscription, or to generally available.

- **AGENCY** — This parameter is the 10-digit DN that the COT user should call to find information regarding the trace. The default is null.

The Removal of ISDN Customer-Originated Trace Agency Follow-Up Number feature eliminates the requirement that an agency follow-up number must be specified by the service provider when providing the COT feature. With this feature, the AGENCY field, which is currently mandatory is made optional. If a number has been entered in this field, the existing COT display message is provided. If not, the user receives a message stating "CONTACT AUTHORITIES FOR FOLLOW-UP." This is the default display message. This message is recent changeable using RC View 8.65. The display messages are sent in the miscellaneous mode.

- **COT GA FEAT** — This parameter contains the COT feature name for Generally Available feature access. The default is /COTGA.
- **ACTIVATE RTI** — This parameter contains a feature-activated announcement confirmation route index. The valid range of values for route indexes is 0 to 3617. The default is "0".
- **TRC NA RTI** — This parameter contains a route index for the **trace not available** announcement. The valid range of values for route indexes is 0 to 3617. The default is "0".
- **NO RESRC RTI** — This parameter contains an announcement route index that indicates the COT buffer is full. The valid range of values for route indexes is 0 to 3617. The default is "0".

Global parameters added to the LASS Office Parameters View (View 8.21) for the Enhanced Two-Level Activation of COT feature are as follows:

- **COT ACT LVL** — This parameter specifies if the COT activation is a One-Level or Two-Level Activation. Valid values are 1 or 2. The default value is "1".
- **COT WAIT TIME** — This parameter indicates the amount of time in seconds in which the user must respond to the interactive recorded announcement prompt when using Two-Level Activation. Valid values are 1 to 15. The default value is "7".
- **COT MAX TIMEOUT** — This parameter indicates the number of times a user is allowed to time-out following the interactive recorded announcements when using Two-Level Activation. Valid values are 1 to 5. The default value is "3".
- **COT MAX ERRS** — This parameter indicates the number of times a user is allowed to enter incorrect digits in response to the interactive recorded announcements using Two-Level Activation. Valid values are 1 to 5. The default value is "3".
- **COT COST** — This parameter is the end-user cost of tracing a call. It is in the form of X dollars and Y cents. The range of X and Y is 0 to 99 (0.0 is a valid cost). There is a "null" indication associated with this parameter. The default is null.

5.5.4.1.4 Display Message View

Recent Change View 8.65, Display Message, is used to customize ISDN display messages. The attributes associated with this view are as follows:

- **DISP TYPE** — This parameter indicates the display message type. Valid entries are AC, AR, COT, and SLE.
- **DISP ID** — This parameter indicates the display identification number. This number is the same as the announcement number (1 through 189). Valid entries are numbers from 1 to 255.
- **MESSAGE** — This parameter is the 1 to 40 character message that is displayed.

5.5.4.1.4.1 Relevant Existing Views

The BRCS Feature Assignment Views (1.8, 1.11, and 23.8) allow the COT feature to be assigned to the end-user. Analog/ISDN Line Views (1.6 and 23.2) have been added with the COT indicator (COT_ALW). The COT access codes are defined in Views 9.2 (ODP) and 9.13 (IDP). The Configuration Group Definition View (View 12.5) allows the COT feature button to be defined (Feature:/COT* Action:COTFBP).

5.5.4.2 Emergency Service

If the service provider has chosen current operations which are to use the dedicated COT data link (TTY45) and has not chosen to use the spooler function with this channel then the trace message must be buffered if the channel is out of service. The COT feature provides an emergency service when the COT data link is out of service and the COT buffer is not full. This emergency service allows the COT trace messages to be printed on any active teletypewriter device locally at the operating company. A *UNIX*® system Real Time Reliable (RTR) Equipment Configuration Data Base (ECD) [classdef form TRCRESP (the classdef form number is 160)] needs to be updated with the local device in order to make this service available.

Each time an attempt is made to send a message to the COT data link, the message is also sent to any alternate

device(s) defined on the *classdef* form 160. While the COT data link is out of service, COT messages are buffered even if there are alternate devices to which the messages are sent. The COT message buffer holds 300 messages. An REPT:COT-BUF output message is printed when the buffer is 50 percent (150 messages) and 100 percent (300 messages) full. Once the buffer is full, the COT feature shuts down automatically until there are fewer than 285 messages in the buffer. Therefore, the COT data link should be restored as soon as possible.

If there is a prolonged outage of TTY45, the craft personnel may choose to temporarily change to the nondedicated mode. This would keep the COT feature enabled since the COT buffer is not used in the nondedicated mode of operation. When the mode is switched to nondedicated, any messages in the COT buffer are forwarded to the device specified on the *classdef* form and the buffer is cleared. If the buffer was full and COT was disabled, the COT feature is re-enabled.

In the nondedicated mode, only messages are sent to the devices specified on the *classdef* form. This form will accept any logical device name. Devices specified could be the SCCS link, the ROP, the MCC, any TTY, or even a log file. The name of the log file cannot conflict with the COT buffer which is /log/COTbuffer.

5.5.4.3 Deleting Customer Service

The COT feature can be deleted by recent change when removing service from a line with a service order. A temporary unavailable access option can be used to temporarily turn off access while maintaining line history block assignments.

Obtain assistance from the Lucent Technologies Secured Feature Administrator to delete the secured features associated with COT. See "Secured Feature Upgrade", Section 5.5.4.1.3.1, for information on RC View 8.22.

5.5.4.4 Changing Customer Service

The service provider can assign one or more dialable codes for accessing COT. For ISDN customers, the service provider can assign a single station set COT feature button for on-hook and off-hook activation of COT.

5.6 SYSTEM OPERATION

5.6.1 Invocation

When an analog user invokes COT via dial code, or when an ISDN user invokes COT via dial code or feature button, the 5ESS®-2000 switch verifies whether the switch is in an overload condition and sends reorder tone to the user if it is. The switch then determines whether the user is allowed to access the COT feature. COT can be accessible to the user either via subscription or is generally available in the office.

Two-Level Activations: For Limited Two-Level Activations, the 5ESS®-2000 switch examines the secured feature and transparency feature optioning (TFOS) bits to determine if the service provider has purchased the software update and to determine if Two-Level Activation is active.

For Enhanced Two-Level Activations of COT, the switch examines the COT activation type parameter to determine if a customer has access to Enhanced Two-Level Activation of COT.

If Two-Level Activation is active, the user is connected to a DSU2-RAF announcement which confirms this and instructs the user to continue activation by dialing a "1" or to hang up to discontinue.

A summary of the COT two-level Lucent Technologies standard default announcements provided by the DSU-RAF is as follows. For information concerning default announcements refer to "Default Announcements and Displays", Section 7.6.2. Default announcements and their associated displays can be customized. Refer to "Customizing LASS Announcements and Displays", Section 7.6.3.

#	NAME	ANNOUNCEMENT	TYPE

8	COT_CST	This is your Customer-Originated Trace Service. The charge for this service will be (Cost per Trace). To trace your last incoming call, dial 1 otherwise, hang up. Please dial 1 now or hang up (prompt tone).	Customer-Originated Trace—Cost
9	COT_NOCST	This is your Customer-Originated Trace Service. There will be a charge for this service. To trace your last incoming call, dial 1 otherwise, hang up. Please dial 1 now or hang up (prompt tone).	Customer Originated Trace—No Cost Specified.
10	COTPRMPT	You must dial 1 to trace the call otherwise, hang up. Please dial 1 now or hang up. (prompt tone).	Customer Originated Trace, Prompt.
11	TWOLERR	We're sorry, Please hang up now. Consult your written instructions and try again later. (3 second pause then disconnect).	Common Announcements for LASS Two-Level Activations.

If the user dials "1", the COT feature is activated. However, if the user does nothing after receiving the announcement or dials something other than "1", another interruptible announcement again instructs the user to dial a "1" or hang up. If the user hangs up, the trace is not performed; if the user dials a "1" the feature is activated. If the user dials incorrect digits or dials nothing, the announcement is repeated. The number of times a user is allowed to dial nothing following an announcement is determined by an office parameter (COT MAX TIMEOUT).

If the 5ESS®-2000 switch cannot provide any announcements, one-level processing is performed.

Table 5-2, contains the display messages for COT Two-Level and One-Level activations. Note that RC View 8.65 can be used to customize ISDN display messages. Refer to "Display Message View", Section 5.5.4.1.4, for additional information.

Table 5-2 LASS Customer-Originated Trace Displays

#	NAME	DISPLAY TYPE
1	COTSUCCW	Call [DN] for official follow-up. (COT One-Level Display)
2	COTSUCWO	Contact authorities for follow-up. (COT One-Level Display)
3	COTNOAV	Unable to trace call—number unavailable. (COT One-Level Display)
4	COTRESRC	Temporarily unable to trace calls. (COT One-Level Display)
5	COTTRACE	Dial 1 to trace call, otherwise hang up. (COT Two-Level Display)
6	COTINSTR	Please consult your written instructions. (COT Two-Level Display)

Once the switch validates the user's capability of using COT, it verifies whether the mode is dedicated or nondedicated and whether the COT *UNIX*® system process is running and ready to receive messages. The COT *UNIX*® system process is responsible for the data link interface. If the COT *UNIX*® system process is not running, the switch sends reorder tone to the user.

If the COT *UNIX*® system process is ready to receive messages and the mode is dedicated, the switch verifies whether the data link is in service or the COT buffer space is available. If the data link is down and the COT buffer is already full, the switch sends **temporarily unable to trace call** treatment to the user. If the mode is nondedicated, the COT buffer is not used, and the COT messages are sent to the devices specified on the classdef form (160).

If the mode is dedicated, the data link is examined. If the data link is up or if COT buffer space is available, the switch verifies whether the call has already been traced. If the call has been traced, the switch sends confirmation

treatment to the user, but no message is sent to COT *UNIX*[®] system process. If the call has not been traced, the switch validates the ILHB to ensure the information for the last calling party is available. If there is no information about the last calling party, the switch sends **trace not available** treatment to the user. Otherwise, the switch formats and sends the trace message to COT *UNIX*[®] system process for printing at the COT printer and sends confirmation treatment to the end-user.

If the service provider has chosen not to use the dedicated channel (nondedicated mode) or has chosen to specify TTY45 as a device on the classdef form (and, therefore, have a spooler control it), the spooler attempts to write the trace message to all the channels and devices specified on the classdef form. If the channel is out of service, or its associated queue is full (default buffer size is 50 messages), the spooler automatically routes the messages to its alternative device. If no alternate device has been specified, the message is lost. To achieve a high reliability for the nondedicated mode, alternate devices should be defined.

5.6.2 Incoming Line History Block Update — Terminating Treatment

5.6.2.1 General

Both COT and AC use the Incoming Line History Block (ILHB). The ILHB is allocated on a per-user (terminal) basis. The service provider has the option to allocate the ILHB either universally or only to the subscribers. If COT or AC is generally available, all the terminals which have access to COT or AC are assigned an ILHB. For the subscription case, only users who subscribe to COT or AC are assigned an ILHB.

When a call "alerts" an analog line or an ISDN terminal which has access to COT or AC, the ILHB is updated. Alerting means providing ringing tone, call waiting tone (analog only), or barge-in tone.

The ILHB is updated with the calling DN, the calling line uniqueness indicator, an intercom indicator, the type of address indicator, the screening indicator, the numbering plan indicator, a privacy indicator, the multiple call indicator, the time and date of the call, and a trace indicator. Outgoing activities do not affect the stored items for incoming calls.

If a call occurs for which SS7 connectivity does not exist, or if a call originates from a line not associated with a DN, the calling party identification is not available. In this case, the ILHB is marked invalid.

5.6.2.2 Calling Directory Number

The ILHB stores the Directory Number (DN) as received from the originating side. Up to 15 digits can be stored. If the number stored is an intercom extension, an intercom indicator is marked, but the full DN is stored (this applies to intraswitch IDP calls).

5.6.3 Unique/Nonunique Directory Numbers

5.6.3.1 General

A uniqueness indicator sent with the initial address message to update the history block indicates whether the calling DN is unique or nonunique. If calls from the calling address identify a specific station, they are considered unique.

Some guidelines about whether a DN is marked as unique are as follows:

- MLHG
 - If members are assigned individual DNs, the individual DN is sent as the calling party number and marked as unique.
 - If members do not have individual DNs assigned, the main DN is sent as the calling party number and marked as nonunique.

- If the main DN is assigned as an individual DN to the first member in the group (regular or circular), the main DN is sent as the calling party number and marked as unique.
- Multiparty
 - Two-party origination with Automatic Number Identification (ANI) results in a calling party number being sent and marked as unique.
 - Two-party origination with Operator Number Identification (ONI) does not include the calling party number in the call setup.
 - Three-or-more-party originations do not include the calling party number in the call setup; therefore, the uniqueness indicator is not sent either.
- PBX
 - Calls originating from PBX trunk connections do not include calling party numbers and, thus, do not include any uniqueness indicators.
 - Calls originating from PBX line connections include calling party numbers and are marked as nonunique.
 - Calls originating from Primary Rate Interface (PRI) connections may include calling party numbers but are always marked as nonunique.
- ISDN-Shared DN Originations
 - Primary DN originations include the primary DN as the calling party number, which is marked as unique.
 - Secondary DN originations include the secondary DN as the calling party number, which is marked as nonunique.

Nonunique indicates the sharing of an address between two or more terminals. A customer-set office parameter determines whether feature activations toward nonunique DNs are allowed.

5.6.3.2 Intercom Indicator

The intercom call indicator indicates if the last call is an intercom Individualized Dialing Plan (IDP) call or not. (The intercom indicator is used for automatic callback only.)

5.6.3.3 Multiple Call Indicator

The multiple call indicator flags whether a call is already active when the ILHB was updated by another call.

5.6.3.4 Privacy Indicator

The privacy indicator identifies the cases where the caller has requested that his/her phone number not be displayed to the called party. The COT feature does not use the privacy indicator.

5.6.3.5 Type of Address Indicator

The type of address indicator flags whether the last call is an international, national, or local call.

5.6.3.6 Screening Indicator

The screening indicator is received by the COT feature from the Initial Address Message (IAM) associated with the call to be traced. The IAM may include the calling party number on a per call basis. This parameter carries the address digits of the specific station set originating the call. The screening indicator flags whether the DN associated with the last call is a network-provided DN or a user-provided station identification that was not screened, screened and passed, or screened and failed.

When the indicator is network-provided, this value identifies the calling party number provided to ISUP7 without any interaction with Q.931 protocol.

When the indicator is user-provided, the value identifies the calling party number provided to ISUP7 through the Q.931 protocol calling party number information element. "Not screened" indicates the coding of the calling party number information element is ignored. "Screening Passed/Failed" indicates the office is capable of screening the user-provided calling party number and the attempt either passed or failed appropriately.

In general, a user-provided is associated with the calling party originating a call from an ISDN line, and network-provided is associated with a calling party originating a call from an analog line.

5.6.3.7 Numbering Plan Indicator

The numbering plan indicator flags whether the DN associated with the last call is a telephony, ISDN, or private DN.

5.6.3.8 Trace Indicator

The trace indicator flags whether the last calling party number stored in the ILHB has been traced or not. The trace indicator is reset every time the ILHB is updated and set every time the user successfully invokes COT. (A successful invocation is determined by whether the switch returns confirmation.)

5.6.4 Buffering and Sending the Trace Message

If the user successfully invokes COT and has a dedicated COT data link, when the data link is out of service, the trace message is stored in the COT message buffer (/log/COTbuffer). The buffer has the capacity to hold 300 trace messages. When the buffer holds 150 (50 percent) or 300 (100 percent) messages, an REPT:COT-BUF output message is printed on the ROP as a reminder indicating that the service of the COT data link is needed. When the buffer is full, the COT feature is deactivated automatically, and subsequent COT invocations are denied. The user receives **temporarily unable to trace call** treatment and instructions to attempt the trace again later. If the data link is functioning properly (dedicated), or the device specified on the classdef form is functioning properly, the trace message is transmitted to the authorized agency within 60 seconds of the user's request for a trace.

A warning message is sent to the ROP in the office when the data link goes out of service and again when it comes back into service. An output message is printed when a data link goes down. An hourly report on the out-of-service devices is generated on the ROP.

5.6.5 Code Interpretation

The customer activates the COT feature via a service access code or, for ISDN users, a feature button. Separate service access codes may be used for POTS and Individualized Dialing Plan customers. The POTS service access code is assigned on an office basis in the form *XX or 11XX for customers having Dual Tone Multifrequency (DTMF) telephones and 11XX for customers having rotary dial telephones.

Service access codes for an Individualized Dialing Plan group are specified on a group basis by the IDP customer and may be different from the POTS access code. The IDP service access codes may be 1 to 7 digits in length. Digits 0 through 9 may be used in any position; symbols * and # may only be used in the first position of the access

code. The access code may be assigned as a Speed Calling entry.

IDP customers are prohibited from escaping to the ODP and dialing a COT access code. The COT users who are members of an IDP group must have access codes for COT defined in their IDP. The access codes must be dialed while digit analysis is being done by the IDP. The IDP users are not allowed to use access codes defined in the ODP for COT. This does not affect users who are not members of an IDP group. This applies regardless of whether the feature has been assigned to the line or whether the feature is generally available in the office. If an access code is not accepted, error treatment in the form of reorder tone is returned to the user.

5.6.6 Routing

All trace messages from an office should be output to one location if a dedicated data channel is used. The COT Data Link feature does not require a dedicated data link for the COT messages. This software update makes the dedicated data link optional. The receiving agency may use other facilities to split up trace messages and reroute them to different locations (such as, local police departments). The COT messages can be sent to other output devices (such as, the ROP). Refer to "Emergency Service", Section 5.5.4.2, for information when the COT Data Link is out of service.

5.6.7 Overload

If a system capable of providing COT is temporarily unable to process an attempt to invoke the feature, the customer receives reorder tone before the session starts. After the COT activation session is initiated, if a system is temporary unable to process a trace, the user receives a **temporarily unable to trace call** announcement.

5.6.8 Message Flows and Requirements

5.6.8.1 Q.931 ISDN Primary Rate Interface

The Q.931 protocol does not presently support a uniqueness indicator for calling party number. Therefore, when using the Q.931 protocol over the PRI, the 5ESS®-2000 switch PBX can neither send nor receive the uniqueness indicator.

5.6.8.2 SS7 ISDN User Part

The COT feature requires that the calling DN and a uniqueness indicator be transported interswitch. (The date and time of the call are determined at the terminating switch and, therefore, not transported interswitch.) The transport of this information interswitch does not require any new messages nor changes to the message flow for basic call setup and clearing procedures. The COT feature does, however, impose additional requirements (beyond those for basic call setup) on the content of the initial address message (IAM). If an originating office is equipped with SS7, it must include the optional parameters in the IAM for all intranetwork interswitch calls set up over SS7 trunks.

5.6.8.3 Q.931 ISDN Basic Rate Interface

If the user subscribes to display capabilities, using display messages, the switch prompts the user. These messages are sent in the display field (DF) information element of an INfOrMation message. The DF is coded as follows:

```
Display Mode = Miscellaneous
Display Field Type = Entire Display
```

If the user does not subscribe to display capabilities, the switch sends a PROGress message to the terminal to indicate that further information is available in-band (that is, via announcements).

If the calling party number is not available in the line history block (LHB), an error announcement/display message is returned to the user. Therefore, unsuccessful activation of COT follows the same message flow.

5.7 ADMINISTRATION

5.7.1 General

The COT feature is not accessible/assignable to the following classes of service (incoming LHBs are also not assigned to these lines):

- 911
- Coin
- Multiparty
- Two-Party
- Manual
- PBX lines
- Coinless public phone
- Stand-Alone test lines
- Hotel/Motel
- Trunk and Line Work Station local talk and monitor phone.

Denied origination and denied termination lines should not be assigned LASS features; COT cannot be activated for these lines.

The operation of the feature is controlled via an activation code. This code is assigned on a per-office basis for non-IDP, normal office dialing plan customers. For Business and Residence Custom Services (BRCS) groups, the code is assigned on a per-IDP group basis as part of the dialing plan for the group. The service provider has the ability to build this access code. Additionally, for ISDN customers, the service provider has the ability to assign a station set feature button in such a way, that when it is depressed, the switch recognizes it as equivalent to the actual dialing of the feature access code.

The feature is assignable to individual lines and to lines within business groups for subscription on a per-line or per-terminal basis. The ability to assign or remove the feature to all lines within a business group through a single recent change operation is provided. This ability is provided through use of the BRCS Feature Groups (BFG). The ability to deny access to the feature is also provided for individual lines and individual lines within business groups through an ODP access code for COT.

5.7.2 Measurements

The traffic counts for COT are collected and reported on a per-office basis. These counts consist of the following:

- Successful COT activation peg count is pegged after a successful trace is performed.
- Calling DN unavailable peg count.
- COT feature denial peg count.

These three peg counts are included in Section 76 of the 30-Minute Traffic Report, created to handle all LASS feature measurements.

Data collection for the COT feature is accomplished with existing 5ESS®-2000 switch capabilities with modifications to process specific counts that are in Section 76 of the TRFC30 report. Reporting for this entire section could be allowed or inhibited, affecting the measurements for all LASS features.

Counts similar to those currently generated for the DSU2-RAF in other capabilities are also generated by COT. The counts consist of the following:

- Attempts by LASS to use (access) a DSU2-RAF circuit that failed due to all units being in use (occupied) [BRCS OVFL (46)].
- LASS usage of DSU2-RAF circuits — determined by 100-second scanning [BRCS TOTUSG(46)].
- LASS maintenance usage (out of service) of DSU2-RAF circuits — determined by 100-second scanning [BRCS MTUSG (46)].

These counts are generated for existing sections (46 and 13) of the 30-Minute Traffic Report (TRF30). These counts will not be separated from existing counts for other BRCS features.

5.7.3 Billing

5.7.3.1 General

Whether an Automatic Message Accounting (AMA) record is generated or not for the successful COT invocation is determined by the feature type assigned to the user. The preconstructed feature /COT1 specifies flat-rate billing; therefore, no AMA record is generated when the user accesses /COT1. The preconstructed feature /COTGA specifies usage-sensitive billing; therefore, an AMA record is generated when the user accesses /COTGA.

New COT features can be defined via RC/V View 12.49 with the option of specifying that an AMA record be generated for successful COT access.

5.7.3.2 Determining the Types of Billing

The following table (Table 5-3) illustrates the precedence in determining the type of billing [usage sensitive (US) or flat rate (FR)] recording to be made for the LASS COT feature. The NA is used to indicate that a particular option/column is nonapplicable for the specified combination.

Table 5-3 Access/Billing Matrix

	FEATURE ACCESS OFFICE OPTION (View 8.18)	GENAVAIL BILLING OPTION (View 8.21)	SUB- SCRIPTIO N BILLING OPTION (View 12.49)	FEATURE ALLOW (View 1.6...View 23.2)	FEATUR E ASSIGN (View 1.11... View 23.8)	SWITCH ASSIGN (View 1.11...Vie w 23.8)	BILLING ACTION
1	GENAVAIL	US	NA	NO	NO	BLOCK	-
2	GENAVAIL	FR	NA	NO	NO	BLOCK	-
3	GENAVAIL	US	NA	YES	NO	ALLOW	US
4	GENAVAIL	FR	NA	YES	NO	ALLOW	FR
5	GENAVAIL	NA	US	YES	YES	ALLOW	US
6	GENAVAIL	NA	FR	YES	YES	ALLOW	FR
7	SUBSCR	NA	NA	NA	NO	BLOCK	-
8	SUBSCR	NA	US	YES	YES	ALLOW	US
9	SUBSCR	NA	FR	YES	YES	ALLOW	FR
10	TEMPUNAVAIL	NA	NA	NA	NA	BLOCK	-
11	UNAVAIL	NA	NA	NA	NA	BLOCK	-

Generally Available — For the row 1 and row 2 combination where the Feature Access Office Option for Customer-Originated Trace on RC View 8.18 is GENAVAIL and the feature allow indicator on RC View 1.6 or 23.2 is set to N, the feature access is blocked.

For row 3 and row 4 combination where the Feature Access Office Option for Customer-Originated Trace on RC View 8.18 is GENAVAIL and the feature allow indicator on RC View 1.6 or 23.2 is set to Y (when the COT feature is not assigned to the line), the COT GA FEAT field on RC View 8.21 is used to determine whether flat-rate (FR) or usage-sensitive (US) billing is done for the end customer.

The COT GA FEAT field specifies the feature name, which is defined as either a preconstructed feature (/COTGA or /COT1) or customized feature via the COT feature definition, View 12.49.

Assigned — For the row 5 and row 6 combination where the Feature Access Office Option is set to GENAVAIL, the feature is assigned to the end customer via service order. The definition of the assigned feature determines whether usage-sensitive billing is recorded.

Subscription — For the row 7 through row 9 combination where the Feature Access Office Option is set to SUBSCR, the end customers must be assigned either a preconstructed or customized feature via the applicable RC View (for example, 1.11 or 23.8) in order to access COT. The definition of the assigned feature determines whether flat-rate or usage-sensitive billing is done.

Unavailable/Temporarily Unavailable — For the row 10 and row 11 combination where the Feature Access Office Option is set to UNAVAIL or TEMPUNAVAIL, the feature access is blocked.

6. LASS INDIVIDUAL CALLING LINE IDENTIFICATION

6.1 GENERAL

6.1.1 Definition

The Individual Calling Line Identification (ICLID) feature is a Local Area Signaling Services (LASS) feature that delivers calling party information to an Integrated Services Digital Network (ISDN) or analog called party on circuit-switched voice and data calls. Customers using an ISDN station set with a display unit, or customers using an analog display unit, can see the calling party's directory number before answering or ignoring the call. The ICLID feature also provides a privacy feature to the calling party that inhibits the delivery of the calling party information to the terminating party. Thus, the ICLID feature consists of two distinct capabilities as follows:

- **Calling Number Delivery (CND)** — The customer (the called party) receives data on an incoming call.
- **Directory Number Privacy (DNP)** — The customer (the calling party) prevents delivery of her/his directory number (DN) to the terminating station set. There are two types of Directory Number Privacy: All-Call Privacy (ACP) (that is, available for all calls) and Per-Call Privacy (PCP) (that is, available on a per-call basis).

6.1.2 Economic Worth

The economic worth to the service provider is in the terms of revenue generation and ease of implementation. The LASS features use existing customer lines to provide end-users with call management capabilities. These features are based on the delivery of calling party number via the local signaling network. The revenue-generating LASS features are available for both residence and business customers.

6.1.3 Availability

The LASS ICLID feature consists of two modular features. The LASS ICLID feature was developed using the Line Identification modular feature for Calling Number Delivery (CND) and the Display and Privacy modular feature for DNP.

The ICLID CND feature exists for intraswitch calls to ISDN terminals. It is available for ICLID to analog lines with special customer premises equipment (CPE) to receive and display the calling directory number and to interswitch calls with use of the SS7 signaling network. Additions include the ability to turn calling number delivery on or off via access code or feature button, usage-sensitive billing for Calling Number Delivery and Per-Call Privacy, and Per-Call Privacy on a generally available basis.

The ICLID feature is offered on Circuit-Switched Data (CSD) calls on digital subscriber lines (DSLs) as part of the Business and Residence Custom Service (BRCS) supplementary services for ISDN CSD calls.

The Unidentified Call Rejection feature gives the called party the ability to reject calls if the calling number is marked private. The user only receives calls for which the identity of the calling party is available (the call terminates if the number is not available). Without this feature assigned and active, if the calling party invokes DN privacy to prevent their number from being revealed to the called party, a called party with ICLID Calling Number Delivery is informed that the number is private. The called party cannot identify the caller and choose whether to answer or not answer the call based on the calling DN.

Unidentified Call Rejection (UCR) is secured and optioned. UCR affects call terminations and also provides dial access to the feature. For additional information, refer to "Unidentified Call Rejection", Section 17.

The Limited Intragroup ICLID (LIGI) feature allows the calling DN to be displayed at the terminating station set when calls originate and terminate within the same terminal group. This is an optioned feature. For additional information on LIGI, refer to 235-190-104, *ISDN Feature Descriptions*.

An enhancement to ICLID is available and is valid for both Custom and National ISDN. The DN receiving a redirected call as a result of terminal group and station restriction (TGSR)/attendant control of voice terminals (ACVT) terminating restrictions will display both the called and calling DNs. The feature allows the called DN to be displayed. For example: A calls B and is rerouted to party C because of B's terminating restrictions. With this option ON, C will display "a = A's DN to B's DN Err". With this option OFF, C will display "a = A's DN Err".

6.1.4 Feature Application

The ICLID CND feature is provided on a per-DN basis, a per-multiline hunt group member basis, and per-PRI trunk group basis. The DNP feature is provided on a per-line or per-ISDN terminal basis.

6.2 USER PERSPECTIVE

6.2.1 User Profile

Business and residential customers, having a need or desire to know the telephone number that is calling, are the most likely candidates for this service. A residential user may wish to receive calls only from certain relatives, friends, and/or business associates and ignore some other types of calls. Business users may wish to know what number is calling prior to answering.

6.2.2 Customer Premises Equipment

The type of customer premises equipment (CPE) expected to be the most widely used with ICLID is an analog station set with an integrated or adjunct display. Both dual tone multifrequency (DTMF) and dial pulse (DP) sets are supported. An incoming call display is required for analog users to have display capability.

Other CPE supporting ICLID are ISDN types A, B, C, and D terminals with display capability, ISDN attendant consoles, and ISDN terminals with and without a feature button (for CND activation or deactivation). The ISDN terminals with display capabilities are assumed to have a 40-character display. For additional information, see 235-900-341, *National ISDN Basic Rate Interface Specification*, and the *Bellcore CLASS TR-TSY-000030*. Part IV (Basic Call) ISDN terminals are not supported.

6.2.3 User Operation

6.2.3.1 Calling Number Delivery

6.2.3.1.1 Analog Lines

The Calling Number Delivery capability is initialized via the service order process. After initialization, usage-sensitive customers can turn Calling Number Delivery off by dialing a feature access code (for example, *65). Customers can turn the service back on by dialing a feature access code (for example, *85).

NOTE: The default assignment for CND is "active."

When the service is activated, Calling Number Delivery sends information about the calling DN to the called party. The calling party information is sent after the first ring. Customers with an analog display unit can see the calling number before answering (or ignoring). Specifically, the called customer receives the following:

- **Calling DN** — The calling DN is the full 10-digit North American Numbering Plan public telephone number of the caller. [This number may or may not be the same as the Automatic Number Identification (ANI) of the caller. The ANI is a billing number].
- **Date and Time of Call** — The date is the month and the day that the customer is alerted. The actual format of the time is determined by the CPE that is used.

If the calling DN is not available, the 5ESS®-2000 switch sends an "O" indicating that the DN is "out of area". If the calling DN is marked private, the 5ESS®-2000 switch sends a "P" in place of the DN. The actual display message is CPE dependent.

For Centrex customers, service and access codes can be assigned or removed by service order or by the Customer Station Rearrangement (CSR) capability. The type of station set used or the PBX controls what is displayed; for example, analog sets could display the following:

Analog Line:			
Calling DN		Type	
617-555-5678		New	
03/12		6:35PM	
Date		Time	

6.2.3.1.2 ISDN Terminals

ISDN BRI — ISDN Basic Rate Interface (BRI) customers that are usage sensitive also have the option to deactivate and reactivate Calling Number Delivery via an access code or feature button.

When the service is activated, Calling Number Delivery sends the called party the directory number information about the calling party. Customers receive this information on their ISDN station sets with a 40-character display. The information received is shown in Table 6-1 .

Table 6-1 ISDN ICLID Data

ISDN BRI	ISDN PRI
1. Call appearance ID 2. Calling DN 3. Date and time of the call 4. Call type	1. Calling DN 2. Privacy indicator

The ICLID data consists of the following:

- The **call appearance**, which is a physical field for call control similar to a key-system line on which the customer receives the call.
- The **calling DN**, which is the full 10-digit North American Numbering Plan public telephone number of the caller.
- The **date**, which is the month and day the customer is alerted.
- The **time** for ISDN BRIs, which is either the hour, minute, and AM/PM, or the military time (24-hour clock).
- The **call type** ISDN call identifier (ICI), which gives information about how the call arrived. For example, "InX" means the call is incoming from a station external to the terminal group. Other examples of call type are forwarded calls and calls from a foreign exchange line or WATS line.

If the calling DN is not available, a BRI customer receives an "INCOMING CALL" display message. If the calling DN is marked private, a BRI customer receives a "PRIVATE NUMBER" display message in place of the DN.

For Centrex customers, the service and access codes can be assigned by service order or by CSR (also called ISDN Basic Moves and Changes). Automatic CSR for ISDN customers works for both capabilities of ICLID. The type of station set used or the PBX controls what is displayed; for example, ISDN BRI sets could display the following:

ISDN BRI:			
3=312-369-9700	12-13	10:45pm	InX
Call Appearance = Calling DN	Date	Time	Call

Type

ISDN PRI — The ISDN Primary Rate Interface (PRI) customers contact the service provider to start service via the service order process for calling number delivery. After the service is initialized, the CPE directly connected to the PRI (for example, PBX or host computer) receives the calling party's DN in the calling party number information element of the Q.931 call setup message (if the DN is available). This DN is always ten digits. (The PRI can handle up to 15 digits.)

The Calling Party Number (CPN)/Billing Number (BN) Transmittal and Optioning feature provides a similar capability. The CPN/BN feature provides intra-switch/interswitch optioning to the terminating user and CPN/BN transmittal in the private network environment. The intra-switch/interswitch CPN/BN optioning to the terminating user provides the CPN or BN of the calling party to the called party over an ISDN interface for circuit-switched voice and data calls. The CPN/BN transmittal in the 5ESS®-2000 switch private network allows a 5ESS® switch used as a PBX to send CPN over PRIs for both private and public network calls. Refer to 235-190-104, *ISDN Feature Descriptions*, for additional information on CPN/BN optioning.

If the DN is not available, the Calling Party Number information element is sent with no digits included. If the calling DN is private, the PRI customer, at the option of the service provider, either does not receive the Calling Party Number information element or receives the information element with the DN and with the presentation indicator set to "presentation restricted". The PBX provides its own date and time.

On the originating side, if a BRI or PRI customer sends the Calling Party Number information element with the presentation indicator set to "presentation restricted", the 5ESS®-2000 switch honors that restriction by setting the DN private. (The All-Call and Per-Call DN Privacy capabilities are not available to PRI customers).

6.2.3.2 Directory Number Privacy

The Directory Number Privacy (DNP) feature allows an analog or BRI customer to prevent or allow the delivery of his/her DN to the terminating party. There are two types of Directory Number Privacy: All-Call Privacy (ACP) and Per-Call Privacy (PCP).

When ACP is assigned to the analog or BRI customer and a call is made, the DN of the originator is marked "private" and is not sent to the terminating party. (Refer to "Feature Assignment", Section 6.6.2.1.2, for information on how to assign ACP.) If All-Call Privacy is not assigned to the customer and a call is made, the DN of the originator is marked "public" and is sent to the terminating party.

Per-Call Privacy allows an analog or BRI customer that is assigned ACP to make the originating DN "public" for a single call and, therefore, send his/her DN to the terminating party. Conversely, it allows an analog or BRI customer that is not assigned All-Call Privacy to make his/her originating DN "private" for a single call and, therefore, not send the DN to the terminating party. This change only lasts for the duration of the call and does not change privacy permanently.

Per-Call Privacy is activated by going off-hook and preceding the call with a feature button or access code. This capability can be made generally available to all users (customers) in an office, or only to users that subscribe to it.

Analog Lines — To use the Per-Call Privacy capability, customers dial an access code for privacy reversal, receive confirmation tone, hear dial tone, and then dial as they would for a normal call.

ISDN Terminals — If a feature button is used for privacy reversal (PCP) instead of an access code, the lamp flutters two to three times indicating confirmation and then goes off for typical CPE. An ISDN user must be off-hook to use the Per-Call Privacy feature button; however, they can also dial an access code instead of using the feature button, if desired.

Users can dial other feature access codes either before or after a privacy access code. Authorization codes cannot

prevent access to the PCP code.

The privacy indication is passed interswitch along with the calling party number via SS7.

For parties served by a PBX, the PBX is responsible for offering a DN privacy feature. The switch assumes that all calling DNs received from the PRI without the privacy indicator are public. On the terminating side, service providers have the option to send a private DN to a PRI.

6.2.3.3 Abnormal User/System Interactions

When dialing the activation or deactivation codes, the customer may request activation of CND while CND is already active, or request deactivation if CND was previously disabled. In either case, the customer receives a confirmation tone indicating that the CND is already activated or deactivated.

If a customer dials the access code for PCP but fails to dial a complete DN, standard partial dial or permanent signal (no dialing occurred) treatment is given to the customer.

If Per-Call Privacy (PCP) is billed on a usage-sensitive basis, an AMA record is generated once confirmation tone is given.

The ICLID data for analog users is sent between the first and second rings. If the analog customer answers before the ICLID data is sent, the data is not sent to the station set. If answer occurs during data transmission, data may be lost. There is no retransmission.

6.2.4 Operational Limitations

Signaling System 7 (SS7) connectivity is required on interoffice calls. The calling DN is available on inter-LATA calls when SS7 connectivity with inter-LATA carriers is available.

The ISDN station set is expected to support at least a 40-character display, and the analog station set is expected to support a 2-line, 24-character display. However, it is up to the station set to display any part or all of the data sent by the switch. Thus, the station set could have a smaller display and only display a subset of the data, such as just the DN.

On some interswitch calls, SS7 may not pass all the information that would have been available had the call been intraswitch to the terminating switch.

The Transaction Capabilities Application Part (TCAP) Improvements for a Switch Spanning Multiple LATAs feature permits lines (or groups of lines) to be assigned a LATA NUMBER different from the default LATA NUMBER associated with the office. This feature allows a LATA NUMBER to be associated with a subscriber. The assigned LATA NUMBER will be used to select the appropriate signaling link based on the Signal Transfer Point (STP) for LASS services or will be used to populate the SSP 800 TCAP query to the Service Control Point (SCP). This feature is available in the 5E11 software release. For more information and a complete description of this feature, refer to 235-190-120, *Common Channel Signaling Service Features*.

The ICLID feature depends on tandem switches to pass the calling party address and address presentation restriction indicator in the SS7 Initial Address Message (IAM) for call setup. The T1 Standards Organization designates these parameters as "optional," but ICLID requires them. The service provider can require their tandem switches to pass these parameters.

6.3 INTERACTIONS

6.3.1 General Rules

The interactions between Individual Calling Line Identification and other features are described in terms of

originating feature interactions and terminating feature interactions. An originating interaction is when the ICLID user is the originating party, while a terminating interaction is when the ICLID user is the terminating party on a call. Unless noted otherwise, ICLID in this section refers to CND and DNP (ACP, PCP). This interaction section also contains interactions for Unidentified Call Rejection since this feature is based on directory number privacy.

6.3.2 800 Service [Also Known as Inward Wide Area Telecommunications Service (INWATS)]

The 800 Service feature provides inward service from one or more predetermined areas at a rate based on expected usage.

NOTE: The 800 Service feature is not limited to the 800 NPA if the switch has implemented a toll-free treatment feature that allows additional toll-free Service Access Codes (SAC) such as 888 or 877.

Originating/Terminating: No interaction.

6.3.3 800 Service Simulated Facilities Group

The 800 Service Simulated Facilities Group feature can restrict the number of simultaneous INWATS calls through software, rather than by the physical size of a dedicated trunk group.

Originating/Terminating: No interaction.

6.3.4 900 Services

The 900 Services provide inward service from one or more predetermined areas at a rate based on expected usage.

Originating/Terminating: No interaction.

6.3.5 Account Codes [Electronic Tandem Switching (ETS) Optional Account Codes]

The Account Codes (ACCT) feature allows the customer to add an account code to an Automatic Message Accounting (AMA) or Message Detail Recording (MDR) record for customer allocation of telecommunications charges.

Originating: A business customer that has the PCP feature may also have the Account Code feature. An ICLID user may enter an account code while activating ICLID PCP. A business customer option specifies whether dialing an account code generates an AMA record, an MDR record, or both. An account code may be required, depending on switch options, if a user dials the ICLID access code. In either case (user-dialed account code resulting in an AMA/MDR or ICLID requiring an AMA), the switch may prompt the user to enter an account code due to generation of an AMA record.

The ACCT information used with a PCP activation is saved for subsequent inclusion in AMA/MDR records.

Terminating: No interaction.

6.3.6 Add-On/Consultation Hold-Incoming Only

Add-On/Consultation Hold-Incoming Only is a terminal group variation of the Three-Way Calling feature. It provides three-way calling restricted to incoming direct inward dialed (DID) calls.

Originating: No interaction.

Terminating: See "Three-Way Calling", Section 6.3.205.

6.3.7 Advanced Services Platform

Advanced Services Platform (ASP) provides a platform of service-independent capabilities on a 5ESS®-2000 switch allowing the switch to interact with external network elements. For further information and for the latest details on LASS features and ASP interactions, Please see the following documents:

235-190-125 *Advanced Services Platform Release 0 and 0.1A*

235-190-126 *Advanced Services Platform Release 0.1B*

Originating: Per-Call Privacy operates normally on ASP calls. However, the PCP use code must be dialed before any ASP access code. Lines with off-hook triggers cannot be assigned any LASS features, including PCP.

Terminating: Calls terminating to a normal ASP line can receive CND. The CND feature cannot be assigned to ASP lines with off-hook triggers.

6.3.8 Attendant Call Hold

Attendant Call Hold allows the attendant to hold a call in progress to originate another call, answer a call, or pick up a call on hold. Timed Reminder is activated when the call is placed on hold by the attendant.

Originating: An attendant can put a call on hold and then, following receipt of dial tone, activate ICLID Calling Number Delivery. No data is received until the next incoming call.

Terminating: For analog users, no CND data is delivered on ringback.

6.3.9 Attendant Call Transfer

Attendant Call Transfer allows the attendant to flash and dial a code before dialing the third leg of a three-way call.

Originating/Terminating: See "Three-Way Calling", Section 6.3.205 .

6.3.10 Attendant Camp-On

Attendant Camp-On allows calls that the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: No interaction.

Terminating: No display is provided on receipt of call waiting tone.

If the calling party number is not marked private, normal Call Waiting Originating (CWO) or Dial Call Waiting (DCW) treatment applies.

6.3.11 Attendant Conference Six-Way

Attendant Conference Six-Way allows an attendant to initiate a conference call involving up to six parties (including the attendant).

Originating/Terminating: No interaction.

6.3.12 Attendant Control of Facilities

Attendant Control of Facilities (ACOF) permits an attendant to restrict dial access from a station to tie trunks, foreign exchange trunks, and wide area telecommunications service (WATS) by operating a key or dialing a code. When control is activated, calls to these facilities are routed to an attendant for appropriate action.

Originating/Terminating: No interaction.

6.3.13 Attendant Direct Station Selection

Attendant Direct Station Selection (DSS) allows an attendant with a console to place calls to stations in the business group by simply pressing a nonlocking pushbutton key associated with the desired station line.

Originating/Terminating: No interaction.

6.3.14 Attendant Identification of Incoming Calls

Attendant Identification of Incoming Calls provides identification, via incoming call indicator lamps on the attendant console, of listed directory number (LDN) calls directed toward different LDNs, but served by the same attendant.

Originating/Terminating: No interaction.

6.3.15 Attendant Position

Attendant Position allows a customer to designate a particular station within a business customer group as an attendant position.

Originating/Terminating: No interaction.

6.3.16 Attendant Recall from Satellite

Attendant Recall from Satellite gives stations located at remote locations without an attendant, but with the Satellite Attendant Transfer feature, the ability to transfer an incoming call by flashing the switchhook to generate a recall to the main location attendant, who performs the transfer for the remote station.

Originating/Terminating: No interaction.

6.3.17 Authorization Codes (ETS Authorization Codes)

The Authorization Codes (ATH) feature allows the station user to input an assigned code to change the restrictions associated with the originating station to those associated with the assigned authorization code.

Originating: A business customer that has the ICLID feature may also have the Authorization Codes feature. Depending on the option specified by the business customer, the switch may require an ICLID user to enter an authorization code before or after the privacy access code. The switch may prompt the user to enter an authorization code (and possibly an account code, if not already present) due to the generation of an AMA record. If Authorization Code input is later required to route the call, then the end-user is prompted for the authorization code. Whether the user is prompted for an authorization code depends on the type of call. For intraswitch calls to a busy or idle station, the user is prompted for a code after the ICLID PCP access code is dialed. Interswitch calls to an idle station are also handled in this manner.

The PCP feature can be marked to require an authorization code by setting the AC field to "yes" on the feature assignment view (View 1.8 or View 1.11). In this case, the user is prompted for an authorization code after entering the PCP access code.

The ATH information used with a PCP activation is saved for subsequent inclusion in AMA/MDR records.

Terminating: No interaction.

6.3.18 Automatic Alternate Routing

Automatic Alternate Routing (AAR) provides alternate routing capability similar to ARS-Deluxe. The difference is that AAR is used to route calls to stations on the customer's private network.

Originating/Terminating: No interaction.

6.3.19 Automatic Callback

The LASS Automatic Callback (AC) feature allows users to call back the most recent calling party.

Originating: A user can enter the Per-Call Privacy access code before entering the Automatic Callback access code to ensure that the privacy state of the call is changed. The 5ESS®-2000 switch applies the correct privacy to the call. However, there is one situation where the user is not required to reenter the privacy code: If a user activates PCP, makes a call and the call reaches busy, and the user activates AC, the switch remembers the privacy activation.

Terminating: For analog and ISDN users, no CND data is delivered on ringback by the CND feature. However, the AC feature delivers calling party number information on ringback.

6.3.20 Automatic Callback-Calling

Automatic Callback-Calling (ACBC) allows a user, or station to hang up and dial an activation code to activate ACBC after reaching a busy station. This feature only applies to two stations in the same switch.

Originating: A user can enter the Per-Call Privacy access code before entering the Automatic Callback-Calling (ACBC) access code to ensure that the privacy state of the call is changed for the automatic call. The 5ESS®-2000 switch applies the correct privacy to the automatic call.

Terminating: No interaction.

6.3.21 Automatic Intercept System (Also Known as Remote Intercept System)

Automatic Intercept System (AIS) allows Class 5 offices to route calls to nonworking telephone numbers, or to telephone numbers placed on trouble intercept, on an AIS where they are connected to announcements and/or operators.

Originating/Terminating: No interaction.

6.3.22 Automatic Recall

The LASS Automatic Recall (AR) feature allows users to set up a call to the most recent called party.

Originating: A user can enter the Per-Call Privacy access code before entering the Automatic Recall (AR) access code to ensure that the privacy state of the call is changed for the automatic call. The 5ESS®-2000 switch applies the new privacy status to the automatic call; however, the user is not required to reenter the privacy code. If the user activates Per-Call Privacy and makes a call, and the user activates AR, the switch remembers the privacy activation. Thus, if the AR activation results in subsequent call setup, the switch treats the outgoing call as private or not private.

Terminating: For analog and ISDN users, no CND data is delivered on ringback by the CND feature. However, the AR feature delivers calling party number information on ringback.

6.3.23 Automatic Route Selection (Also Known as Flexible Route Selection)

Automatic Route Selection (ARS) directs outgoing, Business Group Line calls to the customer's most preferred available route.

Originating/Terminating: No interaction.

6.3.24 Automatic Voice Network Interface

Automatic Voice Network (AUTOVON) Interface provides an interface with the AUTOVON network, including provisions for prioritizing call handling.

Originating/Terminating: No interaction.

6.3.25 Basic Emergency Service (911)

Basic Emergency Service provides a 3-digit universal telephone number (911) for public use throughout the United States to report an emergency or request emergency assistance.

Originating: Per-Call Privacy cannot be assigned to 911 lines.

Terminating: CND can be assigned to 911 lines but not to trunks.

6.3.26 Basic Queuing (Queuing for Lines)

Basic Queuing provides queuing for lines, call waiting lamps control, and delay announcements.

Originating/Terminating: When a call is removed from the queue and is set up, the called party receives a CND display.

6.3.27 BRCS Compatibility with ISDN

The BRCS Compatibility features ensure that many of the existing BRCS features and services function with supported ISDN station sets so that users experience equivalent, similar, or expanded circuit-switched voice service by subscribing to these ISDN BRCS features and services.

Originating/Terminating: The ISDN users can activate or deactivate PCP or CND by dialing an access code or pressing a feature button.

6.3.28 Business Group Line

Business Group Line provides capabilities similar to those for individual lines, but is classified as a member of a group of business lines belonging to a single customer.

Originating/Terminating: Business Group Lines can be assigned the ICLID CND and DNP feature.

6.3.29 Business and Residence Custom Service Feature Groups/Feature Clusters

The Business and Residence Custom Service Feature Grouping provides a logical grouping of features and groups that are used by business customers receiving communications services from a central office switch. This feature works with both analog and ISDN BRCS features.

Originating: The CND and PCP features are BRCS features and may be offered as part of a BRCS Feature Group (BFG) and/or feature clusters.

6.3.30 Busy Line Verification

Busy Line Verification allows an operator to complete a connection to a busy line to determine the off-hook/on-hook status of the line or if a conversation exists on the line.

Originating: No interaction.

Terminating: When the attendant uses Busy Line Verification to barge in on an existing conversation, the switch sends the ICLID data for the party barging-in to the DN being barged-in on, if that DN has ISDN ICLID. Note that "ATTENDANT" is displayed to the ISDN calling number delivery customers when the attendant is calling.

6.3.31 Call by Call Access from a 5ESS®-2000 Switch in a Private Network to Interexchange Carrier Services

This feature allows the private network customer to generate a request for services from an interexchange carrier or local exchange carrier.

Originating/Terminating: No interaction.

6.3.32 Call Forwarding Busy Line All Calls

Call Forwarding Busy Line All Calls (CFBLAC) permits all calls attempting to terminate to a busy line to be redirected to another customer-specified line.

Originating: No interaction.

Terminating: A customer is able to have both Call Forwarding and Calling Number Delivery active at the same time. However, the ICLID data is not sent to the base station if the incoming call is forwarded via any means except Call Forwarding Do Not Answer (that is, the data is sent only if the phone is rung). In a call forwarded call, the final station, receives the original calling DN as usual if it subscribed to ICLID.

If the base (forwarding) station and the remote (forwarded-to) station are not on the same switch, the remote ISDN station also receives the base station DN (unless that DN is marked private), and also receives the ICI indicating the reason for forwarding.

In the multiple forwarding case, the first base station DN and reason for forwarding are used, if available, for ISDN ICLID. On intraswitch forwarded calls, if the original calling DN is not available, but the forwarding (base) station DN is available, the switch sends the Calling Number Delivery customer "INCOMING CALL" or "O" in the calling party field and the base station DN in the called party (original called party) field on ISDN station sets.

On an interswitch call, if the terminating switch does not get the CPN but gets another number (such as, the redirect number), the calling party field contains "INCOMING CALL".

6.3.33 Call Forwarding Busy Line Incoming Only

Call Forwarding Busy Line Incoming Only (CFBLIO) ensures that only incoming DID calls are forwarded to the specific business group line.

Originating: No interaction.

Terminating: The CFBLIO applies to calls outside of the user's customer group. The interaction is the same as CFBLAC, with the exception that it applies to incoming calls. See "Call Forwarding Busy Line-All Calls", Section 6.3.32 .

6.3.34 Call Forwarding Do Not Answer-All Calls

Call Forwarding Do Not Answer-All Calls (CFDAAC) forwards all calls to a station to another preselected station within the same customer group, or to an attendant when the called station is not answered after a customer-specified number of seconds.

Originating/Terminating: See "Call Forwarding Busy Line-All Calls", Section 6.3.32 .

6.3.35 Call Forwarding Do Not Answer-Incoming Only

Call Forwarding Do Not Answer-Incoming Only (CFDAIO) ensures that only incoming DID calls to the business group line forward, if not answered, after a customer-specified number of seconds.

Originating/Terminating: See "Call Forwarding Busy Line-All Calls", Section 6.3.32 .

6.3.36 Call Forwarding Incoming Only

Call Forwarding Incoming Only (CFIO) forwards calls terminating from outside the group via DID regardless of the on-hook/off-hook status of the line.

Originating: No interaction.

Terminating: The CFIO applies to calls outside of the user's customer group. The interaction is the same as CFBLAC, with the exception that it applies to incoming calls. See "Call Forwarding Busy Line All Calls", Section 6.3.32 .

6.3.37 Call Forwarding Over Private Facilities

Call Forwarding Over Private Facilities (CFPF) is a Call Forwarding Variable (CFV) option allowing business customers to automatically forward voice calls over the outgoing Private Facility Access (PFA) or Automatic Route Selection (ARS) service selected by the customer.

Originating: The SS7 connectivity is required on interoffice calls. The calling DN is not available on inter-LATA calls without SS7 network interconnectivity.

Terminating: See "Call Forwarding Busy Line All Calls", Section 6.3.32 .

6.3.38 Call Forwarding Variable

Call Forwarding Variable (CFV) allows a station user to redirect calls intended for that station to another station.

Originating: No interaction.

Terminating: See "Call Forwarding Busy Line All Calls", Section 6.3.32 .

6.3.39 Call Forwarding In (Within) A Group

The Call Forwarding In (Within) A Group (CFIAG) restricts DNs of forward-to numbers dialed during activation to intragroup extension numbers.

Originating: No interaction.

Terminating: See "Call Forwarding Busy Line All Calls", Section 6.3.32 .

6.3.40 Call Hold

Call Hold (CHD) allows a station user to *hold* a call in progress by flashing and then dialing the call hold code.

Originating: An ICLID user can put a call on hold and, following receipt of dial tone, invoke ICLID.

Terminating: When a call is reconnected after being on hold, the DN without the date and time is sent to the ISDN ICLID CND customer. Analog customers receive no CND data when ringback is received from being on hold.

6.3.41 Call Pickup (Also Known as Call Pickup Originating and Regular Call Pickup)

Call Pickup (CPU) allows a station user to answer any call within an associated preset pickup group.

Originating: No interaction.

Terminating: When an ISDN CND customer uses Call Pickup to pick up another user's call, the switch sends the ICLID data to the ISDN station set performing the pickup. When a call is picked up, the calling and called DNs are displayed with an ICI of the picked up call.

6.3.42 Call Tracing

Call Tracing allows central office personnel to determine the source of annoying or threatening calls, or to identify lines in emergency or demand situations.

Originating/Terminating: No interaction.

6.3.43 Call Transfer Attendant

Call Transfer Attendant (CTA) allows the called business group station user to transfer the call to the attendant while connected to a DID or private network incoming call.

Originating: No interaction.

Terminating: See "Call Transfer Individual All Calls", Section 6.3.44 .

6.3.44 Call Transfer Individual All Calls

Call Transfer Individual All Calls (CTIAC) allows a station user to transfer any established call to another station within or outside the private branch exchange (PBX) or business group without the assistance of the attendant.

Originating: No interaction.

Terminating: When a call is transferred, the switch does not send new ICLID data (indicating the new connected party) to the called party. For example, Calling Number Delivery works as follows: When party A calls party B, and A puts B on hold and calls C, C receives normal ICLID data about A. When A transfers B to C, neither B nor C's ICLID data is changed.

6.3.45 Call Transfer Individual-Incoming Only

Call Transfer Individual-Incoming Only (CTIIO) allows a business group station user to transfer an incoming call to another station in the same business group without assistance of the attendant.

Originating: No interaction.

Terminating: See "Call Transfer Individual All Calls", Section 6.3.44 .

6.3.46 Call Transfer Internal Only

Call Transfer Internal Only (CTIO) allows a business group station user to transfer any established intragroup call to another station in the same customer group without the assistance of an attendant.

Originating: No interaction.

Terminating: See "Call Transfer Individual All Calls", Section 6.3.44 .

6.3.47 Call Transfer Outside

Call Transfer Outside (CTO) allows a station user to add on a dial "9" off-network, Common Control Switching Arrangement (CCSA), or WATS facility to an external call. A call using CTO can be transferred to a private facility.

Originating/Terminating: See "Call Transfer Individual All Calls", Section 6.3.44 .

6.3.48 Call Waiting Incoming Only

Call Waiting Incoming Only (CWIO) is a version of Call Waiting Terminating (CWT). It gives an analog station user, who is engaged in a telephone conversation, an audible alert indicating an incoming Direct Inward Dialing (DID) or Private Facilities Call is attempting to terminate. See "ISDN Priority Calling Incoming Only", Section 6.3.142 , for the ISDN version of CWIO.

Originating: No interaction.

Terminating: No CND data is delivered on ringback.

When CWIO is invoked on an analog line with Calling Number Delivery, Call Waiting operates in the normal way. The ICLID data is not sent for the new party.

6.3.49 Call Waiting Originating

Call Waiting Originating (CWO) allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The CWO feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations, if all unreserved call appearances of the ISDN station are active. It is automatically invoked any time a busy intragroup station is encountered. The CWO feature is only operational for intraterminal group calls.

Originating: No interaction.

Terminating: When CWO is invoked on a call to an analog line with Calling Number Delivery, when call waiting tone is applied, Call Waiting operates in the normal way.

However, the ICLID data is not sent for the new party. If the analog line does not answer the call and then disconnects, ICLID data will be delivered.

6.3.50 Call Waiting Terminating

Call Waiting Terminating (CWT) uses a burst tone to inform a busy analog station user that another call is waiting.

Originating: No interaction.

Terminating: When CWT is invoked on an analog line with Calling Number Delivery, Call Waiting operates in the normal way. The ICLID data is not sent when the CW tone is applied.

If the analog line does not answer the call and then disconnects, ICLID data will be delivered.

6.3.51 Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment

This feature allows the 5ESS®-2000 switch PBX to send the calling party number (CPN)/billing number (BN) of the originator to the public network or to another PBX on a per-trunk group basis for all calls.

Originating: No interaction.

Terminating: Calling Number Delivery and CPN/BN optioning on BRIs can be assigned to a DN, simultaneously. Each feature may be activated/deactivated independently, and both features may have the same billing option. For terminations to BRIs with the CPN/RN feature, when the originator is using DN privacy, the CPN information element (IE) is sent with a Presentation Indicator of Restricted and no calling party number.

On PRIs, both CND and CPN/BN optioning may be subscribed to the terminating user. The CPN/BN optioning takes precedence over CND. For PRIs, the CPN IE also has the Presentation Indicator marked Restricted but the DN is included when the SETUP message comes from the Network side of the PRI to the User side. When the SETUP message comes from the User side to the Network side, the calling party number is not present.

6.3.52 Cancel Call Waiting

Cancel Call Waiting (CCW) allows a customer with Call Waiting to inhibit the application of the call waiting tone for the duration of one call.

Originating/Terminating: No interaction.

6.3.53 Carrier Interconnection

Carrier Interconnection provides an interface between the local exchange, inter-LATA, and interexchange carriers.

Originating/Terminating: No interaction.

6.3.54 Centrex Complex

Centrex Complex associates multiple business groups in a single switch with a single common *Complex*. All business groups in the complex share intercom calling privileges, yet may have separate private facility groups or separate dialing plans.

Originating/Terminating: No interaction.

6.3.55 Code Calling

Code Calling allows attendants and station users to dial an access code and a 2- or 3-digit called party code to activate signaling devices with a coded signal corresponding to the called code.

Originating/Terminating: No interaction

6.3.56 Code Restriction

Code Restriction blocks outgoing calls to customer-specified codes [numbering plan area (NPA), NXX].

Originating/Terminating: No interaction.

6.3.57 Signaling System 7 Network Interconnect

Signaling System 7 Network Interconnect (SS7 NI) provides an out-of-band signaling interface between local exchange carrier and interexchange carrier networks.

Originating/Terminating: The SS7 connectivity is required on interoffice calls. The calling DN is not available on inter-LATA calls without SS7 network interconnectivity.

6.3.58 Common Control Switching Arrangement Access

Common Control Switching Arrangement (CCSA) Access provides access to the customer's CCSA network.

Originating/Terminating: No interaction.

6.3.59 Computer Access Restriction

Computer Access Restriction (CAR) allows the customer to restrict access to a computer connected through a modem to the telephone line. The CAR feature, operational only for voice calls, is not operational for ISDN packet-switched or circuit-switched data calls.

Originating/Terminating: Unidentified Call Rejection is not invoked for CAR if it is active for the same DN. An incoming call with the calling party number marked private is screened by CAR. If the calling party is on the CAR screening list, the call is offered normally; if the number is not on the screening list, CAR nonacceptance treatment applies.

See "Selective Call Acceptance", Section 6.3.190 .

6.3.60 Conference Calling Six-Way (Also Known as Station Dial Conference)

Conference Calling Six-Way allows a station user to establish a conference call involving up to five other parties without attendant assistance.

Originating: The user can dial the Per-Call Privacy access code with each leg of a conference call for which privacy is desired.

Terminating: See "Call Transfer Individual All Calls (CTIAC)", Section 6.3.44 , and "Add-On/Consultation Hold-Incoming Only", Section 6.3.6 .

6.3.61 Critical Interdigit Timing

Critical Interdigit Timing is activated when the digits received provide sufficient information to complete a call, but the possibility of receiving additional valid digits exists.

Originating/Terminating: Critical Interdigit Timing applies for CND and DNP access codes.

6.3.62 Customer Access Treatment Code Restriction

Customer Access Treatment (CAT) Code Restriction allows the creation of subgroups in a business group to provide additional restriction or access functions.

Originating/Terminating: Customer Access Treatment codes apply for CND and DNP access codes.

6.3.63 Customer-Changeable Speed Calling

Customer-Changeable Speed Calling (CCSC) allows customers to assign their own speed calling codes directly and immediately from their own telephone by dialing a change speed calling list access code, an abbreviated code, and a new telephone number.

Originating/Terminating: PCP codes plus the associated DN can be part of a speed call entry. See "Speed Calling", Section 6.3.202 .

6.3.64 Customer Dialed Account Recording

Customer Dialed Account Recording (CDAR) allows a business group customer to associate a personal account number with a given call and have it recorded on the AMA record. The customer can use this record for allocating charges on both outgoing and incoming calls.

Originating/Terminating: No interaction.

6.3.65 Customer Station Rearrangement via Remote Memory Access System

Customer Station Rearrangement (CSR) via Remote Memory Access System (RMAS) allows business customers to make changes affecting their telephone service from an on-premises terminal.

Originating/Terminating: If a business customer has both an ICLID feature and the Customer Station Rearrangement capability, then the business customer has the ability to use CSR to assign/unassign an ICLID feature to lines in the business group, and the ability to perform line moves on lines having an ICLID feature. After the move, the user is able to access an ICLID feature provided the old location and the new location have the same access option. Data in the old location is not transferred to the new location.

6.3.66 Delayed Announcement for Queued Calls on Hunt Group

Delayed Announcement for Queued Calls on Hunt Group allows a customer-generated automatic announcement for multiline groups with queuing.

Originating/Terminating: No interaction.

6.3.67 Deluxe Automatic Route Selection

Deluxe Automatic Route Selection (DARS) extends the choice of private routes for each NPA/NXX to 16 versus 4 for basic ARS.

Originating/Terminating: No interaction.

6.3.68 Deluxe Queuing

Deluxe Queuing is composed of the following two parts: Priority Queuing and Ringback Queuing.

Originating: No interaction.

Terminating: For analog users, no CND data is delivered on ringback. When a call is removed from the queue and is set up, the called party receives a CND display.

6.3.69 Dial Access to ISDN Attendant

Dial Access to ISDN Attendant provides dial access from the station to the ISDN attendant within the customer group.

Originating/Terminating: No interaction.

6.3.70 Dial Access to Private Facilities

Dial Access to Private Facilities (DAPF) lets a customer choose to terminate the private facilities at the central office and access those facilities by dialing a unique access code per facility.

Originating/Terminating: No interaction.

6.3.71 Dial Call Waiting

Dial Call Waiting (DCW) allows an originating business group station to invoke Call Waiting service on selected intragroup calls by dialing an access code followed by the extension number of the station to be call waited. Dial Call Waiting allows a business group station user to direct a call waiting tone toward a busy analog called station in the

same business group. The DCW feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for ISDN Priority Calling terminations if all unreserved call appearances of the ISDN station are active.

Originating/Terminating: If a user desires to activate PCP, and Dial Call Waiting, the PCP code must be dialed before the call waiting code. See "Call Waiting Originating", Section 6.3.49 .

6.3.72 Dial Pulsing

Dial Pulsing provides the capability to transmit and receive direct current address signals between offices.

Originating/Terminating: No interaction.

6.3.73 Dial Through Attendant

Dial Through Attendant (DTA) allows a station user to complete the dialing on other than station-to-station calls after the attendant selects the private facility on attendant-handled calls.

Originating/Terminating: No interaction.

6.3.74 Dial Transfer to Tandem Tie Line

Dial Transfer to Tandem Tie Line makes the Call Transfer feature compatible with tie lines (trunks). After flashing, a station user with normal access to tie lines can dial a call through the tie line and transfer the original call to it.

Originating/Terminating: No interaction.

6.3.75 Direct Connect

Direct Connect automatically places a call to a preselected called number when a station goes off-hook.

Originating/Terminating: The Per-Call Privacy codes are not accepted with this feature.

6.3.76 Directed Call Pickup with Barge-In

Directed Call Pickup with Barge-In is similar to Regular Call Pickup. For Directed Call Pickup, the call pickup dial code is dialed, and the DN of the party to be picked up is entered. If the line being picked up has been answered, barge-in alert tone is provided and a three-way call is established.

Originating: When an ISDN CND customer uses Call Pickup to pick up another user's call, the switch sends the ICLID data to the ISDN station set performing the pickup.

Terminating: When someone uses Directed Call Pickup to barge in on an existing conversation, the switch sends the ICLID data for the party barging in to the DN being barged in on, if that DN has ISDN ICLID.

6.3.77 Directed Call Pickup without Barge-In

Directed Call Pickup without Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, the party dialing the pickup code is routed to reorder rather than permitted to barge in on the established connection and create a three-way call.

Originating/Terminating: See "Directed Call Pickup with Barge-In", Section 6.3.76 .

6.3.78 Distinctive Ringing

Distinctive Ringing (DR) applies a distinctive ringing or call waiting tone pattern enabling a station user to determine the source of an incoming call.

Originating/Terminating: The analog ICLID data is transmitted in the first silent interval of a distinctive ringing pattern that is long enough to send the data. The switch can send the data in the first 3- or 4-second silent interval.

If that first silent interval begins more than 3 seconds after the start of the first power ring, the switch does not send the data.

6.3.79 Dual Call Coverage (Also Known as Dual Telephone Coverage)

Dual Call Coverage allows calls originating internal to a customer's terminal group to route to a message center other than the one servicing outside calls.

Originating/Terminating: No interaction.

6.3.80 Electronic Tandem Switching Trunk Access (Also Known as Access to ETS Trunks)

Electronic Tandem Switching (ETS) Trunk Access provides access to a customer's ETS facilities on a distant switch.

Originating/Terminating: No interaction.

6.3.81 Electronic Tandem Switching on Primary Rate Interface Trunks

The Electronic Tandem Switching on Primary Rate Interface Trunks feature allows the 5ESS®-2000 switch to provide electronic tandem network (ETN) trunking between a 5ESS®-2000 switch central office node and one or more digital PBX nodes in an ETN.

Originating/Terminating: No interaction.

6.3.82 Electronic Tandem Network Interworking in the 5ESS®-2000 Switch Private Network Environment

This feature gives the 5ESS®-2000 switch private network customer, who is currently using the Electronic Tandem Switching feature, expanded capabilities using the Primary Rate Interface to connect multiple private ETN nodes.

Originating/Terminating: Refer to the ISDN PRI information in "ISDN Terminals", Section 6.2.3.1.2 .

6.3.83 Emergency Access to ISDN Attendant

Emergency Access to ISDN Attendant allows a station user to dial an emergency code to gain immediate access to the attendant.

Originating/Terminating: No interaction.

6.3.84 Emergency Ringback

Emergency Ringback is associated with the Basic 911 Emergency Service used to recall a customer station immediately following disconnect from, and at the request of, an emergency bureau.

Originating/Terminating: No interaction.

6.3.85 Enhanced Private Switched Communications Service Access

Enhanced Private Switched Communications Service (EPSCS) Access provides the ability to terminate access lines to the EPSCS switch.

Originating/Terminating: No interaction.

6.3.86 Expensive Route Warning Tone

Expensive Route Warning Tone (ERWT) indicates when a more expensive route is about to be used.

Originating/Terminating: No interaction.

6.3.87 Facility Restriction Level

Facility Restriction Level (FRL) defines the calling privileges associated with a line.

Originating/Terminating: No interaction.

6.3.88 Feature Code Definition

The Feature Code Definition is the access code defined by the service provider that allows the user to access the ICLID feature.

Originating/Terminating: Dial access codes can be assigned for Per-Call Privacy.

6.3.89 Flexible Night Service (Also Known as Attendant Call Forwarding)

Flexible Night Service (FNS) forwards calls directed to the attendant group to a different location (night location, also known as a night directory number).

Originating/Terminating: See "Call Forwarding Busy Line All Calls", Section 6.3.32 .

6.3.90 Foreign Exchange Line

Foreign Exchange (FX) Line provides line termination in a central office different from the line providing service to the customer.

Originating/Terminating: No interaction.

6.3.91 Four- and Eight-Party

Four- and Eight-Party provides Plain Old Telephone Service (POTS) for up to four or eight customers sharing the same line.

Originating/Terminating: Four- and eight-party lines are denied from Calling Number Delivery, Per-Call Privacy, and Unidentified Call Rejection. Calls originating from them will not be sent Calling Party Number delivery.

6.3.92 Fully Restricted Originating and Terminating

Fully Restricted Originating and Terminating (FROT) provides the ability to deny a station's ability to originate and/or receive calls to or from outside the business group. It also blocks "dial 0" calls to an attendant and calls from an attendant to the station.

Originating: No interaction.

Terminating: If feature number 543 is active, both the calling and the called DN are displayed at the party receiving a redirected call as a result of terminating restriction reroute error treatment. If feature number 543 is not active, the

called DN is not displayed.

6.3.93 Home Intercom (Also Known as Home Intercom/Single Line Variety Package)

Home Intercom/Single Line Variety Package (HI/SVP) allows the HI/SVP user to ring all telephone sets (extensions) associated with the line by dialing specified codes from the station.

Originating/Terminating: Home Intercom feature cannot invoke PCP.

6.3.94 Hunt Group Transfer for Circuit-Switched Data Calls

This feature allows Circuit-Switched Data (CSD) calls to a CSD multiline hunt group (MLHG) to forward-to a second CSD MLHG.

Originating/Terminating: No interaction.

6.3.95 In-Progress Call Tracing

In-Progress Call Tracing is one type of Call Tracing feature that identifies a call in progress.

Originating/Terminating: No interaction.

6.3.96 Individualized Dialing Plan

The Individualized Dialing Plan (IDP) feature allows digits to be interpreted according to the IDP of the customer instead of the office dialing plan (ODP) and/or the standard office abbreviated dialing list.

Originating/Terminating: A PCP and CND access code can be defined in the IDP.

The LASS Dialed Code Restrictions on IDP Users feature affects access to LASS features AC, AR, COT, ICLID CND, PCP, SCA, SCR, CAR, SCF, and SDA. This feature is an optioned feature available on an SM basis via the Secured Feature Upgrade View (View 8.22). The LASS Dialed Code Restrictions on IDP Users feature, controls dial code access to LASS features for IDP users. The default value for this feature is disabled (inactive). When this feature is disabled, IDP users can use the access codes defined in their IDP in addition to the ODP defined dialed access codes to access LASS features. Using an ODP defined dial access code for access to a LASS feature by an IDP user may require the dialing of an IDP defined "escape to POTS access code" (9, or *9) immediately prior to dialing the ODP defined access code. Dialing of an ODP defined access code directly (not preceded by an escape to POTS code) is allowed if the error treatment for the user's IDP has been set to use the office code on RC View 9.10.

When the LASS Dialed Code Restrictions on IDP Users feature is enabled (active), an IDP user cannot use an ODP defined dial access code to access a LASS feature. The ODP defined dial access code cannot be used whether or not the ODP LASS code is preceded by an escape to POTS code and regardless of the error treatment for the user's IDP group. Reorder tone is returned to an IDP user after an ODP access code is dialed to access a LASS feature.

Additionally, with this feature enabled, neither an ODP nor an IDP defined dial access code for a LASS feature will be accepted by the 5ESS[®]-2000 switch at any time after an escape to POTS code has been dialed by an IDP user in a single, off-hook dialing scenario. However, an IDP user can dial an escape to POTS code followed by an automatic route selection (ARS), authorization, or an account code prior to the dialing of an IDP (but not ODP) LASS code. Dialing an ARS, authorization, or account code in conjunction with an IDP LASS dialed access code is allowed regardless of the activation status of the LASS Dialed Code Restrictions on IDP Users feature.

The LASS Dialed Code Restrictions on IDP Users feature requires dialed codes used for access to LASS features to be defined in the IDP. Except for ARS, authorization, or account codes, activation of this optioned feature requires

that access to non-LASS features allowed to be dialed prior to the LASS access codes must also be defined in the IDP. This allows IDP users to use non-LASS features in conjunction with LASS features.

Refer to 235-080-100, *Translation Guide*, for ICLID activation and cancellation codes to build in the IDP.

6.3.97 Inspect for ISDN Terminals

Inspect for ISDN Terminals retrieves and displays call-related information about any call appearance having a call associated with it. Inspect also displays feature button identification.

Originating: The Inspect feature can be used to examine the PCP and CND feature buttons.

Terminating: The Inspect feature is part of the ISDN BRCS Display features. When a user is inspecting a call appearance, ICLID data does not include the date and time. If the Inspect feature terminates while a user is inspecting a call appearance, ICLID data is displayed for the call appearance in the talking state. If there are no call appearances in the talking state upon returning to the NORMAL mode, then the display is blank.

6.3.98 Intercom Calling Restriction

Intercom Calling Restriction counts and limits the number of intercom calls that can be in progress at any one time within a customer group. It also sets a maximum total simultaneous call volume that includes intercom and calls external to the customer group.

Originating/Terminating: No interaction.

6.3.99 Intercom Dialing

Intercom Dialing, in conjunction with the special dialing plan, permits station users in the business group to place calls to each other on a 1- to 7-digit basis.

Originating/Terminating: The full 10 digits are always displayed.

6.3.100 Intra-LATA Presubscribed Inter-LATA Carrier (Intra-LATA PIC)

The Intra-LATA PIC capability allows the Local Exchange Carrier (LEC) to open up certain Intra-LATA toll routes which were previously handled exclusively by the LEC, to competition on an equal access basis between the LEC and Inter-LATA Carriers (ICs).

The Intra-LATA PIC capability allows a subscriber to presubscribe to an Intra-LATA Toll Carrier (PTC) that handles all of his/her Intra-LATA Toll traffic (7 digit or 10 digit calls with or without a "1/0" prefix), if dialed without a 10XXX (or 101XXXX) prefix, but which may or may not be the same as the Presubscribed Inter-LATA Carrier (PIC).

Originating: No interaction.

Terminating: ICLID will work properly with incoming Intra-LATA PIC calls provided that the calling number is delivered. However, if the LEC does not transmit the calling party number to the IC or the IC does not transmit the calling party number to the LEC, then ICLID will not work properly. Note that the CPN SUBSC option on RC/V View 10.2 can be used to allow/disallow passing of the SS7 Calling Party Number parameter to an IC.

6.3.101 Intermodule Trunking

Intermodule Trunking provides trunking between modules connected to the same base 5ESS®-2000 switch.

Originating/Terminating: The ICLID feature works on calls over intermodule trunking only if SS7 signaling is used.

6.3.102 Intraswitch/Interswitch Calling Party Number/Billing Number Optioning to Terminating User

This feature allows the terminating PRI or BRI user to request delivery of the calling party number or billing number on an *exclusive* or *preferred* basis on every call for circuit-switched voice/data calls.

Originating/Terminating: This feature can coexist with the ICLID features for BRI. Refer to "Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment", Section 6.3.51 .

6.3.103 ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants

The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature allows a supervisor, or attendant, to display data about an attendant position.

Originating/Terminating: While the Aggregate Work Time/Number of Calls Handled display appears and a call is offered, the CPE determines if ICLID data should overwrite the Aggregate Work Time/Number of Calls Handled display.

6.3.104 ISDN Attendant Busy Verification of Lines and Trunks

The ISDN Attendant Busy Verification of Lines and Trunks feature allows an attendant to determine whether a line or trunk within the same customer group is busy or idle.

Originating: No interaction.

Terminating: When the attendant uses busy-verify to barge in on an existing conversation, the switch sends the ICLID data for the attendant to the DN being barged in on if that DN has ISDN ICLID. Note that "ATTENDANT" is displayed to ISDN Calling Number Delivery customers when the attendant is calling (or barging in).

6.3.105 ISDN Attendant Call Hold

The ISDN Attendant Call Hold feature allows the ISDN attendant to hold a call in progress to originate another call or to pick up a call on hold.

Originating: No interaction.

Terminating: When a call is reconnected after being on hold, the DN without the date and time is sent to an ISDN CND customer. See "Add-On/Consultation Hold-Incoming Only", Section 6.3.6 .

6.3.106 ISDN Attendant Call Splitting

The ISDN Attendant Call Splitting feature allows the ISDN attendant to consult privately with the called party without the calling party hearing.

Originating/Terminating: The display shows the call data associated with the talking leg of the call.

6.3.107 ISDN Attendant Call Transfer

The ISDN Attendant Call Transfer feature is the ISDN version of Attendant Call Transfer.

Originating/Terminating: See "Attendant Call Transfer", Section 6.3.8 , and "Add-On/Consultation Hold-Incoming Only", Section 6.3.6 .

6.3.108 ISDN Attendant Camp-On

The ISDN Attendant Camp-On feature is the ISDN version of the Attendant Camp-On feature. It allows calls that the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating/Terminating: This feature applies to analog calls; no CND data is sent when the telephone is off-hook. No CND data is delivered on ringback.

6.3.109 ISDN Attendant Conference Calling

The ISDN Attendant Conference Calling feature allows the attendant to set up conference calls with any combination of extensions or trunks on the internal conference bridge. The maximum number of parties on the conference call is limited to the capacity of the multiport conference circuit.

Originating/Terminating: See "Three-Way Calling", Section 6.3.205 .

6.3.110 ISDN Attendant Control of Facilities

The ISDN Attendant Control of Facilities (ACOF) feature is the ISDN version of ACOF.

Originating/Terminating: No interaction.

6.3.111 ISDN Attendant Control of Voice Terminals

The ISDN Attendant Control of Voice Terminals (ACVT) feature enables an attendant to impose an originating or terminating restriction (or both) on a DN or group of DNs. The ACVT feature routes calls destined for a line or group of lines to the attendant for handling. It is activated by the attendant or automatically by the switch.

Originating/Terminating: No interaction.

6.3.112 ISDN Attendant Direct Station Selection

The ISDN Attendant Direct Station Selection (DSS) feature allows the attendant to display the status of up to 10,000 DNs in 100 groups of 100 contiguous DNs starting at 00.

Originating/Terminating: A call to a DN in the 100 group using Direct Station Select interaction results in "ATTENDANT" being displayed to the ISDN calling number delivery customer.

6.3.113 ISDN Attendant Emergency Override

The ISDN Attendant Emergency Override (AEO) feature allows the attendant to complete incoming calls to stations as follows:

- Calls that are busy from setting the make-busy key
- Calls that have a series completion or multiline hunt arrangement
- Calls with Call Forwarding active.
- Calls with terminating restrictions.

Originating/Terminating: No interaction.

6.3.114 ISDN Attendant Incoming Call Identification

The ISDN Attendant Incoming Call Identification (ICI) feature allows an attendant to identify the type of facility over which an incoming call to the attendant was routed.

Originating/Terminating: The ICI is displayed along with Calling Number Delivery (CND).

6.3.115 ISDN Attendant Night Service

The ISDN Attendant Night Service feature forwards calls directed to the ISDN attendant to a different station.

Originating/Terminating: See "Call Forwarding Busy Line All Calls", Section 6.3.32 .

6.3.116 ISDN Attendant Position Busy

The ISDN Attendant Position Busy feature allows the position to be made busy by the attendant. When the attendant position is made busy in a single position arrangement, new calls to the position receive busy treatment. In a multiple position arrangement, new calls are directed to a different console position.

Originating/Terminating: No interaction.

6.3.117 ISDN Attendant Selective Customer Control of Facilities

The ISDN Attendant Selective Customer Control of Facilities (ASCCOF) feature allows an attendant to deny access to a trunk or Simulated Facilities Group.

Originating/Terminating: No interaction.

6.3.118 ISDN Attendant Through Dialing

The ISDN Attendant Through Dialing feature allows an attendant to access an outgoing facility for a calling party within the group who has restrictions or difficulty in placing an outgoing call.

Originating: ATTENDANT is displayed to the ISDN Calling Number Delivery customers when the attendant is calling instead of the CPN of the attendant.

Terminating: See "Call Transfer Individual All Calls", Section 6.3.44 .

6.3.119 ISDN Attendant Timed Reminder

The ISDN Attendant Timed Reminder feature provides a timer that is started when a call is camped on, when the called party has not answered after a transfer, or when a call is on hold. When the timer expires, the attendant is alerted and can pick up the call to talk to the calling party.

Originating/Terminating: No interaction

6.3.120 ISDN Attendant Traffic

The ISDN Attendant Traffic feature provides the traffic counts for each attendant console position.

Originating/Terminating: No interaction.

6.3.121 ISDN Attendant Trunk Identification

The ISDN Attendant Trunk Identification feature provides a display of the trunk group and member number of the incoming or outgoing trunk in use either at the request of the attendant or automatically on incoming trunk calls.

Originating/Terminating: The 5ESS[®]-2000 switch sends the ICLID data to the CPE. While the Trunk Identification display appears and a call is offered, the CPE determines if ICLID data should overwrite the Trunk Identification display.

6.3.122 ISDN Automatic Customer Station Rearrangement

The ISDN Automatic Customer Station Rearrangement (ACSR) feature allows users to rearrange their DNs automatically when an ISDN station set is moved.

Originating/Terminating: The ISDN user can use the Automatic Customer Station Rearrangement with DN privacy. Thus, when a user uses ACSR to move a station set to another location, the assignment of DN privacy, either All-Call or Per-Call, remains unchanged (including the billing method).

An ISDN user can use ACSR with Calling Number Delivery (ACSR allows an ISDN terminal to move from one line to another without losing the features and parameters previously assigned). Thus, when a user uses ACSR to move a station set to another location, the assignment of Calling Number Delivery, the active/not active status, and the type of billing remain unchanged.

6.3.123 ISDN Automatic-Hold/Drop Preference

The ISDN Automatic-Hold/Drop Preference feature automatically determines how to handle a call active on one call appearance when the user shifts to another appearance. Two types of treatment are provided: Automatic-Drop and Automatic-Hold.

Originating/Terminating: No interaction.

6.3.124 ISDN Basic Message Service

The ISDN Basic Message Service (BMS) feature provides basic personalized message service for customer groups.

Originating: For Message Service, if the base (forwarding) station and the remote (forwarded-to) station are a message service center on the same switch, the message center also receives the base station's DN even if it is marked private.

Terminating: No interaction.

6.3.125 ISDN Bridging

The ISDN Bridging feature allows the multibutton key system (MBKS) set user to bridge onto a currently active call by pressing the active call appearance button on the MBKS set and going off-hook. This establishes a three-way call. This is different from standard Three-Way Calling because the third party initiates the bridge to the active call. Bridging is inhibited if Manual Exclusion is activated at an MBKS set engaged in the active call.

Originating/Terminating: No interaction.

6.3.126 ISDN Customer Station Rearrangement via **MACSTAR®** I and II Software

The ISDN Customer Station Rearrangement via **MACSTAR®** I and II software feature expands the Manual Customer Station Rearrangement (CSR) capabilities to include customer control over the ISDN feature.

Originating/Terminating: See "Customer Station Rearrangement via Remote Memory Access System", Section 6.3.65 .

6.3.127 ISDN Delayed and Abbreviated Ringing

The ISDN Delayed and Abbreviated Ringing (DAR) feature alerts an MBKS set for a predetermined interval before ringing another designated MBKS set.

Originating/Terminating: No interaction.

6.3.128 ISDN Drop

The ISDN Drop feature allows the MBKS set user to drop the last party added to a conference call. For a 2-party call, pressing this button disconnects the MBKS set from the call.

Originating/Terminating: No interaction.

6.3.129 ISDN Electronic Directory Service Calling Name Display

The ISDN Electronic Directory (EDS) Service Calling Name Display feature gives the calling party's name and telephone number to the called party. Only names of callers within the business group are displayed.

Originating: No interaction.

Terminating: If a user has Calling Name Display, the 5ESS®-2000 switch sends the Calling Name Display information. What actually is displayed is customer premises equipment (CPE) dependent. If a calling party's number is private, their name is also considered private. An applications processor is required to store the name data base.

6.3.130 ISDN Electronic Directory Service Directory Query Display/Autocall

The ISDN Electronic Directory Service Directory Query Display (DQD) allows the user to query the electronic directory data base for a name using the ISDN station set. The user can generate an Autocall (automatic call setup) by pressing the appropriate button.

Originating/Terminating: The ICLID data is sent to the CPE while a user is in the Directory Query Display session. The CPE determines if the ICLID data should be displayed.

6.3.131 ISDN Electronic Directory Service Query Service (Also Known as Application Processor Query Service)

The ISDN Electronic Directory Service Query Service allows a user to query the applications processor (AP) directory using a video display terminal for call and personnel information on a per-customer group basis.

Originating: Electronic Directory Service can retrieve the name associated with the calling DN.

Terminating: No interaction.

6.3.132 ISDN Hold

The ISDN Hold feature allows the MBKS set user to place a call on hold by pressing the function button. Any MBKS set with a call appearance for call on hold can pick up the call by pressing the call appearance button.

Originating: No interaction.

Terminating: When a call is reconnected after being on hold, the ICLID data without the date and time is sent to an ISDN CND customer.

6.3.133 ISDN Initiated Priority Calling

The ISDN Initiated Priority Calling (IPC) feature provides the ISDN equivalent of Dial Call Waiting.

Originating/Terminating: See "Dial Call Waiting", Section 6.3.71 .

6.3.134 ISDN Manual Exclusion

The ISDN Manual Exclusion feature allows an MBKS set user to inhibit other stations from picking up a call on hold or bridging onto a call that is active at that station.

Originating/Terminating: No interaction.

6.3.135 ISDN Message Service Automatic Call Setup (Also Known as Autocall)

The ISDN Message Service Automatic Call Setup feature allows ISDN clients with the Message Retrieval Display or Direct Access to Message Data Base feature to automatically set up a call to the directory number being displayed during the retrieval session.

Originating/Terminating: The Message Service ICLID data (if applicable) is sent on calls automatically set up.

6.3.136 ISDN Message Service Message Retrieval Display

The ISDN Message Service Message Retrieval Display (MRD) allows ISDN station users to directly retrieve their Message Service Center or Leave Word Calling messages independent of whether SCA is active or inactive.

Originating/Terminating: The ICLID data is sent to the CPE while a user is in the Message Retrieval Display session. The CPE determines if the ICLID data should be displayed.

6.3.137 ISDN Multiple Call Appearances

The ISDN Multiple Call Appearances feature allows an MBKS set to have more than one DN button assigned to the same DN. Incoming calls for this DN are handled in much the same way as Series Completion. A hunt is made for an idle call appearance of the called DN when a call is made to a DN that has multiple call appearances on an MBKS set.

Originating: No interaction.

Terminating: For each alerting (incoming) call, ICLID CND data is sent.

The ISDN Multiple DNs feature assigns multiple directory numbers to a terminal.

Originating/Terminating: The CND feature is assigned to the DN; thus, CND is provided only to the DNs that have ICLID assigned. Directory Number Privacy is assigned to the terminal and applies to all calls made from the terminal regardless of the DN.

6.3.138 ISDN Number of Calls on Queue (Attendant)

Number of Calls on Queue can display each ISDN Incoming Call Identification (ICI) type. By repeating the request, the attendant can display all ICI queues.

Originating/Terminating: No interaction.

6.3.139 ISDN Number of Calls on Queue (MLHG)

Originating/Terminating: No interaction.

6.3.140 ISDN Originating Priority Calling

The ISDN Originating Priority Calling (OPC) feature provides the ISDN equivalent of Call Waiting Originating.

Originating/Terminating: See "Call Waiting Originating", Section 6.3.49 .

6.3.141 ISDN Outgoing Called Line Identification

The ISDN Outgoing Called Line Identification (OCLID) feature provides a user originating a call with information about the called party and the facility or destination. Facility and call destination information are provided via the ISDN ICI call types.

Originating: The OCLID feature provides display for immediate call setup. Calling ISDN terminals are not required to have access to the OCLID feature to receive the ICLID display.

Terminating: The ICLID data for a new incoming call overwrites an OCLID display.

6.3.142 ISDN Priority Calling-Incoming Only

The ISDN Priority Calling Incoming Only (PCIO) feature is the ISDN equivalent of the Call Waiting Incoming Only feature. With this feature, calls outside the business group can terminate to an idle call appearance reserved for incoming calls (calls from outside the terminal group) when all unreserved call appearances are active.

Originating/Terminating: No interaction.

6.3.143 ISDN Shared Call Appearances of a Directory Number

The ISDN Shared Call Appearances of a Directory Number feature allows several MBKS station sets to share one or more DNs.

Originating: When PCP is assigned on a terminal basis, if the shared DN is assigned PCP, access is only from the primary terminal (unless the secondary terminal has PCP assigned).

Terminating: If a customer has a shared DN (shared call appearance), such that a DN is shared by multiple terminals, the customer has the option, at CND subscription, to receive the ICLID data at all terminals with that DN, or only at the terminal where the DN is primary (the lead port).

NOTE: If a customer's DN is shared by both an analog set and ISDN terminals, the analog set is the lead port for the DN.

For bridging to a shared call appearance, ICLID data is sent to the bridging party that has CND.

6.3.144 ISDN Single-Digit Intercom

The ISDN Intercom (ICOM) feature is a form of ISDN station-to-station calling. The ICOM user can originate a call to the ICOM group member by pressing the ICOM buttons.

Originating/Terminating: No interaction.

6.3.145 ISDN Time and Date Display

The ISDN Time and Date Display feature is a subscription feature for ISDN attendants and ISDN station set users. The 5ESS®-2000 switch provides the time and date to the ISDN station set.

Originating/Terminating: While the Time and Date Display appears and a call is offered, the CPE determines if ICLID data should overwrite the Time and Date Display.

6.3.146 ISDN Total Number of Calls Handled Display for ISDN Attendants

Total Number of Calls Handled Display for ISDN Attendants provides supervisors with traffic data information about each attendant in the ISDN attendant group.

Originating/Terminating: No interaction.

6.3.147 Limited Intragroup Individual Calling Line Identification

The Limited Intragroup ICLID (LIGI) feature allows the calling DN to be displayed at the terminating station set when calls originate and terminate within the same terminal group.

Originating: No interaction.

Terminating: If LIGI is active, only calls made within a terminal group receive ICLID CND display; calls from outside the terminal group receive a private number display.

6.3.148 Line Time Slot Bridging

Line Time Slot Bridging (LTSB) provides an off-premises extension to a single directory number and bridging of two separate DNs in two separate locations with barge-in capabilities for customers served by the same 5ESS®-2000 switch. The Line Time Slot Bridging feature is only available via a service order.

Originating: Lines equipped with Line Time Slot Bridging cannot have PCP assigned. However, if PCP is generally available to the office, LTSB of the 1-DN case can access PCP.

Terminating: The LTSB lines are allowed to subscribe to CND with the Internally Bridged Dual Service Package 1 (99-5E-3338) feature.

The Internally Bridged Dual Service Package 1 (99-5E-3338) feature permits the 5ESS®-2000 switch to send Incoming Calling Line ID (ICLID) information to both the LTSB lead line and non-lead line for one DN LTSB lines that subscribe to an appropriate Line ID feature. For one DN LTSB lines subscribing to ICLID, the 5ESS®-2000 switch provides the DNMSG traffic measurement peg counts in Section 72 of the Traffic 30 Report. This count gets incremented when ICLID information is delivered to either the lead or non-lead LTSB line, or both. If delivered to both the lead and the non-lead for the same call, the 5ESS®-2000 switch increments the count twice.

Internally Bridged Dual Service Package 1 (99-5E-3338), available as a software update to the 5E11 software release and with the 5E12 and later software releases, Internally Bridged Dual Service Package 2 (99-5E-3739), available as a software update to the 5E12 software release and with 5E13 and later software releases, and Internally Bridged Dual Service Package 3 (99-5E-4184), available with the 5E13 and later software releases, are LTSB feature interaction modifications designed to enhance the current 5ESS®-2000 Switch LTSB feature by allowing more features to be assigned to and used on 1-DN LTSB lines. For more information, see 235-190-103 *Business and Residence Feature Descriptions*, Line Time Slot Bridging.

6.3.149 Loudspeaker Paging

Loudspeaker Paging allows dial access to customer-owned loudspeaker paging equipment.

Originating/Terminating: No interaction.

6.3.150 Main Satellite Service

Main Satellite Service allows a customer receiving business group service provided by two or more separate switching machines in the same geographic area to receive the same service available as if all locations were served by a single switch.

Originating/Terminating: No interaction.

6.3.151 Make-Busy Key

Make-Busy Key (MBK) allows designated lines to look busy to the central office with a key operation.

Originating/Terminating: No interaction.

6.3.152 Message Detail Recording on Customer Premises

Message Detail Recording (MDR) on Customer Premises provides call detail information on public telephone network and private facility calls via a tape unit located on the customer premises.

Originating: No interaction.

Terminating: The ICLID feature is compatible with MDR. No Message Detail Recording records are generated specifically for ICLID; however, regular Message Detail Recording for the call is made.

6.3.153 Message Service Automatic Call (History) Display

Message Service Automatic Call (History) Display uses the 5ESS[®]-2000 switch call history information with the AP data base to display call information, client status information, and messages to the Message Service attendant when the Message Service client calls from his/her station set to receive messages.

Originating/Terminating: No interaction.

6.3.154 Message Service Automatic Control of Message Waiting Indicator

Message Service Automatic Control of Message Waiting Indicator automatically activates the Message Waiting Indicator at the client's station set when a message is recorded in the message data base.

Originating: The Message Waiting Indicator can be activated for a user during an ICLID activation while an access code is being dialed.

Terminating: No interaction.

6.3.155 Message Service Direct Access to Message Data Base

Message Service Direct Access to Message Data Base allows clients to update their status information, leave messages for one or more clients, and retrieve messages without assistance from the Message Service attendant.

Originating/Terminating: No interaction.

6.3.156 Message Service Leave Word Calling

Message Service Leave Word Calling (LWC) allows a client to leave a *canned* message for another client of the Message Service without assistance from a Message Service attendant.

Originating/Terminating: No interaction.

6.3.157 Message Service Message Data Base

Message Service Message Data Base stores customer organizational data, client status data, and standard *canned* messages. A message data base is available to the Message Service attendant on the applications processor.

Originating/Terminating: No interaction.

6.3.158 Message Service Print Message On Demand

Message Service Print Message On Demand provides a printout of messages at a predetermined printer on request from the Message Services client.

Originating/Terminating: No interaction.

6.3.159 Multifrequency Pulsing

Multifrequency Pulsing provides the capability to transmit alternate current address signals between offices. Each address digit is transmitted as a pulsed pair of frequencies.

Originating/Terminating: No interaction.

6.3.160 Multiline Hunt Service Circular Hunting

Multiline Hunt Service Circular Hunting allows all lines in a multiline hunt group to be tested for busy, regardless of the point of entry into the group.

Originating: The main DN is available when a line from a multiline hunt group originates a call unless that line has an individual DN, in which case that DN is available. The main DN is the listed directory number (that is, the number entered first through recent change for that DN is the main DN). If no individual DN is assigned to the member, a call from that member will send the main DN.

Terminating: Each member of an MLHG must subscribe to ICLID CND to have ICLID work for every member.

6.3.161 Multiline Hunt Service ISDN Attendant

Multiline Hunt Service for ISDN Attendant (ISAT) is a type multiline hunting arrangement for ISDN attendant positions.

Originating/Terminating: If an individual DN is not available, then the first subgroup DN is used as the calling party number.

6.3.162 Multiline Hunt Service Multiple Position Hunt

Multiline Hunt Service Multiple Position Hunt provides the ability to distribute calls over a group of console positions, each of which can handle several types of incoming calls received on dedicated terminals.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 6.3.160 .

6.3.163 Multiline Hunt Service Precedence Regular Hunt

Multiline Hunt Service Precedence Regular Hunt starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 6.3.160 .

6.3.164 Multiline Hunt Service Regular Hunting

Multiline Hunt Service Regular Hunting starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 6.3.160 .

6.3.165 Multiline Hunt Service Uniform Call Distribution Hunt

Multiline Hunt Service Uniform Call Distribution Hunt provides an even distribution of incoming calls among the available members of a hunt group.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 6.3.160 .

6.3.166 Multiline Variety Package Service

Multiline Variety Package Service provides a packaged group of services for customers with a small group of lines that are not defined as a Business Line Group.

Originating/Terminating: No interaction.

6.3.167 Multiple Directory Numbers per Line with Distinctive Ringing (Multiple DNs per Line)

Multiple DNs per Line (MDNL) with Distinctive Ringing provides multiple DNs per single port [line equipment number (LEN)]. An originating call from any of the DNs is always associated with the *Master DN*, pointed to by the LEN translator; therefore, any call placed from a DN associated with the LEN passes the *Master DN* as the calling party number.

Originating: Although the DNs do not have unique ports, they have access to PCP.

Originations are only considered to come from the master DN. Thus, a call from a multiple DN user to a CND user displays the master DN, not a dependent DN.

Terminating: No interaction.

6.3.168 National ISDN Calling Number Identification Services Intra-Group Only Delivery Optioning

The Calling Number Identification Services (CNIS) Intra-Group Only Delivery Optioning (CNIGI) feature allows restriction of the Calling Party Number (CPN) delivery, Redirecting Number (RN) delivery, and Calling Party Subaddress (CgPS) delivery features from members of a terminal group. It also restricts the provisioning of ICLID, CNAM, and EDS displays to intra-group calls. CNIGI does not effect delivery of information to residential parties. Whether the CNIGI restriction applies depends on the settings of the CNIGI option for the office, business group, and individual line/PRI trunk. The CNIGI restriction applies to all members of the terminal group, including National ISDN BRI/PRI, Custom BRI/PRI, and analog lines.

Originating: No interaction.

Terminating: If the calling party is not a member of the same terminal group as the called party, the called party's telephone will display a string of ten "1"s if it is an analog CPE, the message "Incoming Call" if it is a National BRI Display terminal, or "INCOMING CALL" if it is a Custom BRI Display terminal.

6.3.169 Night Service

Night Service forwards calls directed to the attendant to preselected station lines in the customer group when regular consoles are not attended.

Originating/Terminating: See "Call Forwarding Busy Line All Calls", Section 6.3.32 .

6.3.170 Non-Data-Link Attendant Console

Non-Data-Link Attendant Console is a small desk top position from which the attendant handles calls.

Originating/Terminating: No interaction.

6.3.171 On-Hook/Off-Hook Queuing for Outgoing Trunks (Also Known as Queuing for Outgoing Trunks)

Queuing for Outgoing Trunks allows on-hook or off-hook queuing for a busy outgoing trunk. With on-hook queuing, the station is notified with a distinctive ring when a trunk is available. With off-hook queuing, the user remains off-hook, and the call is completed when the trunk is available.

Originating/Terminating: No interaction.

6.3.172 Outgoing Call Tracing

Outgoing Call Tracing is used when nuisance calls are found to be coming from one particular line. The terminating DN is put on the trace list and all originating calls from that office are checked against the list. When a call is made to the number on the list, the originating DN is identified.

Originating/Terminating: No interaction.

6.3.173 Outward Calling for PBX Via Automatic Route Selection

Outward Calling for PBX Via Automatic Route Selection (ARS) allows a PBX to take advantage of Business Group features relating to outgoing private facilities by terminating them at the serving switch via special access lines.

Originating/Terminating: No interaction.

6.3.174 Outward Wide Area Telecommunications Service (OUTWATS)

Outward Wide Area Telecommunications Service (OUTWATS) allows customers to make calls to certain zone(s) or band(s) on a direct dialing basis for either a flat monthly charge or a charge based on accumulated usage.

Originating/Terminating: No interaction.

6.3.175 OUTWATS with Simulated Facilities Group

The OUTWATS with Simulated Facilities Group feature can restrict the number of simultaneous OUTWATS calls by software, rather than by the physical size of a dedicated trunk group.

Originating/Terminating: No interaction.

6.3.176 Power Failure Transfer Attendant

Power Failure Transfer Attendant routes calls destined for the attendant to a preassigned DN during a commercial power failure at the customer premises.

Originating/Terminating: See "Call Forwarding Busy Line All Calls", Section 6.3.32 .

6.3.177 Precedence and Preemption Features

Precedence and Preemption (PP) is a part of the DSN/AUTOVON network for operating routine and precedence calls used primarily by the military.

Originating/Terminating: The precedence level of the call is included with the ICLID data. The ICLID activations are considered to have routine precedence levels.

6.3.178 Priority Queuing

Priority Queuing is used to assign a queue priority level that establishes precedence for facilities when immediate access is not obtainable.

Originating/Terminating: The precedence level of the call is included with the ICLID data.

6.3.179 Private Branch Exchanges and Trunks

Private Branch Exchanges (PBXs) are customer switching systems that can be either at a central office (CO) or located on the customer premises.

In this interaction section, the differences between PBXs located on the customer premises and CO requirements are identified. Except for these differences, all information in the other sections of this document apply both to the CO and to the PBX.

Originating/Terminating: When the user who activates CND or DNP is served by a PBX, the activation can be considered intraswitch or interswitch. In intraswitch ICLID, the call originates at the same 5ESS®-2000 switch PBX that serves the user who activates the feature. In interswitch ICLID, the call originates at a switch different from the PBX that serves the user who activates an ICLID feature.

With the advent of user side PRI, these trunks are supported. The 5ESS®-2000 switch does support a PRI connection to a *non-5ESS®*-2000 switch PBX, such as System 85.

When used as a PBX, the 5ESS®-2000 switch only knows the calling party's DN if it is passed to it by the switch interconnecting with the 5ESS®-2000 switch PBX. A subscription feature CND (or CPN/BN) on a PRI trunk group provides the means of obtaining the calling party number when it connects to the other office. In private network applications, the 5ESS®-2000 switch PBX can have PRIs to other PBXs that support user side procedures. For those cases, the calling party DN can be passed between PBXs via the PRI, and the ICLID features provide the calling DN which is used. The switch can have a PRI interface to a CO on another 5ESS®-2000 switch PBX.

6.3.180 Radio Paging Access

Radio Paging Access allows attendants and station users to access radio paging equipment and to page individuals carrying pocket radio receivers.

Originating/Terminating: No interaction.

6.3.181 Private Option for the Last Incoming Number

The Private Option for the Last Incoming Number (POLIN) feature, a secured and optioned feature, provides the option to have the last incoming call considered private in all cases, even if the calling party had not marked the number as private.

Originating/Terminating: No interaction.

6.3.182 Recall From Subscriber

Recall From Subscriber allows the customer to recall an Operator Services Position System (OSPS) operator for certain classes of operator-assisted calls by flashing the switchhook. The operator recalled is not necessarily the operator who originally assisted on the call.

Originating/Terminating: No interaction.

6.3.183 Recorded Telephone Dictation

Recorded Telephone Dictation (RTD) permits access to, and control of, customer-owned dictating equipment from a station in the customer group. The station must be equipped for dual tone multifrequency signaling.

Originating/Terminating: No interaction.

6.3.184 Remote Activation of Call Forwarding (Remote Access to Call Forwarding)

Remote Activation of Call Forwarding (RACF) provides the ability to remotely activate/deactivate Call Forwarding by using dialed codes.

Originating/Terminating: No interaction.

6.3.185 Remote Call Forwarding

Remote Call Forwarding allows all calls to a specified DN to forward-to a remote 7- or 10-digit telephone number.

Originating/Terminating: See "Call Forwarding Busy Line All Calls", Section 6.3.32 .

6.3.186 Revertive Pulsing

Revertive Pulsing is the method of interoffice signaling originating with the panel systems and continuing with the No. 1 Crossbar.

Originating/Terminating: No interaction.

6.3.187 Ringback Queuing

Ringback Queuing allows a station user encountering a busy network facility to queue for an idle facility by dialing a function code and going on-hook in a preselected time following the queuing confirmation code. The caller is rung back when the appropriate facility becomes idle.

Originating/Terminating: Unidentified Call Rejection screening is not invoked for ringback queuing.

6.3.188 Satellite Attendant Transfer

Satellite Attendant Transfer provides the same service as the Call Transfer Attendant feature to a satellite location having no attendant.

Originating/Terminating: See "Call Transfer Attendant", Section 6.3.43 .

6.3.189 Screen List Editing

Screen List Editing (SLE) is a capability used in conjunction with all LASS selective feature lists.

Originating: Analog users in an SLE session are considered busy and are not provided ICLID Calling Number Delivery.

Terminating: When a user transfers the number of the last calling party to a screening list, the privacy indicator stored for the number is checked to determine whether the list entry should be considered private. If the calling party had invoked DN Privacy (either All-Call Privacy or Per-Call Privacy) the privacy indicator indicates the number is a private number. The number is not voiced back or displayed to the user.

6.3.190 Selective Call Acceptance

Selective Call Acceptance (SCA) allows residential and business users to restrict which incoming voice calls are allowed to terminate.

Originating: No interaction.

Terminating: No ICLID information is displayed at the Selective Call Acceptance station for calls not accepted by the SCA user. If the SCA user has forwarding treatment, CND data is sent to the remote station. The ICLID display is based on the CPE.

The ISDN ICLID data is sent to the terminals of ISDN ICLID and SCA customers in the NORMAL display mode. Display data associated with the activation or deactivation of an SCA feature by feature button is sent to the terminals of SCA customers with the display capability in the MISCELLANEOUS display mode. The ISDN ICLID displays have lower precedence than the SCA feature and, therefore, may be overwritten by SCA displays, depending on the CPE.

6.3.191 Selective Call Forwarding

Selective Call Forwarding (SCF) allows a customer to preselect which calls are forwarded based on the telephone number of the calling party.

Originating: If the SCF user has dialed the access code and has Calling Number Delivery, ICLID information is sent. The ICLID information may or may not be displayed depending on the CPE it terminates to. Display data associated with the activation or deactivation of an SCF feature by feature button is sent to the terminals of SCF customers with the display capability in the MISCELLANEOUS display mode. The ISDN ICLID displays have lower precedence than the SCF feature and, therefore, may be overwritten by SCF displays, depending on the CPE.

Terminating: No interaction.

6.3.192 Selective Call Rejection

Selective Call Rejection (SCR) allows a customer to reject calls from telephone numbers that are on the customer's SCR list.

Originating: No interaction.

Terminating: If the SCR customer has CND, no CND data is delivered to the customer on rejected calls. Display data associated with the activation or deactivation of an SCR feature by feature button is sent to the terminals of SCR customers with the display capability in the MISCELLANEOUS display mode. The ISDN ICLID displays have lower precedence than the SCR feature and, therefore, may be overwritten by SCR displays depending on the CPE.

6.3.193 Selective Carrier Denial

Selective Carrier Denial (SCD) allows the local office to selectively inhibit certain calls, handled by a carrier from lines designated as nonpaying subscribers by the particular inter-LATA carrier that handles the call.

Originating/Terminating: No interaction.

6.3.194 Selective Control of Facilities

Selective Control of Facilities (SCOF) allows the customer, to busy-out private facilities via key control and, thereby, deny all originating access.

Originating: An ICLID user can activate Selective Control of Facilities during a CND or PCP activation.

Terminating: No interaction.

6.3.195 Selective Distinctive Alert (Distinctive Alert)

Selective Distinctive Alert (SDA) allows a customer to preselect which calls have distinctive alerting treatment based on the telephone numbers of the calling parties.

Originating: No interaction.

Terminating: See "Distinctive Ringing", Section 6.3.78 .

The ISDN ICLID data is sent to the terminals of ISDN ICLID and SDA customers in the NORMAL display mode. Display data associated with the activation or deactivation of an SDA feature by feature button is sent to the terminals of SDA customers with the display capability in the MISCELLANEOUS display mode. The ISDN ICLID displays have lower precedence than the SDA feature and, therefore, are overwritten by SDA displays.

The SDA screening list is checked even if the user is busy and has a call waiting feature but already has a call waiting.

6.3.196 Semirestricted Station Originating and Terminating

Semirestricted Originating and Terminating provides the ability to restrict a Business Group Line from originating and/or receiving any calls from outside the group. Outside the group means "dial 9" and DID. Intragroup calls, attendant calls, and calls over private facilities are permitted. Restricted calls are routed to the special group intercept announcement.

Originating: Calls to an attendant ICLID CND also receive the originating permissions display. The display contains information that the originating permission is semirestricted. This information overrides the ICLID CND display.

Terminating: If feature number 543 is active, both the calling and the called DN are displayed at the party receiving a redirected call as a result of terminating restriction reroute error treatment. If feature number 543 is not active, the called DN is not displayed. Calls to an attendant ICLID CND also receive the originating permissions display. The display contains information that the originating permission is semirestricted. This information overrides the ICLID CND display.

6.3.197 Series Completion

Series Completion is a type of hunting in which DNs are grouped into a prearranged ordered list.

Originating: No interaction.

Terminating: If a DN in a Series Completion list subscribes to CND, the 5ESS®-2000 switch delivers the ICLID data on every incoming call offered to the DN. If the call series completes, no CND data is sent to the originally called party.

6.3.198 Simulated Facilities Groups for In and Out Calls

The Simulated Facilities Groups for In and Out Calls feature provides the capability to restrict the number of simultaneous DID calls terminating to the group, and the number of simultaneous calls originating by the group to direct distance dialing (DDD).

Originating/Terminating: No interaction.

6.3.199 Single-Digit Dialing

Single-Digit Dialing permits station users to reach any station of a preselected group, or other internal facility, by dialing single-digit codes.

Originating/Terminating: No interaction.

6.3.200 Smart Set Interface

Smart Set Interface allows customers to use *smart* station sets. Flash requests and feature function codes are associated with unique keys on the station set.

Originating/Terminating: No interaction.

6.3.201 Special Intercept Announcement

Special Intercept Announcement allows a unique intercept announcement to be provided to each business group.

Originating/Terminating: No interaction.

6.3.202 Speed Calling (Also Known as Abbreviated Dialing)

Speed Calling permits the customer to dial selected numbers using fewer digits than required.

Originating: A user can invoke PCP or CND by Speed Calling if the ICLID access code is defined in the Speed Calling list. Per-Call Privacy access codes and CND activation/deactivation access codes are permitted in speed calling lists. PCP codes with DNs can be added to speed call lists.

Terminating: No interaction.

6.3.203 Tandem Call Trace

Tandem Call Trace is used when nuisance calls are found to be incoming from a tandem office. The traced DN is marked for tracing at that office to identify the tandem trunk.

Originating/Terminating: No interaction.

6.3.204 Tandem Tie Trunk Dialing

Tandem Tie Trunk is another name for Nonsenderized Tie Trunks (NTT). It uses a switching method whereby the station user directly controls, in stages, the routing of an outgoing tie trunk call through the originating switch as well as any intermediate switches.

Originating/Terminating: No interaction.

6.3.205 Three-Way Calling

Three-Way Calling (TWC) allows a customer to add a third party to an existing conversation.

Originating: A user can dial the Per-Call Privacy access code with each leg of a three-way call for which privacy is desired.

Terminating: When a user with Three-Way Calling puts a party on hold and dials a third party, the third party called receives the calling number (if not private) of the calling party. The party on hold does not receive anything.

6.3.206 Tie Trunk Access

Tie Trunk Access connects two or more business customer locations. They can terminate in an attendant console for direct access or have dial access.

Originating/Terminating: No interaction.

6.3.207 Time-of-Day

Time-of-Day (TOD) allows a customer to preschedule recent change, thereby controlling activation and deactivation of certain modular features and changes to feature parameters via dialed codes and key control. Calling Number Delivery can be controlled by TOD.

Originating/Terminating: Usage-sensitive Calling Number Delivery may be controlled with the Time-of-Day feature.

6.3.208 Toll Diversion to Attendant

Toll Diversion to Attendant (TDA) intercepts toll or code calls from restricted Business Group Lines and routes them to the attendant (or other designated line).

Originating/Terminating: No interaction.

6.3.209 Tracing of Terminating Calls

Tracing of Terminating Calls allows the identification of calling lines while the call is in progress. When incoming calls are to be traced, the terminating DN is placed on the call tracing list where it remains until manually removed.

Originating/Terminating: No interaction.

6.3.210 Traveling Class Mark

Traveling Class Mark (TCM) carries class-of-service information along with the called number through a private network. The TCM provides unique downstream routing and screening information.

Originating/Terminating: No interaction.

6.3.211 Trunk Answer From Any Station

Trunk Answer From Any Station (TAS) activates a common alerting signal on the customer premises, when the attendant positions are in Night Service for calls directed to the attendant. These calls can then be answered from any nonrestricted station in the business group by dialing a special answer code.

Originating/Terminating: No interaction.

6.3.212 Trunk Dial Transfer

Trunk Dial Transfer provides the Call Transfer Individual feature to tie trunks.

Originating/Terminating: See "Call Transfer Individual All Calls", Section 6.3.44 .

6.3.213 Trunk Group Busy Lamps

The Trunk Group Busy Lamps feature provides a visual indication on a private facility trunk group basis when the facility group is in use.

Originating/Terminating: ANI sends the CPN; Operator Number Identification (ONI) does not send the CPN.

6.3.214 Two-Party ANI/ONI Capability

The Two-Party Automatic Number Identification/Operator Number Identification (ANI/ONI) Capability allows

operating companies the choice of giving two-party lines Automatic Number Identification (ANI) treatment or Operator Number Identification (ONI) treatment.

Originating/Terminating: Two-party lines cannot subscribe to CND or PCP. However, these lines can have ACP. The number displayed depends on ANI/ONI. ANI sends the CPN. ONI does send the CPN but it may be the tip party or the ring party depending on which number was assigned first.

6.3.215 Two-Party Line

Two-Party Line provides basic POTS to two customers sharing the same line.

Originating/Terminating: Two-party lines cannot subscribe to CND or PCP; however, these lines can have ACP.

6.3.216 Uniform Numbering

Uniform Numbering provides a customer-specified 7-digit numbering plan that identifies all business group stations interconnected by the facility network. Each customer switch connected by the Electronic Tandem Network (ETN) is identified by a 3-digit code.

Originating/Terminating: The number sent in CPN is the office number, not the Uniform Numbering number.

6.3.217 Unrestricted Originating and Terminating

This is basically the absence of originating and/or terminating restriction in a terminal group.

Originating/Terminating: No interaction.

6.3.218 User-Side Primary Rate Interface Implementation

This feature allows PRI support in public (private trunks providing access to public facilities) and private networks.

Originating/Terminating: See "ISDN Terminals", Section 6.2.3.1.2, for information on PRIs.

6.4 RESTRICTION CAPABILITY

Two-party and multiparty lines cannot subscribe to Calling Number Delivery or Per-Call DN Privacy. Two-party lines can have ACP.

The calling party's DN is not available from multiparty lines and non-SS7 trunks. Here, the switch sends a message to the terminal indicating that the DN is not available. The calling party's individual DN is not available from non-PRI PBX trunks, but is available from non-PRI PBX lines. If the calling party of a multiline hunt group does not have an individual DN, the main DN of the hunt group is sent. Refer to "Class of Service", Section 6.7.3.

Stand-alone switch modules support ICLID for intra-SM calls, but they do not support ICLID on calls external to the switch module.

The ICLID features CND and ACP are assigned to or removed from a customer through a service order. Per-Call Privacy may or may not require subscription, according to the desires of the service provider. Refer to Table 2-3 for line type assignment and restrictions of ICLID.

6.5 ENGINEERING

6.5.1 Special Planning Considerations

If the service provider chooses to offer Per-Call DN Privacy without requiring subscription, customers with the

allowed class of service are automatically allowed to use Per-Call DN Privacy. These customers can be allowed to activate the PCP by dialing the access code.

Business customers can use Customer Station Rearrangement (CSR) to assign Calling Number Delivery. They also can remove and assign Per-Call DN Privacy. The customer can disable Calling Number Delivery by dialing the feature access code associated with deactivation from the line on which the service is assigned. Later, the customer can activate the service by dialing the feature access code associated with activation from the same line.

The capability for a customer, via the Time-of-Day Recent Change (TORC) mechanism, to automatically have Calling Number Delivery active for certain hours of the day on certain days of the week is available when that customer has usage-sensitive billing. TOD must be assigned (it is not generally available). A service order is needed to remove subscription service. For Centrex, the access codes are assigned by service order.

6.5.2 Hardware

This feature requires a hardware unit that performs the local digital service unit function (LDSUF). In the older SMs this was performed by the digital service Unit model 2 (DSU2) equipped with tone transceivers. The combined services unit (CSU) combines the digital line trunk unit model 2 (DLTU2), the modular metallic service unit (MMSU), the DSU2 service announcement unit (DSU2-SAS), and the global digital signal function (GDSF) into one shelf. For the 5E10 and later software releases, the CSU applies only to the SM (and not the SM-2000).

In the most cases, the tone transceiver function is provided by either the TN833 pack or the UN363 pack, depending on the version of the equipment. For more information, refer to 235-105-500, *Maintenance Reference Handbook*.

To provide an analog user with display information, an analog phone with display capabilities is required. This analog phone provides the necessary display required for ICLID.

When a user's telephone rings, the display shows the telephone number of the caller (if it is not a private number) after the first ring.

When a customer receives a call from an area where the number is not available, the 5ESS®-2000 switch sends out an "O" indicating that the call is out of area.

6.5.3 Software

The LASS ICLID features (CND and PCP) do not use line history blocks.

Each DN that is assigned an ICLID CND (that is, line identification) feature is assigned 16-bytes of dynamic data. This memory is used to store call processing information, including the ICLID CND usage-sensitive billing counts.

6.6 IMPLEMENTATION

6.6.1 ODA Implementation

Refer to "LASS Forms and Views", Section 2.4, for ODA forms used in implementing the ICLID CND and PCP features.

6.6.2 Recent Change Procedures

6.6.2.1 Assigning Customer Service

When a customer subscribes to Calling Number Delivery, it is assigned as follows:

- For analog and ISDN basic rate interface lines, Calling Number Delivery is assigned to the directory number.

- (a) An option allows the Calling Number Delivery information for shared ISDN DNs to be sent only to the terminal associated with the primary DN (lead port) or to all terminals which share the DN.
 - (b) The method for displaying time for ISDN terminals is an option. On a per-terminal basis, the time can be displayed in AM/PM or in military form.
- For Primary Rate Interface lines, Calling Number Delivery is assigned to the equipment (trunk group) number rather than on a DN basis.
 - For MLHGs, all three ICLID features (ACP, PCP, and CND) are assigned on a per-member basis.

The DN privacy (All-Call or Per-Call) can be assigned to a BRI or to an analog customer. The ACP can be assigned to a PRI trunk group. A customer may subscribe to either or both of these features. This capability applies equally to all customers, regardless of whether they subscribe to the Calling Number Delivery feature. This capability is assigned per terminal equipment number (as opposed to DN). The default value for lines in the normal line assignment process is to **NOT** have privacy.

The ACP feature can be assigned to an unlimited number of customers who have an unlisted DN. It is not necessary for the switch to know which customers have unlisted DNs, but the switch is able to create a list of DNs that are assigned All-Call Privacy. The processing of this list requires a single operation from the perspective of the service order clerk, but does not require an interactive effort for each DN. In addition, the office records could be used by the service provider to generate a list of all DNs and their associated features. However, since the lines having the feature would only be a subset of this list, it is not expected that the service provider would ever use the office records for this purpose.

For DN privacy, if the originating switch can get a DN that may eventually be delivered to a user (for example, via Calling Number Delivery), then the customer with that DN has a way to mark the DN private via Per-Call Privacy or All-Call Privacy.

6.6.2.1.1 Feature Definition

The feature definition process is the modular feature construction process used to construct features. The feature may be defined as part of the software release (preconstructed) or may be defined by the service provider (customized). The feature definition process must be completed before any lines can be assigned the feature. The preconstructed features for the ICLID features are in Tables 6-2 and 6-3.

6.6.2.1.1.1 Feature Definition Forms

6.6.2.1.1.1.1 General

The Directory Number (DN) has been used in the discussion of ICLID thus far. The Telephone Number (TN) is used in the *Translation Guide* (235-080-100) and is used in this section. Note that not all fields in the definition form are discussed, only those for ICLID CND and PCP. For more information on CND and PCP definition forms, refer to Division 6, Sections 8a and 9a of the *Translation Guide* (235-080-100).

6.6.2.1.1.1.2 ICLID CND Feature Definition Form

The ICLID CND is a feature option of the "lidfd" form. Table 6-2 shows the ODA Preconstructed Line Identification Feature Definition Record.

Table 6-2 Line Identification Feature Definition Record

FEATURE	REMARKS	FEATURE OPTIONS				
		ACT/DEACT	CALL	CALL NBR	OUTGO CLD	AMA

		TYPE	NBR DELIV PRIM	DELIV ALL	LINE ID	REC
/LI*	WILD CARD FEATURE	AUTO/NONE	N	N	N	N
/LICNDA	CALLING NUM DEL ALL TERMS	AUTO/NONE	N	Y	N	N
/LICNDP	CALLING NUM DEL PRIM TERM ONLY	AUTO/NONE	Y	N	N	N
/LIDADA	CND ALL TERMINALS ACT & DEACT	CODE/CODE	N	Y	N	Y
/LIDADAO	ICLID ALL TERMINALS & OCLID ACT & DEACT	CODE/CODE	N	Y	Y	Y
/LIDADP	CND PRIMARY TERMINAL ACT & DEACT	CODE/CODE	Y	N	N	Y
/LIDADPO	ICLID PRIM & OCLID ACT & DEACT	CODE/CODE	Y	N	Y	Y
/LIDLXA	ICLID ALL TERMS + OCLID	AUTO/NONE	N	Y	Y	N
/LIDLXP	ICLID PRIM TERM ONLY + OCLID	AUTO/NONE	Y	N	Y	N
/LIOCLID	OUTGOING CALL ID FEATURE	AUTO/NONE	N	N	Y	N

The five options that specify ICLID CND in one of these features are as follows:

ACT TYPE	This field indicates the type of activation. If the activation type is set CODE, the user can turn the feature on.
DEACT TYPE	This field indicates the type of deactivation. If the deactivation type is set CODE, the user can turn the feature off.
CALL NBR DELIV PRIM	This field shows whether incoming call information should only be sent to the terminal where the called TN is the primary TN.
CALL NBR DELIV ALL	This field shows whether incoming call information should only be sent to all terminals that share the called TN.
AMA REC	This field specifies the type of billing. If AMA REC is "Y", billing is usage sensitive. If AMA REC is "N", billing is done on a flat-rate basis.

CALL NBR DELIV ALL can be assigned to both shared and unshared analog and ISDN users. However, since delivery of the TN to all terminals refers to shared DNs, features with this option should not be assigned to unshared DNs.

If AMA REC is "Y", then ACT TYPE and DEACT TYPE should be "CODE" so that users can turn their ICLID feature on/off.

6.6.2.1.1.1.3 ICLID PCP Feature Definition Form

The ICLID PCP is a feature option of the "dispf" form. Table 6-3 shows the ODA Preconstructed Display and Privacy Feature Definition Record.

Table 6-3 Display and Privacy Feature Definition Record

FEATURE	DESCRIPTION	FEATURE OPTIONS				
		ACT/DEACT TYPE	PRIVACY		DISPLAY	
			TN PRIVACY	AMA REC	INSPECT	TIME DATE
/DI*	WILD CARD FEATURE	AUTO/NONE	N	N	N	N
/DIDLX	DELUXE DISPLAY FEATURE	AUTO/NONE	Y	N	Y	Y
/DIDNP	PER-CALL TN PRIVACY	AUTO/NONE	Y	N	N	N
/DIGA	USAGE-SENSITIVE PCP	AUTO/NONE	Y	Y	N	N
/DIINSP	INSPECT FEATURE	AUTO/NONE	N	N	Y	N
/DITD	TIME AND DATE FEATURE	AUTO/NONE	N	N	N	Y

The two options that specify ICLID PCP in one of these features are as follows:

TN PRIVACY	Allows the calling party to activate or deactivate TN privacy on a per-call

AMA REC	basis. This field specifies the type of billing. If AMA REC is "Y", billing is usage sensitive. If AMA REC is "N", billing is done on a flat-rate basis.

6.6.2.1.2 Feature Assignment

6.6.2.1.2.1 General

ICLID BRCS Feature Construction — ICLID CND BRCS features can be constructed and reviewed with RC View 12.44, Line Identification Feature Definition. The ICLID PCP BRCS features can be constructed and reviewed with RC View 12.43, Display and Privacy Feature Definition. The ACP capability of ICLID is assigned on a per-terminal basis.

ICLID CND Feature Assignment — ICLID CND is assigned to analog or ISDN DNs using RC View 1.11 from a BRCS Preconstructed Feature Assignment (Line Assignment), a BRCS Feature Assignment (Line Assignment) View 1.11 for MLHGs, or BRCS Line Identification Feature Definition built from RC View 12.44. Additionally, analog DNs may be assigned the feature from Recent Change View 1.8, BRCS Assignment TN View, and ISDN DNs may be assigned this feature from RC View 23.8, DSL/BRCS Assignment. [RC View 5.1 the Trunk Group View can be used to send CND (using the STA ID attribute) over a PRI.]

As previously stated, ISDN customers must be equipped with an ISDN station set with a display unit. The DISPLAY parameter for ISDN users found on RC View 23.2 or RC View 23.8 must be set to "Y" to let the software know that the ISDN station set is equipped with a display.

No additional recent changes are needed for analog users. However, the SM must be equipped with DSU2s with tone transceivers.

ICLID PCP Feature Assignment — ICLID PCP is assigned to analog lines or ISDN station sets using RC View 1.11 from a BRCS preconstructed DISPLAY FEATURE, a BRCS Feature Assignment (Line Assignment) RC View 1.11 for MLHGs, or BRCS Line or BRCS customer DISPLAY FEATURE built from RC View 12.43, Display and Privacy Feature Definition. Additionally, analog lines may be assigned the feature using RC View 1.8, and ISDN terminals may be assigned this feature from RC View 23.8.

If the ICLID PCP feature is generally available, it is available to all users with the allowed class of service. However, if service providers desire not to allow a user access to PCP, they can set the allow bits on RC View 1.6 and RC View 23.2. These allow bits prohibit users even if the feature is generally available in the office.

ICLID ACP Feature Assignment — Assignment of ICLID ACP is made by setting the user's PRIVACY parameter to "Y". For analog customers, this parameter is located on RC View 1.6 or RC View 1.8. For ISDN customers, RC View 23.2 or RC View 23.8 contains this parameter.

6.6.2.1.2.2 ICLID Parameters

DN Privacy Office Option — The DN privacy office option is the master switch for controlling privacy in the office via the DN PRIV parameter on RC View 8.1. A value of "N" allows privacy features to work normally. A value of "Y" overrides privacy features, and all calls are treated as private. The default value is "N".

Per-Call DN Privacy Access Option — The Per-Call Privacy option defines the accessibility of the ICLID PCP feature via the PCP parameter on RC View 8.18. The value of UNAVAIL indicates that the feature is not accessible by anyone. The value SUBSCR indicates that subscription is required; the value GENAVAIL indicates that the feature is available to all lines with the appropriate class of service. The default is UNAVAIL.

Per-Call DN Privacy General Access — This Per-Call Privacy parameter contains the PCP feature name for generally available (Usage Sensitive) feature access. This parameter PCP GA FEAT is on RC View 8.21. The

default is "/DIGA".

PRI Private-DN Delivery — The PRI private-DN delivery option defines whether the switch delivers private DN's to PRI via the "PRI PRVT" parameter on RC View 8.21. A value of "Y" indicates that the switch delivers private calling DN's to the PRI along with the presentation indicator set to "restricted." A value of "N" indicates that the switch does not deliver private calling DN's to a PRI (where DN privacy may not be guaranteed by the PBX). The default value is "N".

6.6.2.1.2.3 Secured Feature Upgrade

The Secured Feature Upgrade View (View 8.22) provides feature security and the Optioned Features View (View 8.31) sets the transparency feature optioning bit used to determine if a customer has the Unidentified Call Rejection feature and the LIGI feature. The feature parameter attributes associated with this view consists of the following:

- **FEATURE ID** — This parameter is a number used to identify the feature. The feature number is 534 for POLIN and 504 for LIGI. There is no default value. This attribute is used to set the TFOS bit and the secured feature bit used to provide activation of Unidentified Call Rejection.
- **MODULE** — This parameter identifies the type of processor. It can be a number 1 to 192 for SM, 193 for an AM, CMP, AUD, RDY; or OFC for the entire office. For LIGI and POLIN enter OFC. There is no default value.
- **PASSWD** — This is the secured feature access password. Obtain the password from the Lucent Technologies Secured Feature Administrator.
- **ACTIVE** — This parameter is used to determine if the feature is active. Enter Y (yes) or N (no). The default value is N.

The secured feature is not enabled until the purchaser has made the necessary arrangements with Lucent Technologies. Contact your Lucent Technologies Account Representative for ordering information and the Right-To-Use fee associated with this feature.

6.6.2.1.2.4 Feature Number 543 - ICLID Enhancement for TGSR/ACVT

If feature number 543 is active, both the calling and the called DN are displayed at the party receiving a redirected call as a result of terminating restriction reroute error treatment associated with the following:

- (1) Terminal group and station restrictions (TGSR)
- (2) Attendant control of voice terminals (ACVT). If feature number 543 is not active, the called DN is not shown.

The Secured Feature Upgrade View (View 8.22) is used to assign feature 543. The PASSWD attribute must not be entered, because feature 543 is not a secured feature. To activate feature 543, attributes on View 8.22 should be populated as follows:

```
FEATURE ID=543
MODULE=OFC
ACTIVE=Y
```

To deactivate feature 543, attributes on View 8.22 should be populated as follows:

```
FEATURE ID=543
MODULE=OFC
ACTIVE=N
```

6.6.2.1.3 Forms

The ICLID feature modifies existing ODA forms. Two forms, (1) the Display and Privacy Feature Definition Form (ESS 5965), and (2) Line Identification Feature Definition Form (ESS 5966), implement feature definitions.

Four forms indicate if the ICLID feature is allowed on the line. The forms are as follows:

- (1) Telephone Number Form - Line (ESS 5109-3)
- (2) Multiline Hunt Group Terminal Record - MLHLN (ESS 5111-3)
- (3) (3) Digital Subscriber Line - DSL (ESS 5900-3)
- (4) Digital Subscriber Multiline Hunt Terminal Form (ESS 5901-6).

An additional form, the LASS Feature Access Record, is required for internal retrofit of the LASS feature access option specifications. An attribute of PCP allows options of *GENAVAIL*, *UNAVAIL*, *TEMPUNAVAIL*, or *SUBSCR* to be specified. These parameters are set by ODA to unavailable and they must be updated via recent change.

6.6.3 Deleting Customer Service

The ICLID features, CND and PCP, are assigned or removed from service from a line through a service order. An unavailable access option can be used to temporarily turn off access to the office.

If the ICLID PCP feature is generally available, service providers can prohibit users access to PCP by setting the allow bits on RC View 1.6 and RC View 1.8 prohibiting users from accessing the feature.

Turning off ACP can be accomplished by setting the user's *PRIVACY* parameter to N. [This parameter is located on RC View 1.6 or 1.8 for analog customers, or RC View 23.2 or 23.8 for ISDN.] For additional information, refer to "SYSTEM OPERATION", Section 6.7 .

6.6.4 Changing Customer Service

For customers having a feature button for CND, when a service order is used to activate or deactivate the feature, the feature button light reflects the status after the next CPE restoration (about 15 minutes).

Since CNP and PCP can be assigned to a line using RC View 1.11, this view can also be used to make the feature assigned to the line not active.

The service provider can assign one or more dialable codes for accessing CND or PCP. For ISDN customers, the service provider can assign a single station set feature button for on-hook and off-hook activation, and on-hook and off-hook deactivation.

6.7 SYSTEM OPERATION

6.7.1 Originating Switch

Originations From Users Within Office — Every user-originated call results in the calling party information being sent to the terminating end of the call. The originating switch provides the DN privacy capability and the capability of getting the calling DN. In addition to the directory number of the originator being checked, privacy for that DN is also checked.

Privacy for a given call from an analog line or BRI is controlled in three ways as follows:

- (1) **DN Privacy Office Parameter** — This parameter can be set to indicate that all calls from all lines including PRIs in the office, are private. When set, this parameter overrides Per-Call and All-Call Privacy assigned to

the individual terminals. (This parameter is located on RC View 8.1.)

- (2) **All-Call DN Privacy Feature** — This feature, which is assigned to a terminal through recent change, changes the default for calls from the terminal to "private". [This parameter is located on RC View 1.6, 1.8 for analog customers, or RC View 23.2 or 23.8 for ISDN.]
- (3) **Per-Call DN Privacy Feature** — This feature is generally available to all terminals or is assigned to a terminal through recent change. When invoked by a user who does not have All-Call Privacy, the calling number is marked "private" for the associated call. When invoked by a user who has All-Call Privacy, the calling number is marked "public" for the associated call (privacy is *deactivated*, making this call public). (This parameter is located on RC View 1.8, 1.11, or 23.8.)

Originations From Incoming SS7 Trunks — On each end-to-end SS7 trunk, the calling party information is received and passed to the terminating end of the call. If the call goes through a tandem switch and it was non-SS7 on an earlier leg, the calling number is not received. If the call goes through an interexchange carrier (an inter-LATA call), the calling number may or may not be received depending on the originating option. For an interswitch call that is private, the calling DN and privacy indicator are passed through the office. RC View 10.2, Route Index Routing (attribute CPN SUBSC), allows CPN to be turned off/on for inter-LATA trunks.

The originating switch sends the 10-digit calling DN and the privacy indicator via SS7 during call setup. The switch always sends the 10-digit DN (even on intra-NPA calls).

Tandem switches pass the calling party address parameter, including the address presentation restriction indicator, in the SS7 initial address message (IAM) for call setup.

Originations from trunks that are neither SS7 nor PRI do not have calling party information.

Originations From PRIs — For calls that originate on PRIs, the calling party information and the privacy indicator are sent to the terminating end of the call.

6.7.2 Terminating Switch

Analog Terminations — Analog users are checked to determine whether the Calling Number Delivery feature has been assigned and is active. If the Calling Number Delivery feature is not active, no ICLID information is sent to the analog phone. However, if Calling Number Delivery is active, the ICLID information from the originating call is unpacked. Analog lines receive the full 10-digit public directory number of the calling extension, not just the extension number. A check is made on the ICLID information to determine whether the originating call was from a private DN. If so, the calling DN is not sent, and the display data indicates that the number is private.

If the privacy indicator for the DN is "not private", the DN of the originator is obtained from the ICLID information. If the DN is unavailable, the display data contains an indicator stating that the DN is not available.

The time and date are added to the DN of the originator and sent to the analog phone voiceband digital interface. Transmission occurs during the 4-second silent interval between the first and second power ringing signals (see "Distinctive Ringing", Section 6.3.78) via the voiceband digital interface over the standard customer loop. Frequency shift key signaling generated by the digital service unit 2 (DSU2) that resides in the SM is used.

This transmission scheme is compatible with loop carrier systems to allow the provision of ICLID loops served by these systems.

SS7 Terminations — For calls over SS7 trunks, the DN of the calling party and a presentation indicator are passed to the SS7 network. The date and time are not sent. For outgoing SS7 tandem trunks, the ICLID information received from incoming SS7 trunks is simply passed on to the outgoing trunk.

ISDN Terminations (BRI) — When a call terminates to an ISDN BRI, a check is made to see if Calling Number

Delivery is active. If CND is not active, no display information is sent to the called party.

The calling party may invoke a privacy option to prevent delivery of the calling DN to the called party. Here, the originating switch still sends the calling DN to the terminating office so that the DN is available for other network services that might make use of it. However, the DN is marked private so that the terminating office can recognize that the DN is not transmitted to the called party's station. For the intraswitch case, the calling DN is also made available for other services but is not transmitted to the called party. The terminating switch sends an indicator, which is to be displayed instead of the DN, to the ISDN terminal so that the customer can determine that the calling party has invoked the privacy capability. For ISDN BRI terminations, the 5ESS®-2000 switch sends the BRI customer "PRIVATE NUMBER" in place of the DN. If the DN is not available, an indicator for out of area is transmitted in place of the DN to analog stations. For BRI, "INCOMING CALL" is sent.

If the privacy indicator for the DN is "not private", the display data contains the calling DN obtained from the ICLID information. For BRIs, the ICLID data is sent in a Q.931 message. The 5ESS®-2000 switch inserts dashes before and after the NXX in the calling and called DNs in the BRI Q.931 display information element to separate the NPA, NXX, and XXXX of the number, thus presenting it as follows:

NPA-NXX-XXXX

The call appearance identifier, time, date, ICI, and originating permissions are added to the display data. At this point, the data is ready to be sent to the ISDN BRI. The value of the date and time delivered to the BRI (or analog line customer) is within 1 minute of the time the called party was alerted. The date and time is only sent the first time the ICLID data is sent. If the calling DN is delivered a second time because of interactions with other features, the date and time are not sent again. The format of the time is specified for ISDN BRIs by a terminal option. The options are either 12-hour format with "AM" or "PM" or 24-hour format (military time). Analog lines always receive military time. (Military time is sent from the 5ESS®-2000 switch, but customer premises equipment may display time in a 12-hour format.)

If the call has been made to a shared DN with Calling Number Delivery, the ICLID data can be sent either to each of the terminals assigned a call appearance for the DN or only to the terminal where the called DN is the primary DN. (These are customer options.) The ICLID data is sent no matter what display mode the terminal is in.

ISDN Terminations (PRI) — For calls to the PRI, a check on the PRI trunk determines whether it allows the calling DN to be sent over the trunk group. If it is allowed, an additional check is made on the ICLID information to see whether the originating call is from a private DN. If so, the PRI private network DN delivery option for the office is checked. If the parameter is set to "YES", the DN of the originating call and the reactivation indicator are sent to the PRI. If the parameter is "NO," a blank calling party number information element with the presentation indicator set to indicate that the DN is private (presentation restricted) is sent. The date, time, and ICI are not sent to the PRI.

If the terminating switch receives a presentation restriction indicator is set to a "spare" value from SS7 to PRI, the switch assumes that the DN is public.

If the analog line ICLID customer answers the incoming call during the first application of ring tone, normal ring trip occurs and no ICLID data is sent.

If a customer dials the Per-Call DN privacy access code, but fails to dial a complete DN following the reception of dial tone, standard partial dial or permanent signal (no dialing occurred) treatment is given to the customer. If the access code is dialed but nothing else (such as, a subcode), partial dial treatment is given. The action intended by either of the cases above is ignored. If usage-sensitive billing is used, when the user receives confirmation tone after dialing the access code, a billing record is created for the attempt.

The CPN/BN screening takes precedence over ICLID.

6.7.3 Class of Service

A DN or main DN is available from the following types of lines:

- POTS
- 4-Wire Individual
- Stand-Alone Test
- Coin
- Charge-A-Call (coinless public)
- Hotel-Motel (only main DN available)
- Non-PRI PBX Hotel-Motel (only main DN available)
- Attendant (only main DN available)
- Non-PRI PBX (only main DN available)
- BRI Individual
- BRI Individual in a Multiline Group (if no individual DN, then only the main DN is available)
- BRI Attendant
- PRI (if received)
- LTSB [1-DN case, 2-DN case (two party with ANI)]
- PRI Hotel-Motel (if received).
- Two-Party ANI/ONI

A DN need not be available from non-SS7 trunks or private facilities.

Refer to "Line Type Assignments and Restrictions", Section 2.6.3, for line types allowed access to PCP, ACP, and CND.

6.7.4 Code Interpretation

Three feature access codes are required for this service. Two codes are required for Calling Number Delivery (activation and deactivation) and another is required for Per-Call Privacy. Customers can dial any of these codes from DTMF, dial pulse, and ISDN telephones.

The operation of the Calling Number Delivery and DN Privacy features is controlled via activation and deactivation access codes. This activation/deactivation operation supports usage-sensitive customers for Calling Number Delivery and is not available for customers with flat-rate billing. These codes are assigned on a per-office basis for non-IDP, normal office dialing plan customers. For business customers, the codes are assigned on a per-IDP-group basis as part of the dialing plan for the group. The telephone company has the ability to build these access codes. IDP customers are prohibited from escaping to the ODP and dialing an ICLID access code. The ICLID Calling Number Delivery and ICLID Per-Call Privacy users who are members of an IDP group can have access codes for activating and deactivating ICLID and PCP use defined in their IDP. Additionally, for ISDN customers, the service provider has the ability to assign a station set feature button in such a way that, when depressed, the switch recognizes it as equivalent to the actual dialing of the CND and PCP feature access code.

The LASS Dialed Code Restrictions on IDP Users feature affects access to LASS features AC, AR, COT, ICLID

CND, PCP, SCA, SCR, CAR, SCF, and SCR. This feature, an optioned feature available on an SM basis via the Secured Feature Upgrade View (View 8.22). The LASS Dialed Code Restrictions on IDP Users feature, controls dial code access to LASS features for IDP users. The default value for this feature is disabled (inactive). When this feature is disabled, IDP users can use the access codes defined in their IDP in addition to the ODP defined dialed access codes to access LASS features. Using an ODP defined dial access code for access to a LASS feature by an IDP user may require the dialing of an IDP defined "escape to POTS access code" (9, or *9) immediately prior to dialing the ODP defined access code. Dialing of an ODP defined access code directly (not preceded by an escape to POTS code) is allowed if the error treatment for the user's IDP has been set to use the office code on RC View 9.10.

When the LASS Dialed Code Restrictions on IDP Users feature is enabled (active), an IDP user cannot use an ODP defined dial access code to access a LASS feature. The ODP defined dial access code cannot be used whether or not the ODP LASS code is preceded by an escape to POTS code, and regardless of the error treatment for the user's IDP group. Reorder tone is returned to an IDP user after an ODP access code is dialed to access a LASS feature.

Additionally, with this feature enabled, neither an ODP nor an IDP defined dial access code for a LASS feature will be accepted by the 5ESS®-2000 switch at any time after an escape to POTS code has been dialed by an IDP user in a single, off-hook dialing scenario. However, an IDP user can dial an escape to POTS code followed by an automatic route selection (ARS), authorization, or an account code prior to the dialing of an IDP (but not ODP) LASS code. Dialing an ARS, authorization, or account code in conjunction with an IDP LASS dialed access code is allowed regardless of the activation status of the LASS Dialed Code Restrictions on IDP Users feature.

The LASS Dialed Code Restrictions on IDP Users feature requires dialed codes used for access to LASS features to be defined in the IDP. Except for ARS, authorization, or account codes, activation of this optioned feature requires that access to non-LASS features allowed to be dialed prior to the LASS access codes must also be defined in the IDP. This allows IDP users to use non-LASS features in conjunction with LASS features.

Refer to 235-080-100, *Translation Guide*, for AC activation and cancellation codes to build in the IDP.

6.7.5 Signaling Interfaces

6.7.5.1 Analog Signaling

The analog customer premises equipment uses customer address signaling to transmit feature codes and activation and deactivation subcodes. The 5ESS®-2000 switch uses in-band signaling to transmit ICLID data to the user. Frequency shift key signaling is used to provide the display to analog users.

6.7.5.2 Q.931 ISDN Interface

6.7.5.2.1 BRI

The BRI is used to provide 2B+D access from customer premises equipment to the 5ESS®-2000 switch. For ICLID, the BRI is used to send messages between the ISDN terminal and the 5ESS®-2000 switch. No new messages or information elements are introduced to the BRI protocol to support ICLID as an interswitch service.

6.7.5.2.1.1 Call Termination

When the network offers a call to a terminal, the ICLID data is sent in the display field information element of the SETUP message for that call. However, for some feature interactions, the ICLID data may not be available at the time the network is ready to deliver the SETUP message to the called party terminal.

The display field information element delivering ICLID data usually contains the following:

Display Mode = NORMAL

Display Submode = DIRECT

However, for those calls that have been redirected from another terminal (for example, due to interactions with the Call Forwarding features), the display submode is set to REDIRECT.

6.7.5.2.1.2 Call Acceptance

The called terminal sends a CONNect message to the switch to answer a call that is in the alerting state. The 5ESS®-2000 switch responds with a CONNect ACKnowledge message, including the ICLID data for that call in the display field information element.

6.7.5.2.1.3 Call Reconnect

The terminal sends the switch a RECONNect message to return to a call that was previously in a held state. The switch responds with a RECONNect ACKnowledge message, including the ICLID data for that call (without time of day and date) in the display field information element.

6.7.5.2.2 PRI

The PRI (23B+D) is the Q.931 protocol interface between the 5ESS®-2000 switch and a PBX.

For both All-Call Privacy and Per-Call Privacy, no additional messages or information elements are needed to support the privacy capability of the ICLID feature. However, octet 3a of the calling party number information element is required. This octet allows the protocol to identify whether presentation of the calling number is allowed. If privacy is requested, the user includes, within the calling party number information element, an indication of whether presentation is permitted or not. This inclusion is done by setting the presentation indicator to either **presentation allowed** or **presentation restricted**. Additionally, the screen indicator should be set to user provided.

6.7.5.3 SS7 ISDN User Part

Interoffice ICLID uses the SS7 protocol for the transport of all signaling messages between the 5ESS®-2000 switch and the originating or terminating switch. The ICLID feature requires that the calling DN and privacy indicator be transported between switches. An originating office equipped with SS7 includes optional parameters in the initial address message (IAM) for all intra-LATA call setups over ISUP7 trunks. The basic requirement for ICLID is that the IAM message contains an optional calling party address parameter. This parameter may be used to transport the calling party information, such as the calling DN and the privacy indicator (if sent) to the terminating party.

The calling party address parameter includes the following information:

- Odd/even indicator, which is set to even, (since the calling party address contains a 10-digit calling party DN).
- Nature of address indicator, which is set to national (significant) number (if the originating side has set this indicator first).
- Numbering plan, which is set to ISDN numbering plan (if the originating side has set it first).
- Address presentation restricted indicator. If the calling DN is private, this indicator is set to presentation restricted (01); otherwise, it is set to presentation allowed (00). The default value is 00.
- Address information. The address signals are set appropriately according to calling party's 10-digit DN.

6.7.6 PBX Exceptions for ICLID

6.7.6.1 Trunk Interfaces of the 5ESS®-2000 Switch PBX

The 5ESS®-2000 switch PBX supports ICLID over the trunk interface of a PRI trunk from a 5ESS®-2000 switch PBX to a non-5ESS®-2000 switch PBX; for example, System 85.

User side procedures (User Side PRI) are supported thus, PRI connections between a 5ESS®-2000 switch PBX and other 5ESS®-2000 switches (used as a PBX or central office) and PRI connections to an interconnect switch are also supported.

6.8 ADMINISTRATION

6.8.1 Measurements

6.8.1.1 Traffic Measurements

The following traffic counts are taken on a per-office basis. They are reported on the existing 30-minute Traffic Report to the Engineering Administration Data Acquisition System (EADAS).

- (1) The number of times that the customers have dialed the PCP access code to reverse privacy.
- (2) The number of times that the customers have dialed the CND access code to activate Calling Number Delivery.
- (3) The number of times that the customers have dialed the CND access code to deactivate Calling Number Delivery.
- (4) The number of Calling Number Delivery messages with DN delivered.

The counts associated with the Calling Number Delivery and privacy dialed access codes (first three counts above) are reported in the LASS section (Section 76) of the 30-Minute Traffic Report (TRFC30). The service provider has the ability to turn the reporting of these counts on and off, according to the needs of the service provider. A feature ID can be assigned for each of the ICLID feature capabilities, Calling Number Delivery, and DN privacy. This ID allows the use of existing capabilities for controlling the reporting of this information as part of Section 29 of the EADAS report.

The number of Calling Number Delivery messages delivered is an existing count in TRFC30 in Section 72, which provides the ISDN BRCS office total of all DNs delivered in support of various features requiring calling party identification. The ICLID feature increments this existing count for analog and ISDN BRCS lines.

These counts are provided for administrative purposes.

6.8.1.2 Maintenance Measurements

Per-switch maintenance measurement peg counts are made of the number of transmitters (DSU-2 function) out of service (analog line ICLID only) and of the calls that did not have an ICLID data message transmitted to the customer due to lack of transmission equipment availability. These counts are available to both the local and remote maintenance centers. As a minimum, these counts are accumulated on a 24-hour basis. Reports can be available both on a scheduled and a demand basis.

For ISDN ICLID, no new hardware is utilized. Therefore, there are no maintenance measurements.

6.8.2 Billing

6.8.2.1 General

The service provider may assign ICLID CND to the customers on a usage-sensitive or flat-rate basis. This requires

the ability to assign the feature on a per-line basis. Per-line data identifies the method of billing used for the line.

Per-call DN privacy can be offered with the same billing flexibility. However, this feature is provided by the service provider to the customers with or without a service order requirement. To provide this capability in addition to flexible billing methods, office parameters are used with per-line data.

An office option is provided for the Per-Call DN Privacy feature which indicates whether this feature requires subscription or is made available to all lines in the office. The office parameter on RC View 8.18, LASS Feature Access, has five possible values as follows:

- Unavailable (UNAVAIL)
- Temporary unavailable (TEMPUNAVAIL)
- Generally available (GENAVAIL) LI Subscription (SUBSCR)
- LASSDEF (change access to default value).

SUBSCR indicates that the customers must subscribe to the feature to gain access to it. GENAVAIL indicates that the feature is accessible without the need of a service order to subscribe to the feature.

6.8.2.2 Per-Call Privacy Billing

Table 6-4 illustrates the precedence in determining the type of billing [usage sensitive (US) or FR (flat rate)] recording to be made for the PCP feature.

Table 6-4 Per-Call Privacy Access/Billing Matrix

	PCP FEATURE ACCESS OFFICE OPTION (View 8.18)	GENAVAIL FEATURE (View 8.21) BILLING OPTION ([AMA REC] (View 12.43)	SUBSCR. FEATURE BILLING OPTION [AMA REC] (View 12.43)	GENAVAI L FEATURE ALLOWE D [PCP ALW] (View 1.6 View 23.2)	SUBSCR. FEATURE ASSIGNE D (View 1.11)	ACCESS	BILLING
1	GENAVAIL	Y	NA	N	NO	BLOCKED	-
2	GENAVAIL	N	NA	N	NO	BLOCKED	-
3	GENAVAIL	Y	NA	Y	NO	ALLOWE D	US
4	GENAVAIL	N	NA	Y	NO	ALLOWE D	FR
5	GENAVAIL	NA	Y	NA	YES	ALLOWE D	US
6	GENAVAIL	NA	N	NA	YES	ALLOWE D	FR
7	SUBSCR	NA	NA	NA	NO	BLOCKED	-
8	SUBSCR	NA	Y	NA	YES	ALLOWE D	US
9	SUBSCR	NA	N	NA	YES	ALLOWE D	FR
10	UNAVAIL	NA	NA	NA	NA	BLOCKED	-

Generally Available — For row 1 through row 4, the Feature Access Office Option (View 8.18) is used to determine whether FR or US recording is done for the end customer. For these scenarios, the feature is not assigned via service order (column 5), but the Feature Access Office Option is set to GENAVAIL. The feature allow field (column

4) turns the access on or off for the applicable classes of service or denies access to specific lines regardless of the class of service. The GENAVAIL BILLING field (column 2) specifies the billing method.

Assigned — For row 5 and row 6, the Feature Access Office Option is set to GENAVAIL, but the feature is assigned to the end customer via service order (column 5). The feature definition assigned determines whether usage-sensitive AMA is recorded.

Subscription — For row 7 through row 9, the Feature Access Office Option is set to subscription. This option means that the feature allow indicators (column 4) are not used and that the end customers must be assigned either a preconstructed or customized feature via the applicable RC View (for example, View 1.11).

Unavailable — The feature access option for initial provisioning is set to UNAVAIL. Access to the feature is blocked until recent change procedures are used to change the options to either GENAVAIL or SUBSCR.

6.8.2.3 Billing Records

The AMA records generated are as follows:

- A usage-sensitive record is written when a customer successfully dials the Per-Call Privacy access code if a usage sensitive feature is assigned.
- A record is automatically written on a daily basis for each Calling Number Delivery customer with usage-sensitive service.

This record is written daily, but it can also be written whenever one of the counters has reached the maximum allowed value. Therefore, more than one such record may appear for a given subscriber in a given day. The total counts are the sum of the counts for a given subscriber in a given day. These counts consist of the following:

- The number of Calling Number Delivery messages with a DN delivered.
- The number of unavailable or private number indications delivered for calling number display.

These counts are used strictly for billing purposes and do not appear on any traffic reports. These counts are generated only while a customer has Calling Number Delivery or PCP active. Deactivation of Calling Number Delivery disables these counts automatically. This record is not generated for flat-rate subscription customers.

For Calling Number Delivery, ICLID introduced a 5ESS®-2000 switch structure code for daily Calling Number Delivery usage. This code, 09015, allows for the packing of three Calling Number Delivery subscribers in one AMA record.

An AMA record is generated for Per-Call Privacy when the Per-Call Privacy subscriber is not flat rate, and Per-Call Privacy has been successfully activated. The ICLID feature introduced a structure code, 01030, for recording Per-Call Privacy usage. The fields within code 01030 billing record are as follows:

- Fields 1 through 6 are standard.
- Field 7, Service Feature, identifies the specific LASS feature activation or deactivation being recorded (a value of 75 is used here for activation).
- Fields 8 and 9 together are the full national number of the served subscriber.
- Fields 10, 11, and 12 together form the complete called number in the case of an activation.
- Field 13 is the time at which the AMA record is generated.

- Fields 14 through 19, which do not apply to ICLID, are filled with zeros.

The AMA tracer counts are also pegged for this feature. The "other answered" circuit switched tracer count is used also.

Refer to "LASS Billing", Section 2.9 , for a layout of the 09015 and 01030 billing records.

7. LASS SCREEN LIST EDITING

7.1 GENERAL

7.1.1 Definition

The Local Area Signaling Services (LASS) Screen List Editing (SLE) capability allows LASS Selective feature (LSF) users to create and modify lists of telephone numbers associated with a directory number (DN). These listed numbers are used to identify calling parties. Calls from a listed number are given special treatment by the LASS Selective features. Each LSF has its own associated screening list.

The following LSFs are available:

- Selective Call Acceptance (SCA)
- Computer Access Restriction (CAR)
- Selective Call Rejection (SCR)
- Selective Call Forwarding (SCF)
- Selective Distinctive Alert (SDA).

The SLE capability interactively guides users in editing screening lists. A set of interactive recorded announcements is used. Display messages are provided in addition to announcements only for Custom ISDN customer premises equipment (CPE) with display capability. A text list of the default announcements, and their associated display messages, can be found in "System Operation", Section 7.6. These announcements and ISDN displays can be customized.

For Selective Call Forwarding, SLE also allows users to enter or modify the remote telephone number (RTN) to which calls will forward. For Selective Call Acceptance and Computer Access Restriction, SLE allows users to choose the termination treatment to be provided for calls not accepted, which is called the non-accepted treatment (NAT). Unaccepted calls can forward to an RTN or route to an announcement.

Users access the SLE session by dialing an access code for a particular LSF. All editing commands (for example, add/delete list entries) are available within the session. Users can also turn the LASS Selective feature on or off within the session.

List entries can be 7- or 10-digit directory numbers or 1- to 7-digit extension numbers (for users with extension dialing). In addition, the DN of the last calling party, which is stored in the incoming line history block (ILHB), can be transferred to the screening list. If the last calling party's number is marked private, the added entry is considered private and is not voiced back or displayed to the user.

All DNs added to screening lists are validated to ensure that calls are correctly screened (for example, unassigned numbers are not allowed on lists). For numbers not assigned at the user's switch, an SS7 Transaction Capabilities Application Part (TCAP) query may be made of the switch where the number is assigned. An office parameter (VALIDATE LST ENTRY found on Recent Change View 8.21) determines whether this query will be made.

The TCAP Improvements for a Switch Spanning Multiple LATAs feature permits lines (or groups of lines) to be assigned a LATA NUMBER different from the default LATA NUMBER associated with the office. This feature allows a LATA NUMBER to be associated with a subscriber. The assigned LATA NUMBER will be used to select the appropriate signaling link based on the Signal Transfer Point (STP) for LASS services or will be used to populate the SSP 800 TCAP query to the Service Control Point (SCP). This feature is available in the 5E11 software release. For more information and a complete description of this feature, refer to 235-190-120, *Common Channel Signaling*

Service Features.

The SLE capability is provided to those customers having access to the LASS Selective features (SCA, CAR, SCR, SCF, and SDA). The SLE capability is available on the 5ESS[®]-2000 switch for both analog and Custom and National ISDN stations. However, the SLE capability is not available with ISDN attendant stations. Both residential and business customers can have the LSF features.

7.1.2 Economic Worth

The economic worth to the service provider is expected to be quite good in terms of revenue generation and ease of implementation. Business and residential customers want to control access to their telephones. If affordably priced, many telephone customers will use the LASS Selective features (LSFs) based on this personal control.

7.1.3 Availability

The Screen List Editing Compliance with Bellcore feature incorporates changes to the wording of some announcements, introduction of additional announcements, and changes in what commands are accepted at particular points in the interface.

The Private Option For Last Incoming Number (POLIN) feature ensures that the calling party number is not revealed and is treated as private by LASS Automatic Callback, Automatic Recall, and Screen List Editing features. The POLIN feature is a secured and optioned feature.

Additionally, an interface capability provides a LASS user with the ability to choose to interface with the Lucent Technologies default announcements and displays, or the Bellcore Compliance default announcements. This capability is an optioned capability. The ability to choose the desired interface is not a feature, but an inherent capability that allows the service provider to select the interface with the type of announcements desired.

The Limited Intragroup ICLID (LIGI) feature allows the calling DN to be displayed at the terminating station set when calls originate and terminate within the same terminal group. This feature is an optioned feature.

Access to these features is provided for National ISDN terminals.

7.1.4 Feature Application

The SLE capability is provided only to those customers having access to the LASS Selective features (SCA, CAR, SCR, SCF, and SDA).

The POLIN feature provides a per-office option allowing service providers to have the Last Incoming Call Directory Number (LICDN), which is stored in a line's incoming line history block, considered private when AC/AR or SLE try to retrieve it and voice it back or display it to the user.

The LIGI feature is a terminating feature and is assigned on a per-office basis.

7.2 USER PERSPECTIVE

7.2.1 User Profile

See "User Profile" for the following LASS Selective features:

- SCA — "User Profile", Section 8.2.1
- CAR — "User Profile", Section 9.2.1
- SCR — "User Profile", Section 10.2.1

- SCF — "User Profile", Section 11.2.1
- SDA — "User Profile", Section 12.2.1 .

7.2.2 Customer Premises Equipment

The type of customer premises equipment (CPE) expected to be most widely used with SLE is an analog station set. Both touch-tone [dual tone multifrequency (DTMF)] and dial pulse (DP) sets are supported. The SLE capability provides both touch-tone and rotary-dial announcements.

Other CPE supporting SLE are ISDN types A, B, C, and D terminals with and without display capability. Applicable display messages support Custom ISDN CPE with display capability. National ISDN terminals are not provided displays during SLE.

7.2.3 User Operation

A list of valid SLE commands is described in this section. If user has a touch-tone telephone, dialing either 1,2 or the number sign (#) key indicates a number (or extension) is to be added, and dialing either 1,1 or a star (*) key indicates a number (or extension) is to be deleted. Users with dial pulse telephones must dial 1,2 or 1,1 to indicate the desired action. Valid commands are as follows:

0	Voice back editing instructions
1	Voice back the screening list
3	Toggle (activate/deactivate) feature status
#/1, 2 DN	Add 7- or 10-digit DN to list
#/1, 2 0, 1	Add number from incoming line history block to list
#/1, 2 0, 2 EXT	Add extension to list
*/1, 1 DN	Delete DN from list
*/1, 1 0, 1	Delete number from incoming line history block from list
*/1, 1 0, 2 EXT	Delete an extension from the list
0, 7	Delete the DN being voiced back during list review
0, 8	Delete all entries on list
0, 9	Delete all private entries on list.

Once the user has accessed the session and successfully responded to any prompts for input (RTN and/or NAT, where applicable), the user is free to edit the screening list.

Confirmation announcements are provided after each successful action. Numbers entered by the user are repeated (voiced back). Error announcements are given for unsuccessful actions.

The number in the ILHB is considered private if the caller used the ICLID DN Privacy feature. Private screen list entries are not voiced back when added or deleted, but are identified as private. Screen list entries dialed directly and not transferred from the line history block cannot be private. The Private Option for the Last Incoming Number (POLIN) feature affects SLE during an editing session. Users can add the LICDN from the incoming line history

block to the screening list by dialing a (# or 12) to perform and add operation, followed by (01#) to add the LICDN to the list. If the LICDN is public, and POLIN is not enabled, the number added is voiced back or displayed. However, if POLIN is enabled, the number is treated as though it was a private DN and is not voiced back or displayed. If POLIN is enabled when a public LICDN is added to the screening list, it may be voiced back to the user by the screening list read command (which is done by dialing a 1 in an editing session). The number is voiced back if the DN was dialed directly. If the DN was retrieved from the ILHB, it will not be voiced back. When the number is voiced back or displayed, it is treated as a private number. (In other words, if POLIN is enabled, it is always considered private). To delete the LICDN from the screening list, a user can dial a (* or 11) for the delete operation followed by a (01, #). The number deleted is voiced back or displayed as if it is a private DN.

The POLIN feature does not affect calls where the calling party number is already marked private.

Extension numbers are identified as extensions when voiced back.

Screen List Editing validates all entries made to screening lists. Validation ensures that callers can be successfully identified so that calls from them can be screened. The following is checked for every screen list entry entered in correct format:

- Is the screen list entry assigned to a line?
- For screen list entries not assigned at the user's switch, does the switch serving the entry have SS7 connectivity? (Without such connectivity, the switch cannot determine the validity of the calling party's number when a calling number is added to the list).
- Does the screen list entry match the number provided when the station being identified makes a call? (For example, a number assigned to a multiline hunt group line may not, in some cases, be sent as the calling party number.)
- Can the station being identified make calls to the user? (For example, the station may be fully restricted for originations and not be in the user's terminal group.)

The SLE feature makes use of SS7 TCAP protocol in validating screen list entries not assigned at the user's switch. If no checks fail, the number is added to the screening list and a confirmation announcement is given. Otherwise, the number is not added and an appropriate error announcement is provided (UNAVAIL, ADDLATER).

While the user is off-hook in a session, deleting all entries will not deactivate an active feature. Rather, the feature is considered to be active until the user dials "3" to deactivate the previously active feature. (Once the user goes on-hook, if no entries exist for the screening list, the feature is automatically deactivated.)

The Screen List Editing Compliance with Bellcore feature, makes changes in wording of commands, display messages, and changes which affect the user interface. Refer to "Default Announcements and Displays", Section 7.6.2, for the wording of announcements and display messages. The changes that affect the user interface are summarized as follows:

- While reviewing a list, if the user dials "07" to delete an entry voiced back and the list becomes empty as a result, the switch plays the "This is the end of your list. Your list is now empty. (1 second pause)" announcement. Instructions are immediately played (one of INSTOFF, INSTON, INSTOFFP, or INSTONP announcements) and the user is returned to the command level.
- While reviewing a list, if the user enters an invalid command and is given the error announcement BADCMD, the switch plays the "Repeating, <DN>" announcement, if the entry last voiced back was a DN and was not the first entry in the list. If the last voiced back entry was an extension and was not the first entry, the switch plays the "Repeating, extension <ext>" announcement.
- The TURN_OFF and TURN_ON announcements, which provide a short set of instructions to the user initially

and after a time-out, are replaced by the longer set of instructions (one of INSTOFF, INSTON, INSTOFFP, or INSTONP announcements). Refer to "Default Announcements and Displays", Section 7.6.2, for the wording of announcements and display messages.

- When the user dials "*" or "1,1" at command level to indicate deletion, the user can follow this with the following:

- "0, 8" alone

This is interpreted as though the user had dialed "0, 8" at command level. That is, "*", 0, 8" is taken as a command to delete all list entries.

- "0, 9" alone

This is interpreted as though the user had dialed "0, 9" at command level. That is, "*", 0, 9" is taken as a command to delete just the private list entries.

- "0" alone

This is interpreted as though the user had timed-out after having dialed "*" or "1, 1". That is, "*", 0" results in the RMV_NUM or RMV_NUMP announcement being played.

A user can append "*" or "#" to any of these strings to indicate end-of-dialing.

- In the Lucent Technologies standard interface, the pause provided between certain error announcements and following a prompt announcement is removed in the following cases (error announcements already include pauses). Pauses which are part of the error announcement will continue to be provided.
 - CANCEL2 followed by DIALCAR, DIALSCA, DIALSCF (when the RTN is canceled)
 - BADCMD followed by INSTOFF, INSTOFFP, INSTON, INSTONP, (at command level)
 - NONHIST2 followed by MUSTADD (when adding an entry as part of activation)
 - CANCEL2 followed by MUSTADD (when adding an entry as part of activation)
 - INCORCT2, TOOFW2, or TOOMNY2 followed by MUSTADD (when adding an entry as part of activation)
 - ADDLATR2, UNAVL2 followed by MUSTADD (when adding an entry as part of activation)
 - ENDLIST, EMTYNOW followed by INSTOFF, INSTOFFP, INSTON, INSTONP (on end of list review)
- When the user dials "1" to have the list read back and there are no entries, the uninterruptible announcement EMTYLST is played. (This replaces the Lucent Technologies standard NON_LIST error announcement, which is interruptible). The EMTYLST announcement is followed immediately by the TRYOTHER announcement.

7.2.4 Operational Limitations

The existing announcement system, digital service unit 2-recorded announcement function (DSU2-RAF), is used by this capability to provide announcements, prompts, and confirmations.

The number of channels available for announcements in each DSU2-RAF is limited to 20, when used in the dial through announcement mode which SLE uses. The DSU2-RAF is also limited in the amount of announcement storage. The announcement storage circuit (ASC) provides up to 2Mb of erasable programmable read-only memory (EPROM) for announcement storage, and an interface for additional storage. This pack (TN1053) can store up to

250 seconds of speech. An additional 500 seconds of speech storage is provided by the TN1054 circuit pack. Two of these additional storage packs are supported in the DSU2-RAF. A DSU2-RAF service group equipped with a full complement of 3 announcement storage cards will, therefore, support 1250 seconds of stored speech. Announcement phrase construction is based on a quarter-second segment size. Therefore, items such as pauses, word sizes, and word boundaries are in quarter-second multiples. This means that the minimum announcement size is limited to one quarter second. The number of announcement storage packs in a service group, and the number and size of announcements sharing memory determines the maximum announcement size. Therefore, it is possible for the maximum announcement size to be 1250 seconds.

7.3 INTERACTIONS

7.3.1 General Rules

The interactions between SLE and other features are described in terms of originating feature interactions and terminating feature interactions. An originating interaction is when the SLE user is an originating party, while a terminating interaction is when the SLE user is the terminating party on a call.

The following general rules apply to SLE feature interactions:

- Access to SLE is denied unless an LSF has been subscribed to, or can be accessed through, general availability.
- An analog user in an SLE session is treated as busy with reference to incoming calls and features.
- An ISDN user in an SLE session is treated as busy only if all terminating call appearances for the (directory number) DN are occupied.
- Switchhook flashes will cause disconnect within SLE sessions, regardless of whether the user has features assigned which utilize them. Because of this fact, an SLE session cannot be placed on hold.
- Screen list editing assumes that all 7- or 10-digit numbers entered are plain old telephone service (POTS) numbers. If a user attempts to add codes as a screen list entry or as an RTN, SLE will assume they are POTS numbers. Also, SLE assumes that POTS numbers result from the translation of all 1- to 7-digit extensions preceded by the 0,2 prefix. This may result in unexpected entries for RTNs or on screening lists.
- If the feature under discussion does not interact with SLE and SLE does not interact with the feature in discussion, it will be labeled as *No interaction during an editing session*.
- The CPE may provide redial buttons. These buttons can be used to redial the access code for a LASS Selective feature. However, its use in repeating digits dialed within an SLE session would require that digit timing conform to that expected by SLE. If timing does not conform, digits entered via the redial button will not be interpreted correctly and will result in error treatment. The use of the redial button is not explicitly supported by SLE.
- Unless specified otherwise, feature button operations are ignored during an SLE session.
- Users with Custom ISDN terminals with display capability will be sent messages associated with SLE sessions. These messages will be sent in the MISCELLANEOUS display mode. The user's terminal can optionally choose to display the data and can choose the format to be used. See 235-900-341, *National ISDN Basic Rate Interface Specification*.
- Those ISDN features which cannot be assigned to a National ISDN line will not interact with National ISDN SLE.

7.3.2 800 Service [Also Known as Inward Wide Area Telecommunications Service (INWATS)]

The 800 Service feature provides inward service from one or more predetermined areas at a rate based on expected usage.

NOTE: The 800 Service feature is not limited to the 800 NPA if the switch has implemented a toll-free treatment feature that allows additional toll-free Service Access Codes (SAC) such as 888 or 877.

Originating: The 800 service numbers cannot be added to a screening list. Upon entering such a number, users will receive an announcement indicating that the number they have dialed is invalid and, if applicable, receive a similar displayed message. However, their actual routing DN's may be valid list entries.

An 800 service number can be used as an RTN for SCA, CAR, and SCF.

Terminating: No interaction during an editing session.

7.3.3 800 Service Simulated Facilities Group

The 800 Service Simulated Facilities Group feature can restrict the number of simultaneous INWATS calls through software, rather than by the physical size of a dedicated trunk group.

Originating: Screen list editing sessions will not be counted against the limit for originating calls set by simulated facilities groups (SFGs). For SFG purposes, SLE sessions are not treated as originating calls. See "800 Service", Section 7.3.2 .

Terminating: No interaction during an editing session.

7.3.4 900 Services

The 900 Service provides inward service from one or more predetermined areas at a rate based on expected usage.

Originating/Terminating: See "800 Service", Section 7.3.2 .

7.3.5 Account Codes [Electronic Tandem Switching (ETS) Optional Account Codes]

The Account Codes (ACCT) feature allows the customer to add an account code to an automatic message accounting (AMA) or message detail recording (MDR) record for customer allocation of telecommunication charges.

Originating: Account Codes are not allowed on screening lists. These codes are not used to identify calling parties.

Account Codes cannot be used as an RTN for SCA, CAR, and SCF since they are not valid telephone numbers.

Terminating: No interaction during an editing session.

7.3.6 Add-On/Consultation Hold Incoming Only

Add-On/Consultation Hold Incoming Only is a terminal group variation of the Three-Way Calling feature. It provides three-way calling restricted to incoming direct inward dialed (DID) calls.

Originating: Analog users in an SLE session are not able to invoke Add-On/Consultation Hold Incoming Only since switchhook flashes will cause the SLE session to be dropped.

For ISDN users in an SLE session, transfer or conference button depressions will be rejected. The transfer or conference attempt will result in standard denial signal being given for the call appearance. In this case, parties on hold will remain in that state.

Terminating: See "Three-Way Calling", Section 7.3.221 .

7.3.7 Advanced Services Platform

Advanced Services Platform (ASP) provides a platform of service-independent capabilities on a 5ESS®-2000 switch allowing the switch to interact with external network elements. For further information and for the latest details on LASS features and ASP interactions, Please see the following documents:

235-190-125 *Advanced Services Platform Release 0 and 0.1A*

235-190-126 *Advanced Services Platform Release 0.1B*

Originating: Users cannot include an ASP access code as part of the forward-to number or as an entry on the screening list specified for a LASS Selective feature because of limitations that SLE imposes on the format of the number. However, if the access code is part of a speed call entry or is provided on translation of an IDP extension number, it will be accepted.

The DN triggers residing on the same service switching point (SSP) as the SCA/CAR/SCF base station cannot be used as the forward-to number for these stations.

The DN triggers are not allowed as valid entries on an SCA/CAR/SCR/SCF/SDA selective screening list since it is not possible to receive a call from this DN. The SSP responds to an SLE DN validation query for a DN trigger such that it indicates an invalid DN.

Terminating: If available at the terminating switch, ASP calls are identified by the public DN of the originator and are subject to screening and termination treatment.

The service control point (SCP) is queried before the call is screened by any of the LASS Selective features for incoming calls to a DN trigger. The instructions returned from the SCP determine if the call is offered to a LASS Selective feature user. Additionally, the SCP is not queried if a user adds a number to the screening list that is a subscribed trigger.

List entries that are DN triggers at the user's switch cannot be added to a screening list because DN triggers are not associated with a physical port. The user's switch does not query the SCP. Attempts to add these entries to a screening list result in long-term denial. This also applies to list entries which are DN triggers at a remote switch. Normal validation procedures apply because the query for the DN characteristics is still made by the originating switch.

7.3.8 Analog Attendant Call-Through Test

The Analog Attendant Call-Through Test feature permits an attendant to select a specific trunk within a trunk group and places a call over that trunk to verify that the trunk is in working order.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.9 Attendant Call Transfer (Also Known as Call Splitting)

Attendant Call Transfer allows the attendant to flash and dial a code before dialing the third leg of a three-way call.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.10 Attendant Camp-On

Attendant Camp-On allows calls the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: There is no originating interaction since LASS Selective features cannot be assigned to attendant lines.

Terminating: Analog users in an SLE session are treated as busy when call waiting occurs. Since this feature uses call waiting treatment, it can be handled in the same manner as Call Waiting (CW). Also, see "Call Waiting Incoming Only", Section 7.3.52.

7.3.11 Attendant Conference Six-Way

Attendant Conference Six-Way allows an attendant to initiate a conference call involving up to six parties (including the attendant).

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.12 Attendant Control of Facilities

NOTE: Attendant Control of Facilities is not supported on Standard BRI (National ISDN).

The ACOF feature permits an attendant to restrict dial access from a station to tie trunks, foreign exchange trunks, and wide area telecommunications service (WATS) by operating a key or dialing a code. When control is activated, calls to these facilities are routed to an attendant for appropriate action.

Originating/Terminating: No interaction during an editing session.

7.3.13 Attendant Direct Station Selection

NOTE: The Attendant Direct Station Selection (ADSS) feature is not supported on Standard BRI.

Attendant Direct Station Selection (ADSS) allows an attendant with a console to place calls to stations in the business group by simply pressing a nonlocking pushbutton key associated with the desired station line.

Originating/Terminating: No interaction during an editing session.

7.3.14 Attendant Identification of Incoming Calls

NOTE: Attendant Identification of Incoming Calls is not supported on Standard BRI (National ISDN).

Attendant Identification of Incoming Calls provides identification, via incoming call indicator lamps on the attendant console, of listed directory number (LDN) calls directed toward different LDNs, but served by the same attendant.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.15 Attendant Position

NOTE: Attendant Position is not supported on Standard BRI (National ISDN).

Attendant Position allows a customer to designate a particular station within a business customer group as an attendant position.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.16 Attendant Recall from Satellite

Attendant Recall from Satellite gives stations located at remote locations without an attendant, but with the Satellite Attendant Transfer feature, the ability to transfer an incoming call by flashing the switchhook to generate a recall to the main location attendant, who performs the transfer for the remote station.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.17 Authorization Codes (ETS Authorization Codes)

The Authorization Codes (ATH) feature allows the station user to input an assigned code to change the restrictions associated with the originating station to those associated with the assigned authorization code.

Originating: Authorization Codes will not be allowed on screening lists. These codes are not used to identify calling parties.

Authorization Codes cannot be used as an RTN for SCA, CAR, and SCF since they are not valid telephone numbers.

Terminating: No interaction during an editing session.

7.3.18 Automatic Alternate Routing

Automatic Alternate Routing (AAR) provides alternate routing capability similar to ARS-Deluxe. The difference being that AAR is used to route calls to stations on the customer's private network.

Originating/Terminating: No interaction during an editing session.

7.3.19 Automatic Callback

The LASS Automatic Callback (AC) feature enables users to easily return the most recent call.

Originating: If Automatic Callback (AC) is activated by an analog user and the terminating party goes idle, while a user is in an SLE session, ringback will not occur until the SLE session is terminated. The analog user is treated as busy. The ISDN users in an SLE session are treated as busy only if all terminating call appearances for the DN are occupied.

Terminating: No interaction during an editing session.

7.3.20 Automatic Callback-Calling

NOTE: Automatic Callback-Calling (ACBC) is not supported on a Standard BRI (National ISDN).

The ACBC feature allows the user, after reaching a busy station, to hang up and dial an activation code to activate ACBC. This feature only applies to two stations in the same Business and Residence Custom Services (BRCS)/Centrex group.

Originating/Terminating: See "Automatic Callback", Section 7.3.19 .

7.3.21 Automatic Intercept System (Also Known as Remote Intercept System)

Automatic Intercept System (AIS) allows Class 5 offices to route calls to nonworking telephone numbers or to telephone numbers placed on trouble intercept to an AIS where they are connected to announcements and/or operators.

Originating: When it can be determined that an RTN will be routed to an intercept system (intraswitch), the RTN will be considered invalid. For interswitch RTNs, no validation will occur. In this case, it is possible for SLE to accept

RTNs that will terminate to an intercept system.

Terminating: No interaction during an editing session.

7.3.22 Automatic Recall

The LASS Automatic Recall (AR) feature allows users to redial the most recent called party.

Originating: If Automatic Recall (AR) is activated by an analog user and the terminating party goes idle, while a user is in an SLE session, ringback will not occur until the SLE session is terminated. The analog user is treated as busy. The ISDN users in an SLE session are treated as busy only if all terminating call appearances for the DN are occupied.

Terminating: No interaction during an editing session.

7.3.23 Automatic Route Selection (Also Known as Flexible Route Selection)

Automatic Route Selection (ARS) directs outgoing, business group line calls to the customer's most preferred available route.

Originating: Automatic Route Selection (ARS) codes cannot be added to a screening list. These codes are not used to identify calling parties.

The ARS codes cannot be used as an RTN for SCA, CAR, and SCF since they are not valid telephone numbers.

Terminating: No interaction during an editing session.

7.3.24 Automatic Voice Network Interface

NOTE: Automatic Voice Network (AUTOVON) Interface is not supported on Standard BRI (National ISDN).

Automatic Voice Network (AUTOVON) Interface provides an interface with the AUTOVON network, including provisions for prioritizing call handling.

Originating/Terminating: No interaction during an editing session.

7.3.25 Basic Emergency Service (911)

NOTE: Basic Emergency Service is not supported on Standard BRI (National ISDN).

Basic Emergency Service provides a 3-digit universal telephone number (911) for public use throughout the United States to report an emergency or request emergency assistance.

Originating: Only 7- or 10-digit DNs or 1- to 7-digit extensions are allowed on SLE lists. Users may not add 911 to a screening list nor can it be added as an RTN/NAT. Upon entering such a number, users will receive an announcement indicating that the number they have dialed is invalid and, if applicable, receive a similar displayed message.

Terminating: No interaction during an editing session.

7.3.26 Basic Queuing (Queuing for Lines)

Basic Queuing provides queuing for lines, call waiting lamps control, and delay announcements.

Originating: No interaction during an editing session.

Terminating: If Basic Queuing is activated by an analog user and the user is in an SLE session, ringback will not occur. The ISDN users in an SLE session are treated as busy only if all terminating call appearances for the DN are occupied.

7.3.27 BRCS Compatibility with ISDN

The BRCS Compatibility features ensure that many of the existing BRCS features and services function with supported ISDN station sets so that users experience equivalent, similar, or expanded circuit-switched voice service by subscribing to these ISDN BRCS features and services.

Originating/Terminating: No interaction during an editing session.

7.3.28 BRCS Feature Grouping

The BRCS Feature Grouping provides a logical grouping of features and groups that are used by business customers receiving communications services from a central office switch. This feature works with both analog BRCS and ISDN BRCS features.

Originating/Terminating: No interaction during an editing session.

7.3.29 Business Group Line

Business Group Line provides capabilities similar to those for individual lines, but is classed as a member of a group of business lines belonging to a single customer.

Originating/Terminating: No interaction during an editing session.

7.3.30 Busy Line Verification

Busy Line Verification (BLV) allows an operator to complete a connection to a busy line to determine the off-hook/on-hook status of the line or if a conversation exists on the line.

Originating: No interaction during an editing session.

Terminating: Operators will still be able to complete a connection to a user in an SLE session to verify off-hook status. Announcements will be unintelligible to the operator due to the scrambler capability provided by this feature.

The operator can interrupt the SLE session. Just before the interrupt, an intrusion tone will be provided. If interrupted, a connection will be made with the operator and the user will be alerted that an emergency call is waiting to be answered and will be asked to hang up. Editing actions confirmed to the user up to the point of the interruption will not be canceled.

When an operator performs busy line verification, the ILHB is updated with the attendant number.

7.3.31 Call by Call Access from a 5ESS®-2000 Switch in a Private Network to Interexchange Carrier Services

This feature allows the private network customer to generate, on a per-call basis, a request for services from an interexchange carrier or local exchange carrier.

Originating/Terminating: No interaction during an editing session.

7.3.32 Call Forwarding Busy Line

Call Forwarding Busy Line (CFBL) permits calls attempting to terminate to a busy line to be redirected to another

customer-specified line.

Originating: No interaction during an editing session.

Terminating: Analog users in an SLE session are treated as busy in reference to Call Forwarding. The ISDN user in an SLE session is treated as busy only if all terminating call appearances for the DN are occupied.

A user can change the status of the CFBL feature by pressing a feature button during an SLE session. A make-busy key can also be operated while a user is in an SLE session. When the key or feature button is depressed, call forwarding busy line is toggled. As a result, calls destined for a user are not forwarded while a user is in an SLE session.

7.3.33 Call Forwarding Busy Line Incoming Only

Call Forwarding Busy Line Incoming Only (CFBLIO) ensures that only incoming DID calls forward to the specified business group line.

Originating: No interaction during an editing session.

Terminating: See "Call Forwarding Busy Line", Section 7.3.32 .

7.3.34 Call Forwarding Do Not Answer

Call Forwarding Do Not Answer (CFDA) forwards incoming calls to a station to another preselected station within the same customer group, or to the attendant, when the called station is not answered after a customer-specified number of rings.

Originating/Terminating: No interaction during an editing session.

7.3.35 Call Forwarding Do Not Answer Incoming Only

Call Forwarding Do Not Answer Incoming Only (CFDAIO) ensures that only incoming DID calls to the business group line forward, if not answered, after a customer-specified number of rings.

Originating/Terminating: No interaction during an editing session.

7.3.36 Call Forwarding Incoming Only

Call Forwarding Incoming Only (CFIO) forwards calls terminating from outside the group via DID.

Originating/Terminating: No interaction during an editing session.

7.3.37 Call Forwarding Inhibit Line Busy

The Call Forwarding Inhibit Line Busy feature when used with CFBL, inhibits CFBL when the line is busy. When the line is busy, calls are routed to busy tone.

Originating: No interaction during an editing session.

Terminating: Analog users in an SLE session are treated as busy in reference to Call Forwarding Inhibit Line Busy. The ISDN user in an SLE session is treated as busy only if all terminating call appearances for the DN are occupied.

7.3.38 Call Forwarding Inhibit Make Busy

The Call Forwarding Inhibit Make Busy feature when used with CFBL, inhibits CFBL when the make-busy key is activated. Calls are routed to busy tone when the make busy is on.

Originating: No interaction during an editing session.

Terminating: A make busy key can be operated while a user is in an SLE session. When the key or feature button is depressed, call forwarding busy line is inhibited. As a result, calls destined for the user while the user is in an SLE session will not be forwarded.

7.3.39 Call Forwarding Over Private Facilities

NOTE: Call Forwarding over Private Facilities (CFPF) is not supported on a Standard BRI (National ISDN).

The CFPF feature is a Call Forwarding Variable (CFV) option allowing business customers to automatically forward voice calls over the outgoing private facilities access (PFA) or automatic route selection (ARS) service selected by the customer.

Originating/Terminating: No interaction during an editing session.

7.3.40 Call Forwarding Variable

Call Forwarding Variable (CFV) allows a station user to redirect calls intended for that station to another telephone.

Originating/Terminating: No interaction during an editing session.

7.3.41 Call Forwarding In (Within) A Group

Call Forwarding In A Group (CFIAG) restricts DNs dialed during activation to intragroup extension numbers.

Originating/Terminating: No interaction during an editing session.

7.3.42 Call Hold

Call Hold (CHD) allows a station user to *hold* a call in progress by flashing and then dialing the call hold code.

Originating: To prevent a three-way connection between the party put on hold, the SLE user and the SLE announcement system will not be allowed access to an SLE session after placing a party on hold.

Users with Analog Call Hold will not be able to place an SLE session on hold since switchhook flashes cause the SLE session to be dropped.

Terminating: No interaction during an editing session.

7.3.43 Calling Name Display

Calling Name Display provides the delivery of the calling party's name to analog subscribers. Analog calling name display is an enhancement to LASS ICLID feature to provide the calling party's name for any calling party whose name and number is located in a data base. The data base is queried using a DN to obtain a name associated with the DN. If the ICLID feature is not associated with the line, only the name is delivered to the subscriber's CPE. If only ICLID is assigned to the line, the subscriber receives only the calling party number. If both features [ICLID and calling name display (CNAM)] are assigned, the calling name and number are delivered to the subscriber.

Calling Name Display is available to users on a subscription basis with flat-rate billing. The end-user may have different billing methods for ICLID and CNAM (if they subscribe to ICLID and CNAM), since ICLID is available on flat-rate or usage sensitive, and CNAM is available on flat-rate billing.

Originating/Terminating: The CNAM feature interactions are similar to the ICLID interactions. Refer to the ICLID interactions in "Individual Calling Line Identification Calling Number Delivery (Analog)", Section 7.3.100 .

The CNAM feature is compatible with residential custom calling features; such as, Call Waiting, Call Forwarding Variable, Three-Way Calling, Speed Calling, Multi-Directory Number Lines, etc.

7.3.44 Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network

Calling Party Number/Billing Number in the 5ESS®-2000 switch Private Network allows 5ESS®-2000 switch PBXs to send the calling party number information to a public switch or to another PBX over a PRI for outgoing circuit-switched voice or data calls. Only the calling party number may be sent from the PBX to the private network; the billing number is never sent to the public network. Either the calling party number or the billing number may be sent from a 5ESS®-2000 switch PBX to another PBX.

The ICLID allowed the calling party number to be passed to the calling party and provided privacy allowing the calling party to prevent their number being sent to the called party. The calling party can prevent their number from being delivered by subscribing to all-call privacy or per-call directory number privacy.

Originating: No interaction.

Terminating: Screen List Editing validates identity attributes of directory numbers to be added to screening lists. Numbers that are user provided on origination from BRI or PRI users may not pass validation if the information is not available. Numbers that do not pass validation will not be added to the list.

7.3.45 Call Pickup (Also Known as Call Pickup Originating and Regular Call Pickup)

Call Pickup (CPU) allows a station user to answer any call within an associated preset pickup group.

Originating/Terminating: No interaction during an editing session.

7.3.46 Call Tracing

Call Tracing allows central office personnel to determine the source of annoying or threatening calls or identify lines in emergency or demand situations.

Originating/Terminating: No interaction during an editing session.

7.3.47 Call Transfer Attendant

Call Transfer Attendant (CTA) allows the called business group station user, while connected to a DID or private network incoming call, to transfer the call to the attendant.

Originating: Analog users in an SLE session are not able to invoke this feature since switchhook flashes causes the SLE session to drop.

Terminating: No interaction during an editing session.

7.3.48 Call Transfer Individual All Calls

Call Transfer Individual All Calls (CTIAC) allows a station user to transfer any established call to another station within or outside the private branch exchange (PBX) or business group without the assistance of the attendant.

Originating: Analog users in an SLE session are not able to invoke this feature since switchhook flashes cause the SLE session to drop.

For ISDN users in an SLE session, transfer or conference button depressions will be rejected. The transfer or

conference attempt will result in standard denial signal being given.

Terminating: No interaction during an editing session.

7.3.49 Call Transfer Individual Incoming Only

Call Transfer Individual Incoming Only (CTIIO) allows a business group station user to transfer an incoming call to another station in the same business group without assistance of the attendant.

Originating: Interactions between CTIIO and SLE are identical to those described in "Call Transfer Individual All Calls", Section 7.3.48 .

Terminating: No interaction during an editing session.

7.3.50 Call Transfer Internal Only

Call Transfer Internal Only (CTIO) allows a business group station user to transfer any established intragroup call to another station in the same customer group without the assistance of an attendant.

Originating: See "Call Transfer Individual All Calls", Section 7.3.48 .

Terminating: No interaction during an editing session.

7.3.51 Call Transfer Outside

Call Transfer Outside (CTO) allows a station user to add on a dial "9" off-network, common control switching arrangement (CCSA), or WATS facility to an external call. A call using CTO can be transferred to a private facility.

Originating: See "Call Transfer Individual All Calls", Section 7.3.48 .

Terminating: No interaction during an editing session.

7.3.52 Call Waiting Incoming Only

NOTE: Call Waiting Incoming Only (CWIO) is not supported on the Standard BRI (National ISDN).

The CWIO feature is a version of Call Waiting Terminating (CWT). It gives an analog station user, engaged in a telephone conversation, an audible alert indicating an incoming DID or private facility call is attempting to terminate. The CWIO feature can be activated for calls to ISDN users with multiple call appearances, provided a terminating call appearance is available for the call. See "ISDN Priority Calling Incoming Only", Section 7.3.152 , for the ISDN version of CWIO.

Originating: No interaction during an editing session.

Terminating: Analog users in an SLE session are treated as busy in reference to Call Waiting. Call waiting tones are inhibited. There is no ISDN interaction.

7.3.53 Call Waiting Originating

NOTE: Call Waiting Originating (CWO) is not supported on Standard BRI (National ISDN).

The CWO feature allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. It also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active. It is automatically invoked any time a busy intragroup station is encountered. The CWO feature is only operational for intraterminal group calls.

Originating: Since users cannot originate calls when in an SLE session, they cannot activate Call Waiting Originating.

Terminating: See "Call Waiting Incoming Only", Section 7.3.52 .

7.3.54 Call Waiting Terminating (Analog Only)

NOTE: Call Waiting Terminating (CWT) is not supported on a Standard BRI (National ISDN).

The CWT feature uses a burst tone to inform a busy analog station user that another call is waiting.

Originating: No interaction during an editing session.

Terminating: See "Call Waiting Incoming Only", Section 7.3.52 .

7.3.55 Cancel Call Waiting

Cancel Call Waiting (CCW) allows a customer with Call Waiting to inhibit the application of the call waiting tone for the duration of one call.

Originating/Terminating: No interaction during an editing session.

7.3.56 Carrier Interconnection

Carrier Interconnection provides an interface between the local exchange, inter-LATA, and interexchange carriers.

Originating: Carrier Interconnection code prefixes are not allowed on screening lists. These codes are not used to identify calling parties.

A 10XXX-7/10-digit dialing number is valid as an RTN for SCA, CAR, and SCF, but a 950-1XXX number is not valid as an RTN.

Terminating: No interaction during an editing session.

7.3.57 Centrex Complex

Centrex Complex associates multiple business groups in a single switch with a single common *Complex*. All business groups in the complex share intercom calling privileges, yet may have separate private facility groups or separate dialing plans.

Originating: Provided validation checks are passed, 1- to 7-digit extension numbers defined in a user's dialing plan can be added to screening lists.

Terminating: No interaction during an editing session.

7.3.58 Code Calling

Code Calling allows attendants and station users to dial an access code and a 2- or 3-digit called party code to activate signaling devices with a coded signal corresponding to the called code.

Originating: Code Calling codes are not allowed on screening lists. These codes are not used to identify calling parties. These codes may not be used as valid RTNs.

Terminating: No interaction during an editing session.

7.3.59 Code Restriction

Code Restriction blocks outgoing calls to customer-specified codes [numbering plan area (NPA), NXX].

Originating: Code Restriction does not affect validation of SLE directory numbers nor RTNs.

Terminating: No interaction during an editing session.

7.3.60 Signaling System 7 Network Interconnect

Signaling System 7 Network Interconnect (SS7 NI) provides an out-of-band signaling interface between local exchange carrier and interexchange carrier networks.

Originating: Based on an office option, if inter-LATA DNs are allowed on a screening list, network interconnect (NI) will be used to validate screen list entries assigned outside an SLE user's LATA.

If the office option disallows inter-LATA DNs and the user enters such a number, they will receive an announcement indicating that the number they have dialed is not available with SLE service and, if applicable, will receive a similar displayed message.

Inter-LATA DNs are allowed as RTNs.

Terminating: No interaction during an editing session.

7.3.61 Common Control Switching Arrangement Access

Common Control Switching Arrangement (CCSA) Access provides access to the customer's CCSA network.

Originating: Common Control Switching Arrangement Access codes are not allowed on screening lists. These codes are not used to identify calling parties.

The CCSA access codes and numbering plan numbers cannot be used as an RTN for SCA, CAR, and SCF since they are not valid telephone numbers.

Terminating: No interaction during an editing session.

7.3.62 Computer Access Restriction

Computer Access Restriction (CAR) allows the customer to restrict access to a computer connected through a modem to the telephone line. The CAR feature, operational only for voice calls, is not operational for ISDN packet-switched or circuit-switched data calls.

Originating/Terminating: See "Computer Access Restriction", Section 9.

7.3.63 Conference Calling Six-Way (Also Known as Station Dial Conference)

Conference Calling Six-Way allows a station user to establish a conference call involving up to five other parties without attendant assistance.

Originating: Analog users in an SLE session cannot invoke Six-Way Conference Calling since switchhook flashes cause the SLE session to be dropped.

For ISDN users in an SLE session, transfer or conference button depressions will be rejected. The transfer or conference attempt will result in standard denial signal being given for the call appearance.

Terminating: No interaction during an editing session.

7.3.64 Critical Interdigit Timing

Critical Interdigit Timing is activated when the digits received provide sufficient information to complete a call, but the possibility of receiving additional valid digits exists.

Originating/Terminating: No interaction during an editing session, because the DSU2-RAF collects and analyzes the digits.

7.3.65 Customer Access Treatment Code Restriction

Customer Access Treatment (CAT) Code Restriction allows the creation of subgroups in a business group to provide additional restriction or access functions.

Originating/Terminating: No interaction during an editing session.

7.3.66 Customer-Changeable Speed Calling

Customer-Changeable Speed Calling (CCSC) allows customers to assign their own speed calling codes directly and immediately from their own telephone by dialing a change speed calling list access code, an abbreviated code, and a new telephone number.

Originating: Customer-Changeable Speed Calling codes are not allowed on screening lists. However, users can enter such codes when dialing the RTN.

Terminating: No interaction during an editing session.

7.3.67 Customer Dialed Account Recording

Customer Dialed Account Recording (CDAR) allows a business group customer to associate a personal account number with a given call and have it recorded on the AMA record. The customer can use this record for allocating charges on both outgoing and incoming calls.

Originating: Customer Dialed Account Recording codes are not allowed on screening lists. These codes are not used to identify calling parties. These codes may not be used as RTNs.

Terminating: No interaction during an editing session.

7.3.68 Customer-Originated Trace

Customer-Originated Trace (COT) lets the terminating party request an automatic trace of the last call received.

Originating/Terminating: No interaction during an editing session.

7.3.69 Customer Station Rearrangement via Remote Memory Access System

Customer Station Rearrangement (CSR) via Remote Memory Access system (RMAS) allows business customers to make changes affecting their telephone service from an on-premises terminal.

Originating/Terminating: The CSR feature cannot be used to edit screening lists. List contents and screening status are maintained when a line is moved.

7.3.70 Delayed Announcement for Queued Calls on Hunt Group

Delayed Announcement for Queued Calls on Hunt Group allows a customer-generated automatic announcement for multiline groups with queuing.

Originating/Terminating: No interaction during an editing session.

7.3.71 Deluxe Automatic Route Selection

Deluxe Automatic Route Selection (DARS) extends the choice of private routes for each NPA/NXX to 16 versus 4 for basic ARS.

Originating: Users are not allowed to add ARS codes to screening lists. These codes are not used to identify calling parties.

Automatic route selection codes cannot be used as an RTN for SCA, CAR, and SCF since they are not valid telephone numbers.

Terminating: No interaction during an editing session.

7.3.72 Deluxe Queuing

Deluxe Queuing is composed of the following two parts: Priority Queuing and Ringback Queuing.

Originating: No interaction during an editing session.

Terminating: If Deluxe Queuing is activated by an analog user and the user is in an SLE session, ringback will not occur. The ISDN user in an SLE session is treated as busy only if all terminating call appearances for the DN are occupied.

7.3.73 Dial Access to ISDN Attendant

Dial Access to ISDN Attendant provides dial access from the station to the ISDN attendant within the customer group.

Originating: Codes assigned for access to the ISDN attendant are not allowed on screening lists. These codes are not used to identify calling parties.

These codes cannot be used as an RTN for SCA, CAR, and SCF since they are not valid telephone numbers.

Terminating: No interaction during an editing session.

7.3.74 Dial Access to Private Facilities

Dial Access to Private Facilities (DAPF) lets a customer choose to terminate the private facilities at the central office and access those facilities by dialing a unique access code per facility.

Originating: Codes assigned for access to private facilities are not allowed on screening lists. These codes are not used to identify calling parties.

Private Facilities Access codes cannot be used as an RTN for SCA, CAR, and SCF since they are not valid telephone numbers.

Terminating: No interaction during an editing session.

7.3.75 Dial Call Waiting

NOTE: Dial Call Waiting (DCW) is not supported on Standard BRI (National ISDN).

The DCW feature allows an originating business group station to invoke call waiting service on selected intragroup

calls by dialing an access code followed by the extension number of the station to be call waited. Dial Call Waiting allows a business group station user to direct a call waiting tone to a busy called station in the same business group. The DCW feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active.

Originating: Since users cannot place calls when in an SLE session, the dialed code for Dial Call Waiting will not be accepted.

Terminating: Analog users in an SLE session are treated as busy when Call Waiting occurs. Call waiting tones are inhibited.

7.3.76 Dial Pulsing

Dial Pulsing provides the capability to transmit and receive direct current address signals between offices.

Originating/Terminating: No interaction during an editing session.

7.3.77 Dial Through Attendant

Dial Through Attendant (DTA) allows a station user to complete the dialing on other than station-to-station calls after the attendant selects the private facility on attendant handled calls.

Originating/Terminating: No interaction during an editing session.

7.3.78 Dial Transfer to Tandem Tie Line

Dial Transfer to Tandem Tie Line makes the Call Transfer feature compatible with tie lines (trunks). After flashing, a station user with normal access to tie lines can dial a call through the tie line and transfer the original call to it.

Originating: See "Call Transfer Individual All Calls", Section 7.3.48 .

Terminating: No interaction during an editing session.

7.3.79 Direct Connect

Direct Connect automatically places a call to a preselected called number when a station goes off-hook.

Originating: Direct Connect lines will have their screening lists built via service order; access to SLE sessions is denied. The DNs corresponding to Direct Connect lines will be allowed on screening lists or as RTNs if they pass normal validation checks.

Terminating: No interaction during an editing session.

7.3.80 Directed Call Pickup with Barge-In

Directed Call Pickup with Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, barge-in alert tone is provided and a three-way call is established.

Originating/Terminating: No interaction during an editing session.

7.3.81 Directed Call Pickup without Barge-In

Directed Call Pickup without Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, the party dialing the pickup code is routed to reorder rather than permitted to barge-in on the established connection and create a three-way call.

Originating/Terminating: No interaction during an editing session.

7.3.82 Distinctive Ringing

Distinctive Ringing (DR) applies a distinctive ringing or call waiting tone pattern enabling a station user to determine the source of an incoming call.

Originating/Terminating: No interaction during an editing session.

7.3.83 Dual Call Coverage (Also Known as Dual Telephone Coverage)

Dual Call Coverage allows calls originating internal to a customer's terminal group to route to a message center other than the one servicing outside calls.

Originating/Terminating: No interaction during an editing session.

7.3.84 Electronic Tandem Switching Trunk Access (Also Known as Access to ETS Trunks)

Electronic Tandem Switching (ETS) Trunk Access provides access to a customer's ETS facilities on a distant switch.

Originating: Electronic Tandem Switching access codes and ETS numbering plan numbers are not allowed on screening lists. These codes are not used to identify calling parties.

The ETS access codes cannot be used as an RTN for SCA, CAR, and SCF.

Terminating: No interaction during an editing session.

7.3.85 Electronic Tandem Switching on Primary Rate Interface Trunks

The ETS on PRI Trunks feature allows the 5ESS[®]-2000 switch to provide ETN trunking between a 5ESS[®]-2000 switch central office node and one or more digital PBX nodes in an ETN.

Originating/Terminating: No interaction during an editing session.

7.3.86 Electronic Tandem Network Interworking in the 5ESS[®]-2000 Switch Private Network Environment

This feature gives the 5ESS[®]-2000 switch private network customer, currently using the Electronic Tandem Switching (ETS) feature, expanded capabilities using the primary rate interface (PRI) to connect multiple private ETN nodes.

Originating/Terminating: No interaction during an editing session.

7.3.87 Emergency Access to ISDN Attendant

Emergency Access to ISDN Attendant allows a station user to dial an emergency code to gain immediate access to the attendant.

Originating: Access codes for emergency access to attendants are not allowed on screening lists. These codes are not used to identify calling parties.

Terminating: No interaction during an editing session.

7.3.88 Emergency Ringback

Emergency Ringback is associated with the Basic 911 Emergency Service used to recall a customer station immediately following disconnect from, and at the request of, an emergency bureau.

Originating: No interaction.

Terminating: Emergency Ringback can only be applied for a user while the connection to the emergency bureau is still in effect. The connection can be held by the bureau even when the user goes on-hook. While this connection is held, access codes for client features are not accepted. Therefore, the ringback does not affect SLE sessions.

7.3.89 Enhanced Private Switched Communications Service Access

Enhanced Private Switched Communications Service (EPSCS) Access provides the ability to terminate access lines to the EPSCS switch.

Originating: Enhanced Private Switched Communications Service access codes are not allowed on screening lists. These codes are not used to identify calling parties.

Since they are not valid telephone numbers and because calls cannot forward over EPSCS trunks, EPSCS access codes, and EPSCS numbering plan numbers cannot be used as an RTN for SCA, CAR, and SCF.

Terminating: No interaction during an editing session.

7.3.90 Expensive Route Warning Tone

Expensive Route Warning Tone (ERWT) indicates when a more expensive route is about to be used.

Originating/Terminating: No interaction during an editing session.

7.3.91 Facility Restriction Level

Facility Restriction Level (FRL) defines the calling privileges associated with a line.

Originating/Terminating: No interaction during an editing session.

7.3.92 Feature Code Definition

The Feature Code Definition is the access code defined by the service provider which allows the SCA user to access the SCA feature.

Originating/Terminating: No interaction during an editing session.

7.3.93 Flexible Night Service (Also Known as Attendant Call Forwarding)

Flexible Night Service (FNS) routes calls normally directed to the attendant group to a different location (night location, also known as a night directory number).

Originating/Terminating: No interaction during an editing session.

7.3.94 Foreign Exchange Line

Foreign Exchange (FX) Line provides line termination in a central office different from the line providing service to the customer.

Originating/Terminating: No interaction during an editing session.

7.3.95 Four- and Eight-Party

Four- and Eight-Party provides POTS for up to four or eight customers sharing the same line.

Originating: Directory numbers of multiparty lines are not allowed on screening lists.

Terminating: No interaction because LSF features cannot be assigned to four- and eight-party lines.

7.3.96 Fully Restricted Originating and Terminating

Fully Restricted Originating and Terminating (FROT) provides the ability to deny a station's ability to originate and/or receive calls to or from outside the business group. It also blocks "dial 0" calls to an attendant and calls from an attendant to the station.

Originating: Users, which are Fully Restricted Originating or Terminating, will be allowed access to SLE. The only list entries and RTNs that will be allowed are those corresponding to parties in the user's terminal group. These list entries and RTNs may be either extension numbers or DNs. Originating and terminating restrictions are checked as part of list entry validation.

Terminating: No interaction during an editing session.

7.3.97 Home Intercom (Also Known as Home Intercom/Single Line Variety Package)

NOTE: The Home Intercom feature is not supported on standard BRI (National ISDN).

Home Intercom/Single Line Variety Package (HI/SVP) allows the HI/SVP user to ring all telephone sets (extensions) associated with the line by dialing specified codes from the station.

Originating/Terminating: Intercom calls do not update the ILHB of the line.

7.3.98 Hunt Group Transfer for Circuit-Switched Data Calls

This feature allows circuit-switched data (CSD) calls to a CSD multiline hunt group (MLHG) to forward to a second CSD MLHG.

Originating/Terminating: No interaction during an editing session.

7.3.99 In-Progress Call Tracing

In-Progress Call Tracing is one type of Call Tracing feature that identifies a call in progress.

Originating/Terminating: No interaction during an editing session.

7.3.100 Individual Calling Line Identification Calling Number Delivery (Analog)

Individual Calling Line Identification (ICLID) Calling Number Delivery transmits data on an incoming call to the terminating station set.

Originating/Terminating: Analog users in an SLE session are considered busy and are not provided ICLID Calling Number Delivery.

The SLE user with National ISDN will get display per National ISDN Display feature.

Terminating: No interaction

7.3.101 Individual Calling Line Identification Directory Number Privacy

Individual Calling Line Identification (ICLID) Directory Number Privacy (DNP) allows the calling party to prevent delivery of the origination DN to the terminating station set.

Originating: No interaction during an editing session.

The SLE user with National ISDN will get display per National ISDN Display feature.

Terminating: When a user transfers the number of the last calling party to a screening list, the privacy indicator stored for the number will be checked to determine whether the list entry should be considered private. If the calling party had invoked DN Privacy, either all-call privacy or per-call privacy, the privacy indicator should indicate a private number. The number will not be voiced back nor displayed to the user.

7.3.102 Individualized Dialing Plan

The Individualized Dialing Plan (IDP) feature allows digits to be interpreted according to the IDP of the customer instead of the office dialing plan (ODP) and/or the standard office abbreviated dialing list.

Originating: See "Intercom Dialing", Section 7.3.105 .

Terminating: No interaction during an editing session.

The LASS Dialed Code Restrictions on IDP Users feature affects access to LASS features AC, AR, COT, ICLID CND, PCP, SCA, SCR, CAR, SCF, and SDA. This feature is an optioned feature available on an SM basis via the Secured Feature Upgrade View (View 8.22). The LASS Dialed Code Restrictions on IDP Users feature, controls dial code access to LASS features for IDP users. The default value for this feature is disabled (inactive). When this feature is disabled, IDP users can use the access codes defined in their IDP in addition to the ODP defined dialed access codes to access LASS features. Using an ODP defined dial access code for access to a LASS feature by an IDP user may require the dialing of an IDP defined "escape to POTS access code" (9, or *9) immediately prior to dialing the ODP defined access code. Dialing of an ODP defined access code directly (not preceded by an escape to POTS code) is allowed if the error treatment for the user's IDP has been set to use the office code on RC View 9.10.

When the LASS Dialed Code Restrictions on IDP Users feature is enabled (active), an IDP user cannot use an ODP defined dial access code to access a LASS feature. The ODP defined dial access code cannot be used whether or not the ODP LASS code is preceded by an escape to POTS code, and regardless of the error treatment for the user's IDP group. Reorder tone is returned to an IDP user after an ODP access code is dialed to access a LASS feature.

Additionally, with this feature enabled, neither an ODP nor an IDP defined dial access code for a LASS feature will be accepted by the 5ESS®-2000 switch at any time after an escape to POTS code has been dialed by an IDP user in a single, off-hook dialing scenario. However, an IDP user can dial an escape to POTS code followed by an automatic route selection (ARS), authorization, or an account code prior to the dialing of an IDP (but not ODP) LASS code. Dialing an ARS, authorization, or account code in conjunction with an IDP LASS dialed access code is allowed, regardless of the activation status of the LASS Dialed Code Restrictions on IDP Users feature.

The LASS Dialed Code Restrictions on IDP Users feature requires dialed codes used for access to LASS features to be defined in the IDP. Except for ARS, authorization, or account codes, activation of this optioned feature requires that access to non-LASS features allowed to be dialed prior to the LASS access codes must also be defined in the IDP. This allows IDP users to use non-LASS features in conjunction with LASS features.

7.3.103 Inspect for ISDN Terminals

NOTE: Inspect for ISDN Terminals is not supported on Standard BRI (National ISDN).

Inspect for ISDN Terminals retrieves and displays call-related information about any call appearance having a call

associated with it. Inspect also displays feature button identification.

Originating: The ISDN users in an SLE session who press the Inspect button will remain active, unless they time-out. The current SLE display may be overwritten by the Inspect display. The Inspect display will indicate no data associated with the call appearance.

Terminating: If the user is in an Inspect session and dials a LASS Selective feature access code, the interaction with Inspect will be similar to the interaction that occurs when a call is made during an Inspect session. As soon as the switch receives an off-hook indication from the ISDN terminal, the Inspect session will terminate. The LSF access code will be accepted and the user will be allowed to proceed with the SLE session.

7.3.104 Intercom Calling Restriction

Intercom Calling Restriction counts and limits the number of intercom calls that can be in progress at any one time within a customer group. It also sets a maximum total simultaneous call volume that includes intercom and calls external to the customer group.

Originating/Terminating: No interaction during an editing session.

7.3.105 Intercom Dialing

Intercom Dialing, in conjunction with the special dialing plan, permits station users in the business group to place calls to each other on a 1- to 7-digit basis.

Originating: Users with Intercom Dialing can add 1- to 7-digit intercom dialing codes (extensions) to screening lists by prefixing the list entries with the 02 subcode. Although 15-digit intercom extensions exist for precedence and preemption, SLE lists only support a maximum of 7 digits for intercom extensions.

An extension can be entered as an RTN. Extensions can use "#" or "*" as the first digit (see "IDP Group Definition", Section 2.7.2.5) and can include precedence and preemption codes.

Once the intercom dialing code has been validated, it will be added to the list and identified as an extension. Whenever the entry is voiced back or (in the case of an ISDN terminal) displayed, the actual code dialed will be given along with the fact that the code is an extension. If an entry exists on the screening list as an extension, it must be deleted as an extension.

Terminating: No interaction during an editing session.

7.3.106 Intra-LATA Presubscribed Inter-LATA Carrier (Intra-LATA PIC)

The Intra-LATA PIC capability allows the Local Exchange Carrier (LEC) to open up certain Intra-LATA toll routes which were previously handled exclusively by the LEC, to competition on an equal access basis between the LEC and Inter-LATA Carriers (ICs).

The Intra-LATA PIC capability allows a subscriber to presubscribe to an Intra-LATA Toll Carrier (PTC) that handles all of his/her Intra-LATA Toll traffic (7 digit or 10 digit calls with or without a "1/0" prefix), if dialed without a 10XXX (or 101XXXX) prefix, but which may or may not be the same as the Presubscribed Inter-LATA Carrier (PIC).

Originating: The ability to add an Intra-LATA Toll number to a screening list of an SLE feature (such as, Selective Call Rejection, Selective Call Forwarding, etc.) will not be affected by whether the INTER LATA SCREEN field on RC/V View 8.21 is set to Y or N. The ability to add an Intra-LATA (Local or Toll) number to a screening list of an SLE feature will not be affected by whether calls made by the SLE feature subscriber are carried by the LEC or an IC.

Terminating: No interaction.

7.3.107 Intermodule Trunking

Intermodule Trunking provides trunking between modules connected to the same base 5ESS[®]-2000 switch.

Originating/Terminating: No interaction during an editing session.

7.3.108 Intraswitch/Interswitch Calling Party Number/Billing Number Optioning to Terminating User

This feature allows the terminating PRI or BRI user to request delivery of the calling party number or billing number on an *exclusive* or *preferred* basis on every call for circuit-switched voice/data calls.

Originating/Terminating: No interaction during an editing session.

7.3.109 Interswitch Voice Messaging

The Interswitch Voice Messaging feature provides the capability for a Voice Messaging system to expand their current intraswitch customer base to potential voice messaging customers served by other switches.

Originating: No interaction during an editing session.

Terminating: The DN of the voice messaging system may be entered as the forward-to number for SCA, CAR, and SCF.

7.3.110 ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants

NOTE: The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature is not supported on standard BRI (National ISDN).

The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature allows a supervisor, or attendant, to display data about an attendant position.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.111 ISDN Attendant Busy Verification of Lines and Trunks

NOTE: The ISDN Attendant Busy Verification of Lines and Trunks feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Busy Verification of Lines and Trunks feature allows an attendant to determine whether a line or trunk within the same customer group is busy or idle.

Originating: There is no interaction since attendants are not able to barge-in to an SLE session.

Terminating: ISDN attendants must not be allowed to barge-in on users in SLE sessions using this feature. The session must not be affected.

NOTE: Operators, not attendants, are allowed to barge-in using Busy Line Verification feature.

7.3.112 ISDN Attendant Call Hold

The ISDN Attendant Call Hold feature allows the ISDN attendant to hold a call in progress to originate another call, or pick up a call on hold.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant

lines.

7.3.113 ISDN Attendant Call Splitting

The ISDN Attendant Call Splitting feature allows the ISDN attendant to consult privately with the called party without the calling party hearing.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.114 ISDN Attendant Call Transfer

The ISDN Attendant Call Transfer feature is the ISDN version of Attendant Call Transfer.

Originating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

Terminating: See "Attendant Camp-On", Section 7.3.10 .

7.3.115 ISDN Attendant Camp-On

The ISDN Attendant Camp-On feature is the ISDN version of the Attendant Camp-On feature. It allows calls that the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.116 ISDN Attendant Conference Calling

The ISDN Attendant Conference Calling feature allows the attendant to set up conference calls with any combination of extensions or trunks on the internal conference bridge. The maximum number of parties on the conference call is limited to the capacity of the multiport conference circuit.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.117 ISDN Attendant Control of Facilities

The ISDN Attendant Control of Facilities feature is the ISDN version of ACOF.

Originating: Use of this feature is not taken into account when originating restrictions are determined as part of DN/extension validation.

Terminating: No interaction during an editing session.

7.3.118 ISDN Attendant Control of Voice Terminals

NOTE: The ISDN Attendant Control of Voice Terminals feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Control of Voice Terminals (ACVT) feature enables an attendant to impose an originating or terminating restriction (or both) on a DN or group of DNs. The ACVT feature routes calls destined for a line or group of lines to the attendant for handling. It is activated by the attendant or automatically by the switch.

Originating: The ISDN Attendant Control of Voice Terminals feature allows access to SLE sessions even though it disallows calls to be made. Users will still be able to access SLE.

Originating restrictions imposed by this feature will not be taken into account as part of screening list entry validation.

Terminating: Terminating restrictions imposed by this feature will not prevent users from accessing SLE sessions.

7.3.119 ISDN Attendant Direct Station Selection

NOTE: The ISDN Attendant Direct Station Selection feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Direct Station Selection (DSS) feature allows the attendant to display the status of up to 10,000 DNs in 100 groups of 100 contiguous DNs starting at 00.

Originating: No interaction during an editing session.

Terminating: Analog users in an SLE session are treated as busy with regard to ISDN Attendant Direct Station Selection. The ISDN users in an SLE session are treated as busy only if all terminating call appearances for the DN are occupied.

7.3.120 ISDN Attendant Emergency Override

NOTE: The ISDN Attendant Emergency Override feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Emergency Override (AEO) feature allows the attendant to complete incoming calls to stations as follows:

- Calls that are busy from setting the make-busy key
- Calls that have a series completion or multiline hunt arrangement
- Calls with Call Forwarding active
- Calls with terminating restrictions.

Originating: No interaction.

Terminating: ISDN attendants are not be allowed to barge-in on users in SLE sessions using this feature. The session is not affected.

NOTE: Operators, not attendants, are allowed to barge-in using the Busy Line Verification feature.

7.3.121 ISDN Attendant Incoming Call Identification

NOTE: The ISDN Attendant Incoming Call Identification feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Incoming Call Identification feature allows an attendant to identify the type of facility over which an incoming call to the attendant was routed.

Originating/Terminating: No interaction during an editing session.

7.3.122 ISDN Attendant Make-Busy Key

Originating/Terminating: No interaction during an editing session.

7.3.123 ISDN Attendant Night Service

The ISDN Attendant Night Service feature routes calls directed to the ISDN attendant to a different station.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant

lines.

7.3.124 ISDN Attendant Position Busy

NOTE: The ISDN Attendant Position Busy feature is not supported on Standard BRI (National ISDN).

The ISDN Attendant Position Busy feature allows the position to be made busy by the attendant. When the attendant position is made busy in a single position arrangement, new calls to the position receive busy treatment. In a multiple position arrangement, new calls are directed to a different console position.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.125 ISDN Attendant Selective Customer Control of Facilities

NOTE: The ISDN Attendant Selective Customer Control of Facilities feature is not supported on Standard BRI (National ISDN).

The ISDN Attendant Selective Customer Control of Facilities (ASCCOF) feature allows an attendant to deny access to a trunk or simulated facility group.

Originating: Use of this feature is not taken into account when originating restrictions are determined as part of DN/extension validation.

Terminating: No interaction during an editing session.

7.3.126 ISDN Attendant Through Dialing

The ISDN Attendant Through Dialing feature allows an attendant to access an outgoing facility for a calling party within the group who has restrictions or difficulty in placing an outgoing call.

Originating: Attendants will not be allowed to use ISDN Attendant Through Dialing to provide access to SLE sessions for a user who has originating restrictions or some other difficulty in accessing the session.

Terminating: No interaction during an editing session.

7.3.127 ISDN Attendant Traffic

NOTE: The ISDN Attendant Traffic feature is not supported on Standard BRI (National ISDN).

The ISDN Attendant Traffic feature provides the traffic counts for each attendant console position.

Originating/Terminating: No interaction during an editing session.

7.3.128 ISDN Attendant Trunk Identification

NOTE: The ISDN Attendant Trunk Identification feature is not supported on Standard BRI (National ISDN).

The ISDN Attendant Trunk Identification feature provides a display of the trunk group and member number of the incoming or outgoing trunk in use at the request of the attendant or automatically on incoming trunk calls.

Originating/Terminating: No interaction during an editing session.

7.3.129 ISDN Automatic Call Exclusion

The Automatic Call Exclusion feature provides an ISDN keyset user with the ability to prevent other users who share

the same directory number from bridging on to an active call or retrieving a call that has been put on hold.

Originating: When a user is in an SLE session on one of the call appearances for an ISDN shared DN, parties at other stations sharing call appearances are not able to bridge on to the session.

Terminating: No interactions during an editing session.

7.3.130 ISDN Automatic Customer Station Rearrangement

NOTE: The ISDN Automatic Customer Station Rearrangement (ACSR) feature is not supported on the Standard BRI (National ISDN).

The ISDN ACSR feature allows users to rearrange their DNs automatically when an ISDN station set is moved.

Originating: Screening feature status and corresponding screening lists will be preserved when ACSR is used to reassign a line. In the interim period between ACSR invocation and application of the update by the switch, access to SLE will be denied and previously activated LASS selective features will be inoperable.

Terminating: No interaction during an editing session.

7.3.131 ISDN Automatic-Hold/Drop Preference

The ISDN Automatic-Hold/Drop Preference feature automatically determines how to handle a call active on one call appearance when the user shifts to another appearance. Two types of treatment are provided: automatic-drop and automatic-hold.

Originating: A user in an SLE session may not choose another call appearance at the terminal. If the user has Automatic-Hold Preference, the session must first be terminated before a new call appearance can be chosen. Attempting to choose another call appearance will result in rejection treatment. The existing SLE session will not be affected.

If the user has Automatic-Drop Preference, the session will be terminated when a new call appearance is chosen. Editing actions confirmed to the user up to the point of termination will not be canceled.

For National ISDN: No interaction.

Terminating: No interaction during an editing session.

Automatic Hold/Drop Preference is not supported on Standard BRI (National ISDN).

7.3.132 ISDN Basic Message Service

NOTE: Clients of ISDN Basic or Deluxe Message Service will be supported on Standard BRI for National ISDN; however, the ISDN Basic or Deluxe Message Service Center members which provide call coverage will not be supported on Standard BRI for National ISDN.

The ISDN Basic Message Service (BMS) feature provides basic personalized message service for customer groups.

Originating: No interaction during an editing session.

Terminating: If the user has dialed an LSF access code, is in an SLE session, and has ISDN Basic Message Service, incoming call display information will be sent. The information may or may not be displayed depending on the CPE. The terminal may optionally choose to display the data and may choose the format to be used. See 235-900-341, *National ISDN Basic Rate Interface Specification*, for detailed information.

7.3.133 ISDN Bridging

The ISDN Bridging feature allows the multibutton key system (MBKS) set user to bridge onto a currently active call by pressing the active call appearance button on the MBKS set and going off-hook. This establishes a three-way call. This is different from standard Three-way Calling because the third party initiates the bridge to the active call. Bridging is inhibited if Manual Exclusion is activated at an MBKS set engaged in the active call.

Originating: No interaction during an editing session.

Terminating: When a user is in an SLE session on one of the call appearances for an ISDN shared DN, parties at other stations which share call appearances for the DN will be blocked from bridging onto the connection to the SLE announcement system and not be allowed to dial digits.

7.3.134 ISDN Customer Station Rearrangement via *MACSTAR*® I and II Software

The ISDN Customer Station Rearrangement via *MACSTAR*® I and II Software feature expands the Manual Customer Station Rearrangement (CSR) capabilities to include customer control over the ISDN feature.

Originating/Terminating: No interaction during an editing session.

7.3.135 ISDN Delayed and Abbreviated Ringing

The ISDN Delayed and Abbreviated Ringing (DAR) feature alerts an MBKS set for a predetermined interval before ringing another designated MBKS set.

Originating/Terminating: No interaction during an editing session.

7.3.136 ISDN Drop

The ISDN Drop feature allows the MBKS set user to drop the last party added to a conference call. For a 2-party call, pressing this button disconnects the MBKS set from the call.

Originating: The DROP button may be used to terminate SLE sessions. See "ISDN Automatic-Hold/-Drop Preference", Section 7.3.131.

Terminating: No interaction during an editing session.

7.3.137 ISDN Electronic Directory Service Calling Name Display

NOTE: The ISDN Electronic Directory Service (EDS) modular feature is not supported on a Standard BRI (National ISDN).

The ISDN EDS Calling Name Display (CND) feature gives the calling party's name and telephone number to the called party.

Originating: If the user has dialed an LSF access code, is in an SLE session, and has Calling Name Display when a call is terminating, the calling name display information will be sent by the switch. The user's terminal can optionally choose to display the data and can choose the format to be used.

Terminating: No interaction during an editing session.

7.3.138 ISDN Electronic Directory Service Directory Query Display/Autocall

NOTE: The EDS modular feature is not supported on a Standard BRI (National ISDN).

The ISDN EDS Directory Query Display (DQD) allows the user to query the electronic directory data base for a name using the ISDN station set. The user can generate an Autocall by pressing the appropriate button.

Originating: If a user in an SLE session presses the start/end Directory Query Display session feature button, the SLE session will remain active, unless it times-out. The user's terminal may optionally choose to display the data and may choose the format to be used.

If the user is in a DQD session and is not in a keypad entry phase, and if the user dials a LASS Selective feature access code, the code will be accepted and the DQD session will remain active. The user will be allowed to proceed with the SLE session. If the DQD session is in a keypad entry phase, keypad information will be associated with DQD and the user will not be able to access the SLE session.

If the user has an active Directory Query Display (DQD) session as well as an active SLE session, ISDN Electronic Directory Service Autocall cannot be used. The user already has a voice connection due to the SLE session. Pressing the Autocall button will result in standard denial signal (for example, broken flutter) being given. Neither the DQD nor the SLE session will be affected.

An RTN for SCA, CAR, and SCF cannot be supplied via Autocall.

Terminating: No interaction during an editing session.

7.3.139 ISDN Electronic Directory Service Query Service (Also Known as Application Processor Query Service)

NOTE: The EDS modular feature is not supported on a Standard BRI (National ISDN).

The ISDN EDS Query Service allows a user to query the applications processor (AP) directory using a video display terminal for call and personnel information on a per-customer group basis.

Originating/Terminating: See "ISDN Electronic Directory Service Directory Query Display", Section 7.3.138 .

7.3.140 ISDN Hold

The ISDN Hold feature allows the MBKS set user to place a call on hold by pressing the function button. Any MBKS set with a call appearance for call on hold can pick up the call by pressing the call appearance button.

Originating: For ISDN users with HOLD, a request to place an SLE session on hold will be rejected. The session will not be affected.

However, users will be able to place a party on hold, receive dial tone, and dial the access code for a LASS Selective feature. Users will be able to access an SLE session. Since neither use of a HOLD button nor access codes are valid actions within a session, the user will not be able to return to the party on hold without first terminating the SLE session.

Terminating: No interaction during an editing session.

7.3.141 ISDN ICLID Calling Number Delivery

This feature provides calling party data on calls originated from both analog and digital lines on the same 5ESS®-2000 switch for ISDN subscribers and attendants. The ICLID feature is an enhancement to the ISDN intraswitch ICLID feature, which is available only to ISDN users with display station sets.

Originating: If an ISDN user is in an SLE session and has Calling Number Delivery, ICLID information will be sent by the switch. The user's terminal can optionally choose to display the data and can choose the format to be used. See "ISDN Electronic Directory Service Calling Name Display", Section 7.3.137 .

The SLE user with National ISDN will get display per National ISDN Display feature.

Terminating: No interaction during an editing session.

7.3.142 ISDN Initiated Priority Calling

The ISDN Initiated Priority Calling (IPC) feature provides the ISDN equivalent of Dial Call Waiting.

Originating: No interaction during an editing session. Since users cannot originate calls when in an SLE session, neither the feature button nor the dialed code for ISDN Initiated Priority Calling will be accepted. Reject treatment will be provided in response to use of the feature button.

Initiated Priority Calling can be invoked within sessions for calls to ISDN users with multiple call appearances, provided either a regular or priority call appearance is available for the call and the call is from within the user's terminal group.

Terminating: Analog users in an SLE session will not receive a call. ISDN Initiated Priority Calling may be invoked for calls to ISDN users with multiple call appearances, provided either a regular or priority call appearance is available for the call and the call is from within the user's terminal group.

7.3.143 ISDN Manual Exclusion

The ISDN Manual Exclusion feature allows an MBKS set user to inhibit other stations from picking up a call on hold or bridging onto a call that is active at that station.

Originating/Terminating: No interaction during an editing session.

7.3.144 ISDN Message Service Automatic Call Setup (Also Known as Autocall)

The ISDN Message Service Automatic Call Setup feature allows ISDN clients with the Message Retrieval Display or Direct Access to Message Data Base feature to automatically set up a call to the directory number being displayed during the retrieval session.

Originating/Terminating: No interaction during an editing session.

7.3.145 ISDN Message Service Message Retrieval Display

The ISDN Message Service Message Retrieval Display (MRD) allows ISDN station users to directly retrieve their Message Service Center or Leave Word Calling messages independent of whether SCA is active or inactive.

Originating: If a user presses the start/end MRD session feature button within an SLE session, the SLE session will remain active, unless it times-out. Termination of the SLE session will not result in cancellation of any user actions which were confirmed to the user prior to the termination.

If the user is in an MRD session and is not in a keypad entry phase, and if the user dials a LASS Selective feature access code, the code will be accepted and the MRD session will remain active. The user will be allowed to proceed with the SLE session. The SLE display data will continue to be sent to the terminal. The user's terminal can optionally choose to display the data and can choose the format to be used. If the MRD session is in a keypad entry phase, keypad information will be associated with MRD and the user will not be able to access the SLE session.

Terminating: No interaction during an editing session.

7.3.146 ISDN Multiple Call Appearances

The ISDN Multiple Call Appearances feature allows an MBKS set to have more than one DN button assigned to the

same DN. Incoming calls for this DN are handled in much the same way as Series Completion. A hunt is made for an idle call appearance of the called DN when a call is made to a DN that has multiple call appearances on an MBKS set.

Originating/Terminating: No interaction during an editing session.

7.3.147 ISDN Multiple DNs

The ISDN Multiple DNs feature assigns multiple directory numbers to a terminal.

Originating/Terminating: No interaction during an editing session.

7.3.148 ISDN Number of Calls on Queue (Attendant)

Number of Calls on Queue can display each ISDN incoming call identification (ICI) type. By repeating the request, the attendant can display all ICI queues.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.149 ISDN Number of Calls on Queue (MLHG)

Originating: If the SCA user is active and the MLHG Queue status is requested, the MLHG Queue status display takes precedence and will overwrite the existing display. The display data will not be sent to the terminal while the Queue status is active. The display data will not appear on the user's terminal while the Queue status is active.

Terminating: No interaction during an editing session.

7.3.150 ISDN Originating Priority Calling

The ISDN Originating Priority Calling (OPC) feature provides the ISDN equivalent of Call Waiting Originating. With this feature, calls can terminate to a priority call appearance.

Originating: No interaction during an editing session.

Terminating: Originating Priority Calling can be invoked toward users in an SLE session for calls to ISDN users with multiple call appearances, provided either a regular or priority call appearance is available for the call and the call is from within the user's terminal group.

7.3.151 ISDN Outgoing Called Line Identification

The ISDN Outgoing Called Line Identification (OCLID) feature provides a user originating a call with information about the called party and the facility or destination. Facility and call destination information are provided via the ISDN ICI call types.

Originating: Since Custom ISDN users cannot originate calls when in an SLE session, Custom ISDN OCLID is not applicable. The SLE user with National ISDN will get display per National ISDN Display feature.

Terminating: No interaction during an editing session.

7.3.152 ISDN Priority Calling Incoming Only

The ISDN Priority Calling Incoming Only (PCIO) feature is the ISDN equivalent of the Call Waiting Incoming Only feature. With this feature, calls outside the business group can terminate to an idle call appearance reserved for incoming calls (calls from outside the terminal group) when all unreserved call appearances are active.

Originating: No interaction during an editing session.

Terminating: The ISDN Priority Calling Incoming Only feature can be invoked toward users in an SLE session for calls to ISDN users with multiple call appearances, provided either a regular or priority call appearance is available for the call and the call is from outside the user's terminal group.

7.3.153 ISDN Shared Call Appearances of a Directory Number

The ISDN Shared Call Appearances of a Directory Number feature allows several MBKS station sets to share one or more DNs.

Originating: When a DN has ISDN Shared Call Appearances of a Directory Number and has LASS Selective features assigned to it, only the lead terminal for the shared DN will be allowed access to screening lists for editing.

When a feature is assigned to a DN which has a shared call appearance between an analog line and an ISDN station, only the lead station (which must be the analog station) is allowed access to SLE. Access is blocked from the ISDN stations

Terminating: No interaction during an editing session.

7.3.154 ISDN Single-Digit Intercom

The ISDN Intercom (ICOM) feature is a form of ISDN station-to-station calling. The ICOM user can originate a call to the ICOM group member by pressing the ICOM buttons.

Originating: An ISDN Single-Digit Intercom code is not allowed on a screening list. These codes are not used to identify calling parties. These codes can be used as valid RTNs.

Terminating: No interaction during an editing session.

7.3.155 ISDN Time and Date Display

NOTE: The ISDN Time and Date Display feature is not supported on Standard BRI (National ISDN).

The ISDN Time and Date Display feature is a subscription feature for ISDN attendants and ISDN station set users. The 5ESS®-2000 switch provides the time and date to the ISDN station set.

Originating: If the user is in an SLE session and presses the Time and Date feature button, the session will remain active, unless it times out.

Display information associated with the SLE session will be sent by the switch. The user's terminal may optionally choose to display the data and may choose the format to be used.

If the user is in a Time and Date session and dials an LSF access code, the interaction with Time and Date will be similar to the interaction that occurs when a call is made during a Time and Date session. The access code will be accepted. The Time and Date session will remain active and the user will be allowed to proceed with the SLE session.

Terminating: No interaction during an editing session.

7.3.156 ISDN Total Number of Calls Handled Display for ISDN Attendants

Total Number of Calls Handled Display for ISDN Attendants provides supervisors with traffic data information about each attendant in the ISDN attendant group.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant

lines.

7.3.157 Limited Intragroup ICLID

The Limited Intragroup ICLID (LIGI) feature allows the calling DN to be displayed at the terminating station set when calls originate and terminate in the same terminal group. Calls that originate outside of the terminal group have the calling DN marked private.

Originating/Terminating: LIGI is a secured feature (See RC View 8.22). Refer to "Secured Feature Upgrade", Section 7.5.3.1.3.1, for additional information.

Calls to residential lines (non-TG lines) are always marked private when LIGI is active. LIGI causes calls from outside the terminal group to have the calling DN marked private.

7.3.158 Line Time Slot Bridging

Line Time Slot Bridging (LTSB) provides an off-premises extension to a single directory number and bridging of two separate DNs in two separate locations with barge-in capabilities for customers served by the same 5ESS®-2000 switch. The Line Time Slot Bridging feature is only available via a service order.

Originating: Users will be allowed to add DNs for parties which have Line Time Slot Bridging assigned. For Line Time Slot Bridging parties with a single DN, the single DN will be provided as the calling party number when calls are made, regardless of which station originates the call. For parties with two DNs, the DN provided will depend on which station originates.

The LTSB lines with a single DN are allowed access to LSF features; other LTSB lines (2 DNs) are not allowed access to LSF features. Screen list editing sessions are only allowed at the terminal designated as the main terminal. Bridging will be blocked onto the connection to the SLE announcement system.

Terminating: No interaction during an editing session.

7.3.159 Loudspeaker Paging

Loudspeaker Paging allows dial access to customer-owned Loudspeaker Paging equipment.

Originating: Codes assigned for Loudspeaker Paging will not be accepted as RTN/NATs nor screen list entries.

Terminating: No interaction during an editing session.

7.3.160 Main Satellite Service

Main Satellite Service allows a customer receiving business group service provided by two or more separate switching machines in the same geographic area to receive the same service available as if all locations were served by a single switch.

Originating/Terminating: No interaction during an editing session.

7.3.161 Make-Busy Key

Make-Busy Key (MBK) allows designated lines to look busy to the central office by means of a key operation.

Originating/Terminating: A make-busy key can be turned on or off during an SLE session.

7.3.162 Message Detail Recording on Customer Premises

Message Detail Recording (MDR) on Customer Premises provides call detail information on public telephone network and private facility calls via a tape unit located on the customer premises.

Originating/Terminating: No MDR record should be created.

7.3.163 Message Service Automatic Call (History) Display

Message Service Automatic Call (History) Display uses the 5ESS®-2000 switch call history information with the AP data base to display call information, client status information, and messages to the message service attendant when the message service client calls from his/her station set to receive messages.

Originating/Terminating: No interaction during an editing session.

7.3.164 Message Service Automatic Control of Message Waiting Indicator

NOTE: Message Service Automatic Control of Message Waiting Indicator is not supported on Standard BRI (National ISDN).

Message Service Automatic Control of Message Waiting Indicator automatically activates the message waiting indicator at the client's station set when a message is recorded in the message data base.

Originating: No interaction during an editing session.

Terminating: The Message Service System attendant can activate the message waiting indicator regardless of whether the user is in an SLE session.

7.3.165 Message Service Direct Access to Message Data Base

Message Service Direct Access to Message Data Base allows clients to update their status information, leave messages for one or more clients, and retrieve messages without assistance from the message service attendant.

Originating/Terminating: See "ISDN Message Service Message Retrieval Display", Section 7.3.145 .

7.3.166 Message Service Leave Word Calling

NOTE: Message Service Leave Word Calling (LWC) is not supported on Standard BRI (National ISDN).

The LWC feature allows a client to leave a *canned* message for another client of the message service without assistance from a message service attendant.

Originating/Terminating: No interaction during an editing session.

7.3.167 Message Service Message Data Base

Message Service Message Data Base stores customer organizational data, client status data, and standard *canned* messages. A message data base is available to the message service attendant on the applications processor.

Originating/Terminating: No interaction during an editing session.

7.3.168 Message Service Print Message On Demand

NOTE: Message Service Print Message On Demand is not supported on Standard BRI (National ISDN).

Message Service Print Message On Demand provides a printout of messages at a predetermined printer upon request from the Message Services client.

Originating/Terminating: No interaction during an editing session.

7.3.169 Multifrequency Pulsing

Multifrequency Pulsing provides the capability to transmit alternate current address signals between offices. Each address digit is transmitted as a pulsed pair of frequencies.

Originating/Terminating: No interaction during an editing session.

7.3.170 Multiline Hunt Service Circular Hunting

Multiline Hunt Service Circular Hunting allows all lines in a multiline hunt group to be tested for busy, regardless of the point of entry into the group.

Originating: Only member one has access to the screening lists assigned to the listed DN. Members with no-hunt DNs assigned LASS Selective features can only access their own individual screening lists.

Terminating: Users may add numbers assigned to MLHGs to screening lists, provided such numbers pass validation checks (for example, numbers are provided as calling party numbers when calls are made from at least one terminal in the group). This applies not only to the main or listed DN for the MLHG, but also to hunt or no-hunt DNs assigned to individual terminals in the group.

No multiline hunt group line or member of any type is allowed to access LASS Selective features through general availability. The LSF features must be assigned to the line.

7.3.171 Multiline Hunt Service ISDN Attendant (ISAT)

Multiline Hunt Service for ISDN Attendant (ISAT) is a type multiline hunting arrangement for ISDN attendant positions.

Originating/Terminating: No interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.172 Multiline Hunt Service Multiple Position Hunt

NOTE: Multiline Hunt Service Multiple Position Hunt (MUPH) is not supported on Standard BRI (National ISDN).

The MUPH feature provides the ability to distribute calls over a group of console positions, each of which can handle several types of incoming calls received on dedicated terminals.

Originating: The LSF features cannot be assigned to MUPH lines.

Terminating: No interaction during an editing session.

7.3.173 Multiline Hunt Service Precedence Regular Hunt

Multiline Hunt Service Precedence Regular Hunt starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 7.3.170 .

7.3.174 Multiline Hunt Service Regular Hunting

Multiline Hunt Service Regular Hunting starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 7.3.170 .

7.3.175 Multiline Hunt Service Uniform Call Distribution Hunt

Multiline Hunt Service Uniform Call Distribution Hunt provides an even distribution of incoming calls among the available members of a hunt group.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 7.3.170 .

7.3.176 Multiline Variety Package Service

Multiline Variety Package Service provides a packaged group of services for customers with a small group of lines that are not defined as a business line group.

Originating/Terminating: No interaction during an editing session.

7.3.177 Multiple DNs per Line with Distinctive Ringing (Multiple DNs per Line)

Multiple DNs per Line (MDNL) with Distinctive Ringing provides multiple DNs per single port [line equipment number (LEN)]. An originating call from any of the DNs is always associated with the *Master DN*, pointed to by the LEN translator; therefore, any call placed from a DN associated with the LEN will pass the *Master DN* as the calling party number.

Originating: Users with the MDNL with Distinctive Ringing feature should have LASS Selective features assigned to the main DN. Only the main DN has access to the screening lists.

Since only the *master* DN is provided as the calling party number when calls are made from a station with this feature, only the master DN can be added to screening lists. Attempts to add other numbers assigned with this feature will result in an error treatment.

Terminating: A call to any of the DNs associated with a multiple DN line update the ILHB (either the master or the secondary).

7.3.178 National ISDN Calling Number Identification Services

The National ISDN Calling Number Identification Services (I-CNIS) feature is based on Bellcore requirements and is an enhancement to the existing Calling Party Number (CPN)/Billing Number (BN) Transmittal in the 5ESS®-2000 Switch Private Network Environment feature.

Originating/Terminating: See "Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment", Section 7.3.44 .

7.3.179 National ISDN Calling Number Identification Services Intra-Group Only Delivery Optioning

The Calling Number Identification Services (CNIS) Intra-Group Only Delivery Optioning (CNIGI) feature allows restriction of the Calling Party Number (CPN) delivery, Redirecting Number (RN) delivery, and Calling Party Subaddress (CgPS) delivery features from members of a terminal group. It also restricts the provisioning of ICLID, CNAM, and EDS displays to intra-group calls. CNIGI does not effect delivery of information to residential parties. Whether the CNIGI restriction applies depends on the settings of the CNIGI option for the office, business group, and individual line/PRI trunk. The CNIGI restriction applies to all members of the terminal group, including National ISDN BRI/PRI, Custom BRI/PRI, and analog lines.

Originating/Terminating: See "Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment", Section 7.3.44 .

7.3.180 National ISDN Channel/Terminal Configurations and Restrictions

The Channel/Terminal Configurations and Restrictions feature provides channel and terminal configurations and restrictions according to Bellcore requirements. Integrated Services Digital Network (ISDN) customers with a single terminal can be restricted to one B-channel. The ISDN customers with two or more terminals can be restricted to one B-channel via an associated group (AG). Two AGs are permitted per BRI. In an AG, customers are allowed terminals that have circuit-switched voice (CSV), circuit-switched data (CSD), on-demand B-channel (ODB) packet data, permanent packet B-channel (PPB) data, or any combination of the four services.

Originating/Terminating: Because the LASS selective features require an available B-channel, a user cannot activate a selective feature or change an associated screening list under B-channel blocked conditions.

7.3.181 National ISDN Interswitch Calling Number Identification Services

The ISDN Calling Number Identification Services feature is comprised of originating features and terminating features. The originating features consist of number screening, number privacy, and calling party number/calling party subaddress transfer. The terminating features include calling number delivery. Interswitch Calling Number Identification Services provide the feature capabilities between switches.

Originating/Terminating: No interaction during an editing session.

7.3.182 National ISDN Electronic Key Telephone Service

The National ISDN Electronic Key Telephone Service feature allows a user served by an National Integrated Services Digital Network (ISDN) terminal to have access to multiple directory number (DNs). Additionally, a DN can be accessed by more than one user (that is, a Shared DN). Directory numbers (DNs) may be shared on the same basic rate interface (BRI) and or on different ISDN BRIs.

See "ISDN Shared Call Appearances of a Directory Number", Section 7.3.153 .

7.3.183 National ISDN Hold (Voice and Data)

National ISDN Hold allows a National ISDN station user to hold a call in progress by flashing and then dialing the Call Hold code or operating a function key if one is available.

Originating: For National ISDN users with HOLD, a request to place an SLE session on hold will be rejected. The session will not be affected.

However, users will be able to place a party on hold, receive dial tone, and dial the access code for a LASS Selective feature. Users will be able to access an SLE session. Since neither use of a HOLD button nor access codes are valid actions within a session, the user will not be able to return to the party on hold without first terminating the SLE session.

Terminating: No interaction.

7.3.184 National ISDN Three-Way Calling

National ISDN Three-Way Calling allows a customer to add a third party to an existing conversation.

See "Three-Way Calling", Section 7.3.221 .

7.3.185 Night Service

Night Service (NS) routes calls normally directed to the attendant to preselected station lines in the customer group when regular consoles are not attended.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.186 Non-Data-Link Attendant Console

NOTE: Non-Data-Link Attendant Console is not supported on Standard BRI (National ISDN).

Non-Data-Link Attendant Console is a small desk-top position from which the attendant handles calls.

Originating/Terminating: There is no interaction since LASS Selective features cannot be assigned to attendant lines.

7.3.187 On-Hook/Off-Hook Queuing for Outgoing Trunks (Also Known as Queuing for Outgoing Trunks)

Queuing for Outgoing Trunks allows on-hook or off-hook queuing for a busy outgoing trunk. With on-hook queuing, the station is notified with a distinctive ring when a trunk is available. With off-hook queuing, the user remains off-hook, and the call is completed when the trunk is available.

Originating: Users will not be able to access SLE sessions while off-hook waiting for an idle trunk. The access code will be ignored, if dialed.

If on-hook queuing is activated by an analog user and the user is in an SLE session, ringback will not occur. The ISDN user in an SLE session is treated as busy only if all terminating call appearances for the DN are occupied.

Terminating: No interaction during an editing session.

7.3.188 Outgoing Call Tracing

Outgoing Call Tracing is used when nuisance calls are found to be coming from one particular line. The terminating DN is put on the trace list and all originating calls from that office are checked against the list. When a call is made to the number on the list, the originating DN is identified.

Originating/Terminating: No interaction during an editing session.

7.3.189 Outward Calling for PBX via ARS

NOTE: Outward Calling for PBX via ARS is not supported on Standard BRI (National ISDN).

Outward Calling for PBX via ARS allows a PBX to take advantage of Business Group features relating to outgoing private facilities by terminating them at the serving switch via special access lines.

Originating: An access code cannot be used as an RTN for SCA, CAR, and SCF or as a screen list entry, since an access code is not a valid telephone number.

Terminating: No interaction during an editing session.

7.3.190 Outward Wide Area Telecommunications Service (OUTWATS)

Outward Wide Area Telecommunications Service (OUTWATS) allows customers to make calls to certain zone(s) or band(s) on a direct dialing basis for a flat monthly charge or a charge based on accumulated usage.

Originating: An access code cannot be used as an RTN for SCA, CAR, and SCF or as a screen list entry, since an access code is not a valid telephone number.

Terminating: No interaction during an editing session.

7.3.191 OUTWATS with Simulated Facility Group

The OUTWATS with Simulated Facility Group feature can restrict the number of simultaneous OUTWATS calls by software rather, than by the physical size of a dedicated trunk group.

Originating: An access code cannot be used as an RTN for SCA, CAR, and SCF or as a screen list entry, since an access code is not a valid telephone number.

Screen list editing sessions will not be counted against the limit for originating calls set by simulated facilities groups (SFGs). For SFG purposes, SLE sessions are not treated as originating calls.

Terminating: No interaction during an editing session.

7.3.192 Power Failure Transfer Attendant

Power Failure Transfer Attendant routes calls destined for the attendant to a preassigned DN during a commercial power failure at the customer premises.

Originating/Terminating: No interaction during an editing session.

7.3.193 Precedence and Preemption Features

NOTE: Precedence and Preemption (PP) features are not supported on Standard BRI (National ISDN).

The PP features are a part of the DSN/AUTOVON network for operating routine and precedence calls used primarily by the military.

Originating: No interaction during an editing session.

Terminating: An SLE session will be considered to have routine precedence for purposes of Precedence and Preemption (PP) features. A call to a user in an SLE session will be allowed to preempt the session if it has higher than routine precedence. If preempted, the session will be terminated and precedence alerting will be given to the user. Editing actions confirmed to the user up to the point of preemption will not be canceled due to the preemption.

7.3.194 Private Option for the Last Incoming Number

The Private Option for the Last Incoming Number feature, a secured and optioned feature, ensures that the calling party number is treated as private by other features whose primary function is not providing the calling party number. The number is treated as private even if the calling party had not marked it as private. This feature also provides a per-office option that allows service providers to have the LICDN stored in the incoming line history block considered private when SLE or AC/AR try to retrieve it and voice back or display it to the user.

Originating: No interaction.

Terminating: When an SLE user at either an analog or ISDN station adds the number from the incoming line history block to a screening list, the number is treated as private. The user receives a private number announcement if the number is available and not already on the list as a non-private entry.

When an SLE user deletes the number from a screening list using the number in the incoming line history block, the user receives a private number announcement if the number is available, and matches a number already on the list as a private entry.

For ISDN users with the display capability, the display message and the confirmation announcement for adding or deleting a list entry does not include the number if it is not voiced-back in the corresponding announcement. The

private number display message is provided.

7.3.195 Priority Queuing

Priority Queuing is used to assign a queue priority level that establishes precedence for facilities when immediate access is not obtainable.

Originating/Terminating: No interaction during an editing session.

7.3.196 Radio Paging Access

Radio Paging Access allows attendants and station users to access radio paging equipment and page individuals carrying pocket radio receivers.

Originating: Codes assigned to Radio Paging will not be accepted as RTN/NATs nor as screen list entries.

Terminating: No interaction during an editing session.

7.3.197 Recall From Subscriber - Operator Services Position System (OSPS)

NOTE: Recall From Subscriber - OSPS is not supported on Standard BRI (National ISDN).

Recall From Subscriber allows the customer to recall an operator services position system (OSPS) operator for certain classes of operator-assisted calls by flashing the switchhook. The operator recalled is not necessarily the operator who originally assisted on the call.

Originating: Users in an SLE session cannot recall an operator using Recall From Subscriber since switchhook flashes cause the SLE session to be dropped.

Terminating: No interaction during an editing session.

7.3.198 Recorded Telephone Dictation

Recorded Telephone Dictation (RTD) permits access to and control of customer-owned dictating equipment from a station in the customer group. The station must be equipped for dual tone multifrequency signaling.

Originating/Terminating: No interaction during an editing session.

7.3.199 Remote Activation of Call Forwarding (Remote Access to Call Forwarding)

Remote Activation of Call Forwarding (RACF) provides the ability to remotely activate/deactivate call forwarding by using dialed codes.

Originating: Codes assigned for this feature will not be accepted as RTN/NATs nor as screen list entries.

Terminating: No interaction during an editing session.

7.3.200 Remote Call Forwarding

Remote Call Forwarding (RCF) allows all calls to a specified DN to forward to a remote 7- or 10-digit telephone number.

Originating/Terminating: No interaction during an editing session.

7.3.201 Revertive Pulsing

Revertive Pulsing is the method of interoffice signaling originating with the panel systems and continuing with the No. 1 Crossbar.

Originating/Terminating: No interaction during an editing session.

7.3.202 Ringback Queuing

Ringback Queuing (RBQ) allows a station user, encountering a busy network facility, to queue for an idle facility by dialing a function code and going on-hook in a preselected time following the queuing confirmation code. The caller is rung back when the appropriate facility becomes idle.

Originating: If Ringback Queuing is activated by an analog user and the user is in an SLE session, ringback will not occur. The ISDN users in an SLE session are treated as busy only if all terminating call appearances for the DN are occupied.

Terminating: No interaction during an editing session.

7.3.203 Satellite Attendant Transfer

Satellite Attendant Transfer provides the same service as the Call Transfer Attendant feature to a satellite location having no attendant.

Originating/Terminating: See "Call Transfer Attendant", Section 7.3.47 .

7.3.204 Screen List Editing

Screen List Editing (SLE) is a capability used in conjunction with all LASS Selective feature lists.

Originating/Terminating: Not applicable.

7.3.205 Selective Call Acceptance

Selective Call Acceptance (SCA) allows residential and business users to restrict which incoming voice calls are allowed to terminate.

Originating/Terminating: See "LASS Selective Call Acceptance", Section 8 .

7.3.206 Selective Call Forwarding

Selective Call Forwarding (SCF) allows a customer to preselect which calls will forward based on the telephone number of the calling party.

Originating/Terminating: See "LASS Selective Call Forwarding", Section 11 .

7.3.207 Selective Call Rejection

Selective Call Rejection (SCR) allows a customer to reject calls from telephone numbers which are on the customer's SCR list.

Originating/Terminating: See "LASS Selective Call Rejection", Section 10 .

7.3.208 Selective Carrier Denial

Selective Carrier Denial (SCD) allows the local office to selectively inhibit certain calls normally handled by a carrier from lines designated as nonpaying subscribers by the particular inter-LATA carrier that will handle the call.

Originating/Terminating: No interaction during an editing session.

7.3.209 Selective Control of Facilities

Selective Control of Facilities (SCOF) allows the customer, via key control, to busy out private facilities and, thereby, deny all originating access.

Originating: Use of Selective Control of Facilities will not be taken into account when originating restrictions are determined as part of screen list entry validation.

Terminating: No interaction during an editing session.

7.3.210 Selective Distinctive Alert (Distinctive Alert)

Selective Distinctive Alert (SDA) allows a customer to preselect which calls will have distinctive alerting treatment based on the telephone numbers of the calling parties.

Originating/Terminating: See "LASS Selective Distinctive Alert", Section 12 .

7.3.211 Semirestricted Station Originating and Terminating

Semirestricted Originating and Terminating, a type of Terminal Group and Station Restriction (TGSR), provides the ability to restrict a business group line from originating and/or receiving any calls from outside the group. Outside the group means "dial 9" and DID. Intragroup calls, attendant calls, and calls over private facilities are permitted. Restricted calls are routed to the special group intercept announcement.

Originating: Users who are semirestricted originating or terminating are allowed access to SLE. The only list entries and RTNs that will be allowed are those corresponding to parties in the user's terminal group and the associated attendant. These list entries and RTNs may be either extension numbers or DNs.

These restrictions are taken into account when validating list entries.

Terminating: No interaction during an editing session.

7.3.212 Series Completion

NOTE: Series Completion is not supported on Standard BRI(National ISDN).

Series Completion is a type of hunting in which DNs are grouped into a prearranged ordered list.

Originating: Users may add numbers assigned to a Series Completion group, provided such numbers pass validation checks. This not only applies to the main or first-listed DN, but for all DNs of the group.

If a user is a member of a Series Completion group, they will have access to screening lists independent of other members.

Terminating: No interaction during an editing session.

7.3.213 Simulated Facility Groups for In and Out Calls

The Simulated Facility Groups for In and Out Calls feature provides the capability to restrict the number of simultaneous DID calls terminating to the group and the number of simultaneous calls originating by the group to direct distance dialing (DDD).

Originating: Access to SLE sessions will be counted together with the number of calls originated from the terminal group when Simulated Facility Groups for In and Out Calls applies.

Terminating: No interaction during an editing session.

7.3.214 Single-Digit Dialing

Single-Digit Dialing permits station users to reach any station of a preselected group or other internal facility by dialing single-digit codes.

Originating: See "Customer-Changeable Speed Calling", Section 7.3.66 .

Terminating: No interaction during an editing session.

7.3.215 Smart Set Interface

Smart Set Interface allows customers to use *smart* station sets. Flash requests and feature function codes are associated with unique keys on the station set.

Originating/Terminating: Assuming standard touch-tone or dial pulse signaling is generated by the Smart Set, users may utilize these types of stations for accessing SLE sessions and signaling within sessions.

7.3.216 Special Intercept Announcement

Special Intercept Announcement allows a unique intercept announcement to be provided to each business group.

Originating/Terminating: No interaction during an editing session.

7.3.217 Speed Calling (Also Known as Abbreviated Dialing)

Speed Calling permits the customer to dial selected numbers using fewer digits than normally required.

Originating: Speed Calling codes are not allowed as entries on a screening list. However, users can enter Speed Calling codes when dialing the RTN/NAT. See "Customer-Changeable Speed Calling", Section 7.3.66 .

Terminating: No interaction during an editing session.

7.3.218 Tandem Call Trace

Tandem Call Trace is used when nuisance calls are found to be incoming from a tandem office. The traced DN is marked for tracing at that office to identify the tandem trunk.

Originating/Terminating: No interaction during an editing session.

7.3.219 Tandem Tie Trunk Dialing

Tandem Tie Trunk is another name for Nonsenderized Tie Trunks (NTT). It uses a switching method whereby the station user directly controls, in stages, the routing of an outgoing tie trunk call through the originating switch as well as any intermediate switches.

Originating: Codes assigned for Tandem Tie Trunk Dialing will not be accepted as RTN/NATs nor as screen list entries.

Terminating: No interaction during an editing session.

7.3.220 TGSR over ISUP

The TGSR over ISUP feature is a secured and optioned feature.

Originating/Terminating: Users attempting to add entries to a screening list for a party served by another switch are treated as having unrestricted terminations, regardless of what type of station restriction they have assigned. This allows user with terminating restrictions to add entries to a screening list for other members at a multi-location business group served by different switches. TCAP signaling is required.

The response to the TCAP query that the terminating switch receives for the originating restriction indicates if the called party is unrestricted for originations.

7.3.221 Three-Way Calling

Three-Way Calling (TWC) allows a customer to add a third party to an existing conversation.

Originating: Since an SLE session cannot be placed on hold, users cannot initiate a multiway call. Users are treated as busy and, therefore, cannot be accessed as a party to a multiway call.

Terminating: No interaction during an editing session.

7.3.222 Tie Trunk Access

Tie Trunk Access connects two or more business customer locations. They can terminate in an attendant console for direct access or have dial access.

Originating/Terminating: See "Tandem Tie Trunk Dialing", Section 7.3.219 .

7.3.223 Time-of-Day

Time-of-Day (TOD) allows a customer to preschedule recent change, thereby, controlling activation and deactivation of certain modular features and changes to feature parameters via dialed codes and key control.

Originating/Terminating: No interaction during an editing session.

7.3.224 Toll Diversion to Attendant

NOTE: Toll Diversion to Attendant (TDA) is not supported on Standard BRI (National ISDN).

The TDA feature interrupts toll or code calls from restricted business group lines and routes them to the attendant (or other designated line).

Originating: Toll Diversion to Attendant will not be taken into account when screen list entries are validated.

For users restricted from making toll calls, RTNs corresponding to toll calls will not be accepted.

Terminating: No interaction during an editing session.

7.3.225 Tracing of Termination Calls

Tracing of Terminating Calls allows the identification of calling lines while the call is in progress. When incoming calls are to be traced, the terminating DN is placed on the call tracing list where it remains until manually removed.

Originating/Terminating: No interaction during an editing session.

7.3.226 Traveling Class Mark

Traveling Class Mark (TCM) carries class-of-service information along with the called number through a private network. The TCM provides unique downstream routing and screening information.

Originating/Terminating: No interaction during an editing session.

7.3.227 Trunk Answer From Any Station

Trunk Answer From Any Station (TAS) activates a common alerting signal on the customer premises when the attendant positions are in night service for calls normally directed to the attendant. These calls can then be answered from any nonrestricted station in the business group by dialing a special answer code.

Originating/Terminating: No interaction during an editing session.

7.3.228 Trunk Dial Transfer

Trunk Dial Transfer provides the Call Transfer Individual feature to tie trunks.

Originating/Terminating: See Section 7.3.48 , *Call Transfer Individual All Calls*.

7.3.229 Trunk Group Busy Lamps

The Trunk Group Busy Lamps feature provides a visual indication on a private facility trunk group basis when the facility group is in use.

Originating/Terminating: No interaction during an editing session.

7.3.230 Two-Party ANI/ONI Capability

The Two-Party Automatic Number Identification/Operator Number Identification Capability allows operating companies the choice of giving two-party lines automatic number identification (ANI) or operator number identification (ONI) treatment.

Originating: Identity attributes for 5ESS®-2000 switch two-party lines must have ANI capability in order to be allowed on screening lists. Two-party lines with ONI capability are not allowed. The DNs associated with two-party lines may be used as valid RTNs.

Terminating: No interaction during an editing session because LSF features cannot be assigned to two-party lines.

7.3.231 Two-Party Line

Two-Party Line provides basic POTS to two customers sharing the same line.

Originating: See Section 7.3.230 , *Two-Party ANI/ONI Capability*.

Terminating: No interaction during an editing session because LSF features cannot be assigned to two-party lines.

7.3.232 Uniform Numbering

Uniform Numbering provides a customer-specified 7-digit numbering plan that identifies all business group stations interconnected by the facility network. Each customer switch connected by the electronic tandem network (ETN) is identified by a 3-digit code.

Originating: Numbers defined in a Uniform Numbering plan are not allowed as screening list entries nor as RTNs.

Terminating: No interaction during an editing session.

7.3.233 Unrestricted Originating and Terminating

This is basically the absence of originating and/or terminating restriction in a terminal group.

Originating: Originating restrictions will be determined as part of screen list entry and RTN validation. Terminating restrictions will be taken into account in validating RTNs and screen list entries.

Terminating: No interaction during an editing session.

7.3.234 User-Side Primary Rate Interface Implementation

This feature allows PRI support in public (private trunks providing access to public facilities) and private networks.

Originating:

Originating/Terminating: No interaction during an editing session.

7.4 ENGINEERING

7.4.1 Special Planning Considerations

To provide Screen List Editing for the LASS Selective features, the following operating company requirements are necessary:

- Provide a per feature screening list size office parameter (with legal values of 3-31) to specify the maximum number of entries a customer can have on the screening list. To increase the value of one of these parameters, there must be sufficient memory available to support the larger list size.
- A screening list size parameter for a particular LASS Selective feature should not be decreased below the number of entries on the largest list in the office for that feature. When this parameter is decreased, SLE users that have screening lists larger than the new parameter value will need to delete existing entries to below this new size before they can add any new entries.
- Engineer sufficient ODD memory to support the maximum-sized screening lists for all of the screening features in an office.
- The SLE capability requires dynamic ODD memory — the incoming line history block (IHLB), which stores information about the last calling party.

NOTE: If the user already has either the AC or COT feature, the memory for the IHLB will already be allocated.

- Install a sufficient number of DSU2-RAF announcement service circuits to enable customer access to SLE. The RAF used for Automatic Customer Station Rearrangement and Remote Access to Call Forwarding is also used for SLE.
- Install additional announcement circuit packs for the DSU2-RAF if customized announcements will be used. Refer to Section 7.6.3, "Customizing LASS Announcements and Displays".

7.4.2 Hardware

There are no new hardware interface requirements for this capability. However, the DSU2-RAF is being used to provide the necessary announcement functions. All hardware interfaces are stable system requirements.

7.4.3 Software

Screen List Editing requires that LASS software reside at the user's switch. For interswitch operation, other switches must support SS7 signaling for both call setup and TCAP queries for list entry validation.

7.5 IMPLEMENTATION

7.5.1 General

The LASS SLE capability is not a feature and, therefore, cannot be assigned. The SLE capability is provided when LSF features are available. The functionality of LASS Selective features is based on the services provided by the SLE capability. In addition to the common resources of the switching office, the SLE capability is dependent on the availability of the DSU2-RAF for announcements and digit collection, and the CCS connectivity for interoffice validation of directory numbers.

7.5.2 ODA Implementation

Refer to Section 2.4 , *LASS Forms and Views*, for ODA forms used in implementing the LASS Selective features.

7.5.3 Recent Change Procedures

7.5.3.1 Assigning Customer Service

See "Assigning Customer Service" for the following LASS Selective features:

- SCA — "Assigning Customer Service", Section 8.6.2.1
- CAR — "Assigning Customer Service", Section 9.6.2.1
- SCR — "Assigning Customer Service", Section 10.6.2.1
- SCF — "Assigning Customer Service", Section 11.6.2.1
- SDA — "Assigning Customer Service", Section 12.6.2.1 .

7.5.3.1.1 Feature Definition

Not applicable.

7.5.3.1.2 LASS Office Parameters

The LASS Office Parameters (RC View 8.21) provides the global office values for administering the LASS features keyed by office ID. The Screen List Editing attributes associated with this view are as follows:

- **CAR MAX SIZE** (Glcarmx) — This parameter determines the office maximum allowed DN screening list size for the CAR feature. Valid values are "3-31". The default is "6".
- **SCA MAX SIZE** (Glscamx) — This parameter determines the office maximum allowed DN screening list size for the SCA feature. Valid values are "3-31". The default is "6".
- **SCF MAX SIZE** (Glscfmx) — This parameter determines the office maximum allowed DN screening list size for the SCF feature. Valid values are "3-31". The default is "6".
- **SCR MAX SIZE** (Glscrmx) — This parameter determines the office maximum allowed DN screening list size for the SCR feature. Valid values are "3-31". The default is "6".
- **SDA MAX SIZE** (Glstdamx) — This parameter determines the office maximum allowed DN screening list size for the SDA feature. Valid values are "3-31". The default is "6".

- **INTER-LATA SCREEN** (Gllatac) — This parameter determines if screening of inter-LATA DN's are allowed. This is used to determine if a DN is a valid screen list entry. Valid entries are "Y/N". The default is "N".
- **MAX ERROR RETRY** (Glserr) — This parameter determines the maximum number of retry attempts on error when editing the screening list. Valid values are "1-10". The default is "4".
- **RESP WAIT TIME** (Glsle_r) — This parameter determines the wait time for an interswitch SS7 TCAP validation response. Valid values are "1-10 seconds". The default is "3".
- **VALIDATE LIST ENTRY** (Glidnvl) — This parameter determines if the office requires CCS validation of customer-entered DN screen list entries. Valid entries are "Y/N". The default is "Y".
- **USE BELLCORE SLE** (Glsle-mode).

7.5.3.1.3 Feature Access

Recent Change (RC) View 9.1, the Digit Analysis Selector View contains a PDIT attribute to interpret feature access codes. The PDIT attribute is an access to RC View 9.2, Prefix/Feature Digit View, which contains the call type indicator (FEATURE) and a PDIT action field. The PDIT action field must contain a unique identifier for an SLE activation sequence. The SLE capability provides two sets of announcements, depending on the type of customer premises equipment used to access the SLE session. One set of announcements is used for SLE sessions activated from a touch-tone phone using the */# keys. The other set of announcements is used for SLE sessions that are activated from either a touch-tone phone or a dial pulse phone using the 11/12 substitute key codes. The PDIT action field on RC View 9.2 must contain a unique identifier, LSFSYM, for activations with the */# key, or LSFNOSYM for activations using the 11/12 substitute key code.

See "Feature Access" for the following LASS Selective features:

- SCA — "Feature Access", Section 8.6.2.1.3
- CAR — "Feature Access", Section 9.6.2.1.3
- SCR — "Feature Access", Section 10.6.2.1.3
- SCF — "Feature Access", Section 11.6.2.1.3
- SDA — "Feature Access", Section 12.6.2.1.3 .

7.5.3.1.3.1 Secured Feature Upgrade

The Secured Feature Upgrade View (View 8.22) provides feature security and the Optioned Feature View (View 8.31) is used to set the transparency feature optioning bit used to determine if a customer has the POLIN or LIGI features and the capability to interface with the announcements and displays. The feature parameter attributes associated with this view consist of the following:

- **FEATURE ID** — This parameter is a number used to identify the feature. The feature number for POLIN is 534 and for LIGI is 504. There is no default value. This attribute is used to set the TFOS bit and the secured feature bit used to provide activation of the POLIN, LIGI features, and choose the desired announcements and displays.
- **MODULE** — This parameter identifies the type of processor. It can be a number 1-192 for SM, 193 for an AM, CMP, AUD, RDY, or OFC for the entire office. For POLIN, LIGI, or the interface capability, enter OFC. There is no default value.

- **ACTIVE** — This parameter is used to determine if the POLIN or LIGI feature is active. Enter Y (yes) or N (no). The default value is N.

7.5.3.1.4 Feature Assignment

The Screen List Editing capability is only provided to those customers having access to one or more LASS Selective features.

7.5.3.1.5 Feature Activation

See "Feature Activation" for the following LASS Selective features:

- SCA — "Feature Activation", Section 8.6.2.1.5
- CAR — "Feature Activation", Section 9.6.2.1.5
- SCR — "Feature Activation", Section 10.6.2.1.6
- SCF — "Feature Activation", Section 11.6.2.1.6
- SDA — "Feature Activation", Section 12.6.2.1.6 .

7.5.3.2 Deleting Customer Service

See "Deleting Customer Service" for the following LASS Selective features:

- SCA — "Deleting Customer Service", Section 8.6.2.2
- CAR — "Deleting Customer Service", Section 9.6.2.2
- SCR — "Deleting Customer Service", Section 10.6.2.2
- SCF — "Deleting Customer Service", Section 11.6.2.2
- SDA — "Deleting Customer Service", Section 12.6.2.2 .

7.5.3.3 Changing Customer Service

The LSF maximum list size office parameters (for example, CAR MAX SIZE — G1carmx) with legal values of 3 through 31 are provided to indicate the maximum number of entries an SLE user can have on their screening list. These parameters are changeable via Recent Change View 8.21.

Service provider switching office personnel have the capability to build, change, delete, list, and activate or deactivate features for all LASS Selective features via a service order at the time the service is provisioned, or at a later time. List entries entered by service order are not validated. However, list entries can be validated through the use of the OP:LASSRQST input message. Typically, the service order process is not used to perform these functions. The service providers are expected to encourage customers to use Screen List Editing and will use a service order only when the customer is having trouble with SLE, or for customers with direct connect lines, manual lines, and denied originating treatment lines.

For applicable LASS Selective features, the service provider can assign, change, or delete a remote telephone number (RTN) for the individual customer line with a service order. Again, the service providers are expected to encourage customers to use SLE and will use a service order only when the customer is having trouble. An RTN DN

entered through service order is not validated. Remote DNs entered through SLE are intraswitch validated.

The service provider can assign one or more dialable codes for accessing the LASS Selective features.

The LASS Selective feature status (activated, deactivated), screen list, and RTN/NAT are moved when reassigning a line (for example, changing a port) with the ISDN ACSR and CSR capability. The same information is also maintained when reassigning a line through a service order.

7.5.4 Assignment Limitations

Direct connect lines, manual lines, and denied originating treatment lines must have their screening lists built via service order. Attendant and Multiple Position Hunt positions cannot be assigned LASS selective features.

7.6 SYSTEM OPERATION

7.6.1 General

Maintenance, additions, deletions, and modifications to the static data base are among the main responsibilities of Screen List Editing. There are 12 relations that represent the SLE screen list. These 12 break into 3 categories: Subscription, generally available, and multiline hunt group as shown in Table 7-1. In each category, there exists one screen relation for each feature.

Table 7-1 SLE Relations

RELATION NAME	TYPE	FEATURE
RLgensca	Generally Available	SCA
RLgenscf	Generally Available	SCF
RLgenscr	Generally Available	SCR
RLgensda	Generally Available	SDA
RLisfsca	Subscription	SCA/CAR
RLisfscf	Subscription	SCF
RLisfscr	Subscription	SCR
RLisfsda	Subscription	SDA
RLisfhca	Multiline Hunt Group	SCA/CAR
RLisfhcf	Multiline Hunt Group	SCF
RLisfhcr	Multiline Hunt Group	SCR
RLisfhda	Multiline Hunt Group	SDA

Pictorial representations of the data layout for the screen lists are included. These relations and their attributes are referenced extensively in this system description.

Screening List for Generally Available Users

RLgensca = SCA

RLgenscf = SCF

RLgenscr = SCR

RLgensda = SDA

xxx stands

for: sca, scf,

scr, or sda

xxx_idx*	range*	dn_cnt	scrn_cnt	priv_cnt

dn1	dn2	dn3	dn4	dn5	dn6

ext_dn1	ext_dn2	ext_dn3	ext_dn4	ext_dn5	ext_dn6

Figure 7-1 Pictorial Representation Number 1

Screening List for Subscription Users

RLlsfsca = SCA/CAR
 RLlsfscf = SCF
 RLlsfscr = SCR
 RLlsfsda = SDA

xxx stands
 for: sca,scf,
 scr, or sda

xxx_idx *	range*	dn_cnt	scrn_cnt	priv_cnt

dn1	dn2	dn3	dn4	dn5	dn6

ext_dn1	ext_dn2	ext_dn3	ext_dn4	ext_dn5	ext_dn6

Figure 7-2 Pictorial Representation Number 2

Screening List For Multiline Hunt Groups

RLlsfhca = SCA/CAR
 RLlsfhcf = SCF
 RLlsfhcr = SCR
 RLlsfhda = SDA

grpnum *	dn_bits	DN1	DN2	—	DN30	DN31

Figure 7-3 Pictorial Representation Number 3

A screen list for a given multiline hunt group must exist, simultaneously, on multiple SMs. When updating the screen list of the lead DN of a multiline hunt group, SLE must update data on the current switching module and the module where the hunt member resides. In the SM where member one of the hunt group exists, there will be two screen lists which apply to the hunt group. The standard edit list (LSFSCA, LSFSCF, LSFSCR, LSFSDA) looks like any other list for an individual DN subscription user. The other list (LSFHCA, LSFHCF, LSFHCR, LSFHDA) is specially constructed to take up less space than the normal list. Its maximum size is also 31 entries. When SLE accesses the standard list, it must search the multiline hunt group list for an equivalent entry and update it as well.

A pictorial representation of the data layouts for the associated logical termination or *ltm* relations is included in this section. These relations hold the index to their associated screen list (that is, the sca_idx attribute in relation SCA_LTM is the key to that user's SCA screening list).

SCA_LTM

ltm_type *	ltm_idx *	sca_idx	gen_avail	bs_rg_ind	sca_nat	car	fwd_dn

SCF_LTM

ltm_type *	ltm_idx *	scf_idx	gen_avail	bs_rg_ind	fwd_dn

SCR_LTM

ltm_type *	ltm_idx *	scr_idx	gen_avail	harsh

SDA_LTM

ltm_type *	ltm_idx *	sda_idx	gen_avail

Figure 7-4 Pictorial Representation Number 4

7.6.2 Default Announcements and Displays

The DSU2-RAF provides interactive announcements which prompt users for specific actions while collecting digits during SLE sessions. Defaults announcements and their associated ISDN display messages can be customized. Refer to "Customizing LASS Announcements and Displays", Section 7.6.3, for additional information. These default announcements (1-109) are referred to as the Lucent Technologies standard default announcements.

The Screen List Editing Compliance with Bellcore feature introduced new Lucent Technologies default announcements (110-189), made changes to the user interface, and in the wording of existing announcements and their associated displays. Refer to "User Operation", Section 7.2.3, for additional information on the user interface changes.

The following list of announcements contain a TYPE indicator identifying announcements that are used in the Lucent Technologies standard interface, announcements that are used in the Bellcore Compliance standard interface, and messages that are used in both the Lucent Technologies standard interface and the Bellcore Compliance standard interface.

The type indicator are as follows;

- **Lucent Technologies** — Indicates the Lucent Technologies standard interface announcements
- **BC-STD** — Indicates the Bellcore Compliance standard interface announcements.
- **BOTH** — Indicates announcements that are the same in both interfaces.

The default announcements are as follows:

	NAME	ANNOUNCEMENT	DISPLAY	TYPE
1	ADDLATER	"We're sorry," (1 second pause) "please try adding the number again in a few minutes."	Sorry, try adding number again later.	Lucent Technologies
2	ADDNUM	(Confirmation tone, 3 sec.	Add:	Lucent

		pause) "Please dial the number to be added, then press the number sign key again."		Technologies
3	ADDNUMTO	(Confirmation tone) "Please dial the number to be added, then press the number sign key again." (Confirmation tone)	Add:	Lucent Technologies
4	ALRDYEXT	"This number is already on your list. Extension [ext]." (Prompt tone)	Number already on list. ext [ext]	Lucent Technologies
5	ALRDYPRV	"This number is already on your list as a private entry." (Prompt tone)	Number already on list. Private.	Lucent Technologies
6	ALRDYPUB	"This number is already on your list. [DN]" (Prompt tone)	Number already on list. [DN]	Lucent Technologies
7	BAD_CAR	"The digits you have dialed, [DN], are not a valid telephone number."	Sorry, invalid number dialed.	Lucent Technologies
8	BAD_CMD	"We're sorry, the digits you have dialed are not a valid command."	Sorry, invalid command dialed.	Lucent Technologies
9	BAD_SCA	"The digits you have dialed, [DN], are not a valid telephone number."	Sorry, invalid number dialed.	Lucent Technologies
10	BAD_SCF	"The digits you have dialed, [DN], are not a valid telephone number."	Sorry, invalid number dialed.	Lucent Technologies
11	CANCELED	"You have cleared the digits dialed. Please start again." (Prompt tone)	Digits cleared. Please start again.	Lucent Technologies
12	CAR_ERRF	"Your Computer Access Restriction service is now on. Unaccepted calls will be forwarded to [RTN]."	CAR is on. Forwarding to: [RTN]	Lucent Technologies
13	CAR_ERRR	"Your Computer Access Restriction service is now on. Unaccepted callers will hear a recording."	CAR is on. Recording selected.	BOTH
14	CAR_OFF	"Your Computer Access Restriction service is now off."	CAR is off.	BOTH
15	CAR_ON	"Your Computer Access Restriction service is now on."	CAR is on.	BOTH
16	CAR_RCRD	"Unaccepted callers will hear a recording." (1 second pause)	Unaccepted callers will hear a recording	BOTH
17	CONTINUE	(4 second pause) "Please continue, or dial 0 for help." (Prompt tone)	Please continue, or dial 0 for help.	Lucent Technologies
18	DELETED	"There are no entries on your list."	No entries on list.	Lucent Technologies
19	DIALAFT	"We're sorry, you must dial a phone number after dialing the number sign key or the star key. Please start again." (Prompt tone)	Please start again.	Lucent Technologies
20	DIAL_CAR	"Please dial the number to which you want unaccepted calls forwarded. Please dial now." (Prompt tone)	Dial forward-to number:	Lucent Technologies
21	DIAL_SCA	"Please dial the number to which	Dial forward-to	Lucent

		you want unaccepted calls forwarded. Please dial now." (Prompt tone)	number:	Technologies
22	DIAL_SCF	"Please dial the number to which you want your calls forwarded. Please dial now." (Prompt tone)	Dial forward-to number:	Lucent Technologies
23	EMPTYLIST	"We're sorry, there are no entries on your list. Please start again." (Prompt tone)	Sorry, no entries on list.	Lucent Technologies
24	END_LIST	"This is the end of your list."	End of list.	Lucent Technologies
25	EXTADDED	"The number you have added is extension [ext]."	Ext [ext] added.	BOTH
26	EXT_RMVD	"The number you have removed is extension [ext]."	Ext [ext] removed	BOTH
27	FRWD_CAR	"Unaccepted calls will be forwarded to [RTN]. If this is correct, dial one. If this is not correct, dial zero. Please dial now." (Prompt tone)	Unaccepted calls forward to: [RTN]	Lucent Technologies
28	FRWD_SCA	"Unaccepted calls will be forwarded to [RTN]. If this is correct, dial one. If this is not correct, dial zero. Please dial now." (Prompt tone)	Unaccepted calls forward to: [RTN]	Lucent Technologies
29	FRWD_SCF	"Your calls will be forwarded to [RTN]. If this number is correct, dial one. If this is not correct, dial zero. Please dial now." (Prompt tone)	Calls forwarded to: [RTN]	Lucent Technologies
30	HANGUP	"We're sorry, please hang up now, consult your written instructions and try again later."	Please hang up now and try again later.	BOTH
31	INCORRECT	"We're sorry, the number you have dialed is incorrect. Please start again." (Prompt tone)	Sorry, the number dialed is incorrect.	Lucent Technologies
32	INSTR1	"To add an entry, press the number sign key." (1/4 second pause) "To remove an entry, press the star key." (1/4 second pause) "Please wait for the prompt tone" (confirmation tone) "before dialing the number to be added or to be removed." (1/4 second pause) "To hear the entries on your list, dial one." (1/4 second pause)	to add, * to remove, 0 instruction.	Lucent Technologies
33	INSTR2	"To remove all entries, dial zero eight. To remove just the private entries, dial zero nine. To turn your service on, dial three. To save your list, hang up. To hear these instructions repeated, dial zero." (1/4 second pause)	08 to remove all, 09 to remove private.	Lucent Technologies
34	INSTR3	"Please dial now." (Prompt tone) "To remove all entries, dial zero eight. To remove just the private	08 to remove all, 09 to remove private.	Lucent Technologies

		entries, dial zero nine. To turn your service off, dial three." To save your list, hang up." To hear these instructions repeated, dial zero." (1/4 second pause)		
35	INTRUPTD	"Please dial now." (Prompt tone) "We're sorry, this service is being interrupted. Please hang up and try again in a few minutes."	Sorry, service interrupted.	BOTH
36	LISTFULL	"We're sorry, your list is full. You must remove an entry before adding another." (Prompt tone)	Sorry, list full.	Lucent Technologies
37	MUSTADD	"In order to turn on this service, you must add entries to your list." (1 second pause) "To add an entry, please press the number sign key." (Prompt tone)	Add entries to your list.	Lucent Technologies
38	NAT_CAR	"If you want unaccepted callers to hear a recording, dial one. If you want to forward unaccepted calls to another number, dial zero. Please dial now." (Prompt tone)	Dial 1 for recording or 0 to forward.	BOTH
39	NAT_SCA	"If you want unaccepted callers to hear a recording, dial one. If you want to forward unaccepted calls to another number, dial zero. Please dial now." (Prompt tone)	Dial 1 for recording or 0 to forward.	BOTH
40	NON_ENTR	"There are no entries on your list. You may dial during the announcements for faster service. You may dial now or wait for instructions." (3 second pause)	No entries on list.	Lucent Technologies
41	NON_HIST	"We're sorry, the number is not available now."	Sorry, number is not available now.	Lucent Technologies
42	NON_LIST	"We're sorry, there are no entries on your list. Please start again." (Prompt tone)	Sorry, no entries on your list.	Lucent Technologies
43	NON_PRVT	"There are no more private entries on your list."	Private entries removed.	BOTH
44	NOTONLST	"The number to be removed is not on your list. [DN]" (Prompt tone)	Number not listed. [DN]	Lucent Technologies
45	NTONLSTH	"The number to be removed is not on your list." (Prompt tone)	Number not listed.	Lucent Technologies
46	NTXONLST	"The number to be removed is not on your list. Extension [ext]" (Prompt tone)	Number not listed. ext [ext]	Lucent Technologies
47	PRVADDED	"The number you have added is a private entry."	The number added is a private entry.	BOTH
48	PRV_ENT1	"There is one private entry on your list. You may dial during the announcements for faster service. You may dial now or	1 entry on list.	Lucent Technologies

		wait for instructions." (3 second pause)		
49	PRV_ENT2	There are [Y] private entries on your list. You may dial during the announcements for faster service. You may dial now or wait for instructions." (3 second pause)	[X] entries on list.	Lucent Technologies
50	PRV_LST1	"There is one private entry on your list. Please start again." (Prompt tone)	1 entry. Please start again.	Lucent Technologies
51	PRV_LST2	"There are [X] private entries on your list. Please start again." (Prompt tone)	[X] entries. Please start again.	Lucent Technologies
52	PRV_RMVD	"The number you have removed is a private entry."	The number removed is a private entry.	BOTH
53	PUBADDED	"The number you have added is [DN]."	[DN] added.	BOTH
54	PUB_ENT1	"There is one entry on your list. You may dial during the announcements for faster service. You may dial now or wait for instructions." (3 second pause)	1 entry on list.	Lucent Technologies
55	PUB_ENT2	"There are [X] entries on your list. You may dial during the announcements for faster service. You may dial now or wait for instructions." (3 second pause)	[X] entries on list.	Lucent Technologies
56	PUB_LST1	"There is one entry on your list."	1 entry on list.	Lucent Technologies
57	PUB_LST2	"There are [X] entries on your list."	[X] entries on list.	Lucent Technologies
58	PUB_RMVD	"The number you have removed is [DN]."	[DN] removed.	BOTH
59	RCRD_CAR	"Unaccepted callers will hear a recording. If this is correct, dial one. If you want to forward unaccepted calls to another number, dial zero. Please dial now." (Prompt tone)	Dial 1 for recording or 0 to forward.	BOTH
60	RCRD_SCA	"Unaccepted callers will hear a recording. If this is correct, dial one. If you want to forward unaccepted calls to another number, dial zero. Please dial now." (Prompt tone)	Dial 1 for recording or 0 to forward.	BOTH
61	RD_FIRST	"The first entry on your list is [DN]."	First entry: [DN]	BOTH
62	RDXFIRST	"The first entry on your list is extension [ext]."	First entry: ext [ext]	BOTH
63	RD_NEXT	"Next, [DN]."	Next: [DN]	BOTH
64	RDXNEXT	"Next, extension [ext]."	Next: ext [ext]	BOTH
65	REJECT	(1/4 second pause) "To reject the last calling party, press the number sign key, dial zero one,	To reject last caller, dial # 01 #.	Lucent Technologies

		then press the number sign key again."		
66	RMV_NUM	(Confirmation tone, 3 second pause) "Please dial the number to be removed, then press the star key again." (Confirmation tone)	Remove:	Lucent Technologies
67	RMV_INUM	"Please dial the number to be removed, then press the star key again." (Confirmation tone)	Remove:	Lucent Technologies
68	SCA_ERRF	"Your Selective Call Acceptance service is now on. Unaccepted calls will be forwarded to [RTN]."	SCA is on. Forwarding to:	Lucent Technologies
69	SCA_ERRR	"Your Selective Call Acceptance service is now on. Unaccepted callers will hear a recording."	[RTN] SCA is on. Recording selected.	BOTH
70	SCA_OFF	"Your Selective Call Acceptance service is now off."	SCA is off.	BOTH
71	SCA_ON	"Your Selective Call Acceptance service is now on."	SCA is on.	BOTH
72	SCA_RCRD	"Unaccepted callers will hear a recording." (1 second pause)	Unaccepted callers will hear a recording	BOTH
73	SCF_ERR	"Your Selective Call Forwarding Service is now on. Your calls will be forwarded to [DN]."	SCF is on. Forwarding to: [DN]	Lucent Technologies
74	SCF_OFF	"Your Selective Call Forwarding service is now off."	SCF is off.	BOTH
75	SCF_ON	"Your Selective Call Forwarding service is now on."	SCF is on.	BOTH
76	SCR_OFF	"Your Selective Call Rejection service is now off."	SCR is off.	BOTH
77	SCR_ON	"Your Selective Call Rejection service is now on."	SCR is on.	BOTH
78	SDA_OFF	"Your Selective Distinctive Alert service is now off."	SDA is off.	BOTH
79	SDA_ON	"Your Selective Distinctive Alert service is now on."	SDA is on.	BOTH
80	TOO-FEW	"We're sorry. You have dialed too few digits. Please start again." (Prompt tone)	Sorry, too few digits.	Lucent Technologies
81	TOO_MANY	"We're sorry. You have dialed too many digits. Please start again." (Prompt tone)	Sorry, too many digits.	Lucent Technologies
82	TOT_ENT1	"There are [X] entries on your list, including one private entry. You may dial during the announcements for faster service. You may dial now or wait for instructions." (3 second pause)	[X] entries on list.	Lucent Technologies
83	TOT_ENTX	"There are [X] entries on your list,"	[X] entries on list.	Lucent Technologies
84	TOT_ENTY	"including [Y] private entries. You may dial during the announcements for faster service. You may dial now or wait for instructions." (3 second pause)		Lucent Technologies
85	TOT_LST1	"There are [X] entries on your	[X] entries on list.	Lucent

86	TOT_LSTX	list, including one private entry." "There are [X] entries on your list,"	[X] entries on list.	Technologies Lucent
87	TOT_LSTY	"including [Y] private entries."		Technologies Lucent
88	TURN_OFF	"To turn this service off, dial three." (1 second pause) "To add, remove, or hear list entries, dial according to instructions. To hear these instructions, dial zero. Please dial now." (Prompt tone)	To turn service off, dial 3.	Technologies Lucent Technologies
89	TURN_ON	"To turn this service on, dial three." (1 second pause) "To add, remove, or hear list entries, dial according to instructions. To hear these instructions, dial zero. Please dial now." (Prompt tone)	To turn service on, dial 3.	Lucent Technologies
90	UNAVAIL	"We're sorry, the number you have dialed is not available with this service. Please start again." (Prompt tone)	Sorry, the number is not available.	Lucent Technologies
91	WLCM_CAR	"Welcome to your Computer Access Restriction service."	Computer Access	Lucent
92	WLCM_SCA	"Welcome to your Selective Call Acceptance service."	Restriction Selective Call	Technologies Lucent
93	WLCM_SCF	"Welcome to your Selective Call Forwarding Service."	Acceptance Selective Call	Technologies Lucent
94	ADDNUMP	(Confirmation tone, 3 sec. pause) "Please dial the number to be added." (Confirmation tone)	Forwarding Add:	Technologies Lucent Technologies
95	ADDNUMPO	"Please dial the number to be added." (Confirmation tone)	Add:	Lucent
96	DIALAFTP	"We're sorry, you must dial a phone number after dialing one two or one one. Please start again." (Prompt tone)	Please start again.	Technologies Lucent Technologies
97	INSTR1P	"To add an entry, dial one two." (1/4 second pause) "To remove an entry, dial one one." (1/4 second pause) "Please wait for the prompt tone" (confirmation tone) "before dialing the number to be added or to be removed." (1/4 second pause) "To hear the entries on your list, dial one."	12 to add, 11 to remove, 0 instruction.	Lucent Technologies
98	MUSTADDP	(1/4 second pause) "In order to turn on this service, you must add entries to your list." (1 second pause) "To add an entry, dial one two." (Prompt tone)	Add entries to your list.	Lucent Technologies
99	PAUSE	(1/4 second pause)		BOTH
100	REJECTP	(1/4 second pause) "To reject the last calling party, dial one two, then dial zero one." (Confirmation tone, 3 second pause) "Please dial the number	To reject last caller, dial 12 01.	Lucent Technologies
101	RMV_NUMP		Remove:	Lucent Technologies

		to be removed." (Confirmation tone)		
102	RMVINUMP	"Please dial the number to be removed." (Confirmation tone)	Remove:	Lucent Technologies
103	NO_NAT		Store treatment for unaccepted callers.	Lucent Technologies
104	NO_RTN		Store forward-to number.	Lucent Technologies
105	CAR_INSP		Computer access	Lucent Technologies
106	SCA_INSP		restriction on/off Selective call	Lucent Technologies
107	SCF_INSP		acceptance on/off Selective call	Lucent Technologies
108	SCR_INSP		forwarding on/off Selective call	Lucent Technologies
109	SDA_INSP		rejection on/off Selective distinctive alert on/off	Lucent Technologies
110	ADDLATR	We're sorry. Please try adding the number again in a few minutes.	Sorry, try adding number again later.	BC-STD
111	ADDLATR2	We're sorry. Please try adding the number again in a few minutes. (1/4 second pause)	Sorry, try adding number again later.	BC-STD
112	ADD_NUM	Dial the number to be added, then press the number sign key again. (1/4 second pause) To add the last calling party, dial zero, one, then press the number sign key again. (1/4 second pause) Please dial now. (Prompt tone)	Please dial a number, then #.	BC-STD
113	ALRY_EXT	This number is already on your list. extension [ext].	Number already on list. ext [ext]	BC-STD
114	ALRY_PRV	The number is already on your list as a private entry.	Number already on list. Private.	BC-STD
115	ALRY_PUB	This number is already on your list. [DN]	Number already on list. [DN]	BC-STD
116	BADCAR	The number you have dialed, [DN] is not permitted. (1/4 second pause)	Sorry, [RTN] not permitted.	BC-STD
117	BADCMD	We're sorry. The digits dialed are not a valid command.	Sorry, invalid command dialed.	BC-STD
118	BADSCA	The number you have dialed, [DN] is not permitted. (1/4 second pause)	Sorry, [RTN] not permitted.	BC-STD
119	BADSCF	The number you have dialed, [DN] is not permitted. (1/4 second pause)	Sorry, [RTN] not permitted.	BC-STD
120	CANCEL D	You have cleared the digits dialed.	Digits cleared.	BC-STD
121	CANCEL D2	You have cleared the digits dialed. (1/4 second pause)	Digits cleared.	BC-STD
122	CARERRF	Your Computer Access Restriction service is now on. Unaccepted calls will be forwarded to [DN]	CAR on. Forward to: [RTN]	BC-STD
123	CONTINO	(4 second pause) Please continue, or dial zero for	Please continue, or dial 0 for help.	BC-STD

124	CONTIN0H	instructions. (Prompt tone) (4 second pause) Please continue, dial zero for instructions, or hang up. (Prompt tone)	Please continue, or dial 0 for help.	BC-STD
125	DELETD	There are no more entries on your list.	No more entries on your list.	BC-STD
126	DIAL_AFT	We're sorry. You must dial a telephone number after dialing the number sign key or the star key.	Please start again.	BC-STD
127	DIALCAR	Please dial the number to which you want unaccepted calls forwarded, then press the number sign key. Please dial now. (Prompt tone)	Dial forward-to number:	BC-STD
128	DIALSCA	Please dial the number to which you want unaccepted calls forwarded, then press the number sign key. Please dial now. (Prompt tone)	Dial forward-to number:	BC-STD
129	DIALSCF	Please dial the number to which you want your calls forwarded, then press the number sign key.	Dial forward-to number:	BC-STD
130	EMTYLST	Please dial now. (Prompt tone) We're sorry. There are no entries on your list.	Sorry, no entries on your list.	BC-STD
131	EMTYNOW	This is the end of your list. Your list is now empty. (1 second pause)	Your list is now empty.	BC-STD
132	ENDLIST	This is the end of your list. (1 second pause)	End of your list.	BC-STD
133	EXTADDE2	The number you have added is extension [ext] (1/4 second pause)	Ext [ext] added.	BC-STD
134	EXTRMVD2	The number you have removed is extension [ext] (1/4 second pause)	Ext [ext] removed.	BC-STD
135	FRWDCAR	Unaccepted calls will be forwarded to [RTN]. If this is correct, dial one. If this is not correct, dial zero Please dial now. (Prompt tone)	Calls forwarded to: [RTN]	BC-STD
136	FRWDSCA	Unaccepted calls will be forwarded to [RTN]. If this is correct, dial one. If this is not correct, dial zero Please dial now. (Prompt tone)	Calls forwarded to: [RTN]	BC-STD
137	FRWDSCF	Your calls will be forwarded to [RTN]. If this number is correct, dial one. If this number is not correct, dial zero. Please dial now. (Prompt tone)	Calls forwarded to: [RTN]	BC-STD
138	INCORCT	We're sorry. The number you have dialed is incorrect.	Sorry, the number dialed is incorrect.	BC-STD
139	INCORCT2	We're sorry. The number you have dialed is incorrect. (1/4 second pause)	Sorry, the number dialed is incorrect.	BC-STD

140	INSTOFF	To turn this service off, dial three. (1/4 second pause) To add an entry, press the number sign key. (1/4 second pause) To remove one or more entries, press the star key. (1/4 second pause) To hear the entries on your list, dial one. (1/4 second pause) To hear these instructions repeated, dial zero. (1/4 second pause) Please dial now. (Prompt tone)	3 to turn off, # to add, * to remove.	BC-STD
141	INSTON	To turn this service on, dial three. (1/4 second pause) To add an entry, press the number sign key. (1/4 second pause) To remove one or more entries, press the star key. (1/4 second pause) To hear the entries on your list, dial one. (1/4 second pause) To hear these instructions repeated, dial zero. (1/4 second pause) Please dial now. (Prompt tone)	3 to turn on, # to add, * to remove.	BC-STD
142	LSTFULL	We're sorry. Your list is full. You must remove an entry before adding another.	Sorry, your list is full.	BC-STD
143	MUST_ADD	To turn on this service, you must add an entry to your list. (1 second pause) To add an entry, please press the number sign key. (Prompt tone)	Add an entry to your list.	BC-STD
144	NONENTR	There are no entries on your list. You may dial during the announcements for faster service. When you have finished, hang up. (3 second pause)	No entries on your list.	BC-STD
145	NONHIST	We're sorry. The number of the last calling party is not available.	Sorry, number is not available.	BC-STD
146	NONHIST2	We're sorry. The number of the last calling party is not available. (1/4 second pause)	Sorry, number is not available.	BC-STD
147	NOTNLST	The number to be removed is not on your list.	Number not on your list.	BC-STD
148	PRADDED2	The number you have added is a private entry. (1/4 second pause)	The number added is a private entry.	BC-STD
149	PRVENT1	There is one private entry on your list. You may dial during the announcements for faster service. When you have finished, hang up. (3 second pause)	One entry on your list.	BC-STD
150	PRVENT2	There are [Y] private entries on your list. You may dial during the announcements for faster service. When you have finished, hang up. (3 second pause)	[Y] entries on your list.	BC-STD
151	PRVLST1	There is one private entry on	One entry on your	BC-STD

152	PRVLST2	your list. There are [Y] private entries on	list. [Y] entries on your	BC-STD
153	PUBADDE2	your list. The number you have added is	list. [DN] added.	BC-STD
154	PUBENT1	[DN] (1/4 second pause) There is one entry on your list. You may dial during the announcements for faster service. When you have finished,	One entry on your list.	BC-STD
155	PUBENT2	hang up. (3 second pause) There are [X] entries on your list. You may dial during the announcements for faster service. When you have finished,	[X] entries on your list.	BC-STD
156	PUBLST1	hang up. (3 second pause) There is one entry on your list. To delete an entry, dial zero, seven as soon as you hear it.	One entry on your list. 0,7 to remove.	BC-STD
157	PUBLST2	(1/4 second pause) There are [X] entries on your list. To delete an entry, dial zero, seven as soon as you hear it.	[X] entries on your list. 0,7 to remove.	BC-STD
158	PUBRMVD2	(1/4 second pause) The number you have removed	[DN] removed.	BC-STD
159	RD_SAME	is [DN] (1/4 second pause)		
160	RDXSAME	Repeating, [DN]	Repeating: [DN]	BC-STD
161	REJECTL	Repeating, extension [ext]	Repeating: ext [ext]	BC-STD
		To reject the last calling party, press the number sign key. dial zero, one, and then press the number sign key again. (2 second pause)	To reject last caller, dial # 0,1 #.	BC-STD
162	RMVNUM	Dial the number to be removed, then press the star key again. (1/4 second pause) To remove all entries, dial zero, eight, then press the star key again. (1/4 second pause) To remove just the private entries, dial zero, nine, then press the star key again. (1/4 second pause) To hear these instructions repeated, dial zero. (1/4 second pause)	Remove one or more entries.	BC-STD
163	SCAERRF	Please dial now. (Prompt tone) Your Selective Call Acceptance service is now on. Unaccepted calls will be forwarded to [RTN].	SCA on. Forward to: [RTN]	BC-STD
164	SCFERR	Your Selective Call Forwarding service is now on. Your calls will be forwarded to [RTN].	SCF on. Forward to: [RTN]	BC-STD
165	START0	(4 second pause) Please start again, or dial zero for instructions. (Prompt tone)	Please start again, or dial 0 for help.	BC-STD
166	START0H	(4 second pause) Please start again, dial zero for instructions or hang up. (Prompt tone)	Please start again, or dial 0 for help.	BC-STD
167	TOOFEW	We're sorry. You have dialed too few digits.	Sorry, too few digits.	BC-STD

168	TOOFEW2	We're sorry. You have dialed too few digits. (1/4 second pause)	Sorry, too few digits.	BC-STD
169	TOOMNY	We're sorry. You have dialed too many digits.	Sorry, too many digits.	BC-STD
170	TOOMNY2	We're sorry. You have dialed too many digits. (1/4 second pause)	Sorry, too many digits.	BC-STD
171	TOTENT1	There are [X] entries on your list. including one private entry. You may dial during the announcements for faster service. When you have finished, hang up. (3 second pause)	[X] entries on your list.	BC-STD
172	TOTENTX	There are [X] entries on your list.	[X] entries on your list.	BC-STD
173	TOTENTY	including [X] private entries. You may dial during the announcements for faster service. When you have finished, hang up. (3 second pause)	[X] entries on your list.	BC-STD
174	TOTLST1	There are [X] entries on your list, including one private entry. To delete an entry, dial zero, seven as soon as you hear it. (1/4 second pause)	[X] entries on your list. 0,7 to remove.	BC-STD
175	TOTLSTX	There are [X] entries on your list.	[X] entries on your list. 0,7 to remove.	BC-STD
176	TOTLSTY	including [X] private entries. To delete an entry, dial zero, seven as soon as you hear it. (1/4 second pause)	[X] entries on your list. 0,7 to remove.	BC-STD
177	TRYOTHER	(4 second pause) Please try other options or dial zero for instructions. (Prompt tone)	Please try other options.	BC-STD
178	UNAVAl	We're sorry. The number you have dialed is not available with this service.	Sorry, the number is not available.	BC-STD
179	UNAVAl2	We're sorry. The number you have dialed is not available with this service. (1/4 second pause)	Sorry, the number is not available.	BC-STD
180	ADD_NUMP	Dial the number to be added, (1/4 second pause). To add the last calling party, dial zero, one, (1/4 second pause) Please dial now. (Prompt tone)	Please dial a number.	BC-STD
181	DIAL_AFP	We're sorry. You must dial a telephone number after dialing one, two or one, one.	Please start again.	BC-STD
182	DIALCARP	Please dial the number to which you want unaccepted calls forwarded. Please dial now. (Prompt tone)	Dial forward-to number:	BC-STD
183	DIALSCAP	Please dial the number to which you want unaccepted calls forwarded. Please dial now. (Prompt tone)	Dial forward-to number:	BC-STD
184	DIALSCFP	Please dial the number to which you want your calls forwarded. Please dial now. (Prompt tone)	Dial forward-to number:	BC-STD

185	INSTOFFP	To turn this service off, dial three. (1/4 second pause) To add an entry, dial one, two. (1/4 second pause) To remove one or more entries, dial one, one. (1/4 second pause) To hear the entries on your list, dial one. (1/4 second pause) To hear these instructions repeated, dial zero. (1/4 second pause) Please dial now. (Prompt tone)	3 to turn off, 1,2 to add, 1,1 to remove	BC-STD
186	INSTONP	To turn this service on, dial three. (1/4 second pause) To add an entry, dial one, two. (1/4 second pause) To remove one or more entries, dial one, one. (1/4 second pause) To hear the entries on your list, dial one. (1/4 second pause) To hear these instructions repeated, dial zero. (1/4 second pause) Please dial now. (Prompt tone)	3 to turn on, 1,2 to add, 1,1 to remove.	BC-STD
187	MUST_ADP	To turn on this service, you must add an entry to your list. (1 second pause) To add an entry, dial one, two. (Prompt tone)	Add an entry to your list.	BC-STD
188	REJECTLP	To reject the last calling party, dial one, two and then dial zero, one, (2 second pause)	To reject last caller, dial 1,2 then 0,1	BC-STD
189	RMVNUMP	Dial the number to be removed. (1/4 second pause) To remove all entries, dial zero, eight, (1/4 second pause) To remove just the private entries, dial zero, nine, (1/4 second pause) To hear these instructions repeated, dial zero. (1/4 second pause) Please dial now. (Prompt tone)	Remove one or more entries.	BC-STD

7.6.3 Customizing LASS Announcements and Displays

As mentioned previously, the Lucent Technologies default announcements and their associated display messages can be customized. Refer to 235-190-115, *Local and Toll System Features*, Section 8, Recorded Announcements, for additional information. If a customer desires to customize their announcements, a list of available announcements and their associated usage are presented in this section.

NOTE: The functionality of a few announcements was changed with the advent of the SLE Compliance with Bellcore feature. These announcements will contain two listings.

Recent Change Views 8.60, 8.61, and 8.64 are used when customizing announcements. Both default and customized announcements can be verified through the trunk and line work station (TLWS). See 235-105-110, *System Maintenance Requirements and Tools*, for descriptive information on the TLWS.

For more detail, please reference 235-080-100, *Translation Guide* (TG-5).

Recent Change View 8.65, Display Message, is applicable **only** for Custom ISDN. It is used to customize ISDN display messages. The attributes associated with this view are as follows:

- **DISP TYPE** — This parameter indicates the display message type. Valid entries are AC, AR, COT, and SLE.
- **DISP ID** — This parameter indicates the display identification number. This number is the same as the announcement number (1-189). Valid entries are numbers from 1 to 255.
- **MESSAGE** — This parameter is the 1 to 40 character message that is displayed.

When a directory number [DN], an extension [ext], a number [X/Y], or [RTN] needs to be inserted as part of a display, a "~" (tilde) is inserted as a place holder. The Recent Change View (View 8.65) reserves 2 digits for list size, 10 places for an extension or DN, and 18 places for an RTN for each tilde encountered. The DN, extension, or digits (for example, number of entries on T list) is replaced with the actual digits during an SLE session.

Customizing LASS announcements listed previously as being available in both interfaces (BOTH), causes the announcement and display to remain customized. For example, if an announcement and display that are the same in both interfaces are customized in the 5E6 software release, and the customer switches to the new interface, the announcement and display remains as they were customized.

The following list is a guide to assist in the customizing of announcements and displays for the Lucent Technologies standard interface. This list identifies how each announcement and display is used in an SLE session.

(1) **ADDLATER**

- If an intraswitch or interswitch query is sent to determine if the DN can be added to the screening list, and the response is not received, the ADDLATER announcement is used.

(2) **ADDNUM**

- The ADDNUM announcement is played when a touch-tone user dials "#" to add a number to the screening list. This announcement will not be played if the user entered SLE via the dial pulse access code, or the user is in an IDP where "#" is valid in an extension (see ADDNUMP).

(3) **ADDNUMTO**

- The ADDNUMTO announcement is played when a touch-tone user dials "#" to add a number to the screening list, has heard the ADDNUM announcement, and not dialed any digits. This announcement will not be played if the user entered SLE via the dial pulse access code, or the user is in an IDP where "#" is valid in an extension (see ADDNUMPO).

(4) **ALRDYEXT**

- The ALRDYEXT announcement is played when the user is attempting to add an extension to the list and that extension is already on the list.

(5) **ALRDYPRV**

- The ALRDYPRV announcement is played when the user is attempting to add a private number to the list and that number is already on the list.

(6) ALRDYPUB

- The ALRDYPUB announcement is played when the user is attempting to add a DN to the list and that DN is already on the list as a public or private entry.

(7) BAD_CAR

- The BAD_CAR announcement is played when the user enters an invalid RTN for the CAR feature.

(8) BADCMD

- If a user enters an invalid command during the main command entry state, the BADCMD announcement is played. The only valid commands include list entry addition (# or 1,2), list entry deletion (* or 1,1), voice back editing instructions (0), read list (1), toggle feature status (3), delete all list entries (08), and delete all private list entries (09).
- If a user enters an invalid command during the playback of his or her screening list, the BADCMD announcement is played. The only valid commands include list entry addition (# or 1,2), list entry deletion (* or 1,1), voice back editing instructions (0), read list (1), toggle feature status (3), delete all list entries (08), delete all private list entries (09), and delete the currently voiced back entry (07).

(9) BAD_SCA

- The BAD_SCA announcement is played when the user enters an invalid RTN for the SCA feature.

(10) BAD_SCF

- The BAD_SCF announcement is played when the user enters an invalid RTN for the SCF feature.

(11) CANCELED

- The CANCELED announcement is played when the user is dialing a DN to be added or deleted, and presses the "*" key after not dialing 7 or 1+7, 10 or 1+10 digits.
- If the user is dialing an extension to be added or deleted, and presses the "*" key, and "*" is not valid in an extension in their IDP, CANCELED announcement is displayed.
- If the user is entering an RTN for CAR, SCA or SCF, and then presses the "*" key, and "*" is not valid in an extension in their IDP, CANCELED announcement is display.

(12) CAR_ERRF

- The CAR_ERRF announcement will be played before the HANGUP announcement when a CAR user has done something wrong that will result in termination of the SLE session (such as, made repeated dialing mistakes), and the NAT is set to forwarding and the feature is activated.

(13) CAR_ERRR

- The CAR_ERRR announcement will be played before the HANGUP announcement when a CAR user has done something wrong that will result in termination of the SLE session (such as, made repeated

dialing mistakes), and the NAT is set to recording and the feature is activated.

(14) **CAR_OFF**

- At the beginning of the session, if the feature is off, the first announcement is CAR_OFF.
- When the user changes the feature status from on to off, the CAR_OFF announcement is used.
- If a CAR user has done something wrong that will result in termination of the SLE session (such as, made repeated dialing mistakes), and the feature is off, the CAR_OFF announcement will be played before the HANGUP announcement.
- The CAR_OFF display is also displayed when the user has an ISDN set and deactivates the CAR feature via feature button.

(15) **CAR_ON**

- When a CAR user enters an SLE session, and the CAR feature is activated, the user is given the WLCM_CAR announcement, told how many entries are on their list, and asked to confirm their NAT. Then, the CAR_ON announcement is played.
- When a user activates the CAR feature via SLE, and the user has entries on their screening list, the user is asked to confirm their NAT. Then, the CAR_ON announcement is played.
- The CAR_ON display is also displayed when the user has an ISDN set and activates the CAR feature via feature button.

(16) **CAR_RCRD**

- The CAR_RCRD announcement is played when the user dials 1 to select recording during the NAT confirmation procedure.

(17) **CONTINUE**

- The CONTINUE announcement is played after the user has successfully added or deleted an entry, and does not dial anything for 4 seconds.

(18) **DELETED**

- The DELETED announcement is played when the user has deleted all entries via the "delete all entries" command (08).

(19) **DIALAFT**

- When a touch-tone user does nothing after dialing "#" to add, they receive the ADDNUMTO announcement three times. If the user still does nothing, they will receive the DIALAFT announcement.
- When a touch-tone user does nothing after dialing "*" to delete, they receive the RMV_INUM announcement three times. If the user still does nothing, they will receive the DIALAFT announcement.

(20) **DIALCAR**

- The DIALCAR announcement is used to prompt the user to enter the RTN when trying to set the NAT to forwarding.

(21) **DIALSCA**

- The DIALSCA announcement is used to prompt the user to enter the RTN when trying to set the NAT to forwarding.

(22) **DIALSCF**

- The DIALSCF announcement is used to prompt the user when they are trying to enter their RTN.

(23) **EMPTYLIST**

- The EMPTYLIST announcement is played when the user is trying to delete an entry (*), delete all entries (08), or delete all private entries (09), and the list is empty.

(24) **END_LIST**

- The END_LIST announcement is played when the 5ESS[®]-2000 switch has voiced back the last public entry on a user's screening list.

(25) **EXTADDED**

- The EXTADDED announcement is played when the user has successfully added an extension to the screening list.

(26) **EXT_RMVD**

- The EXT_RMVD announcement is played when the user has successfully removed an extension from the screening list.

(27) **FRWD_CAR**

- The FRWD_CAR announcement is used to prompt the user to confirm a forwarding NAT for CAR.

(28) **FRWD_SCA**

- The FRWD_SCA announcement is used to prompt the user to confirm a forwarding NAT for SCA.

(29) **FRWD_SCF**

- The FRWD_SCF announcement is used to prompt the user to confirm the RTN for SCF.

(30) **HANGUP**

- The HANGUP announcement is the last announcement before termination when the user has done

something wrong that will result in termination of the SLE session (such as, made repeated dialing mistakes).

(31) **INCORRCT**

- The INCORRCT announcement will be played when the user has attempted to add or delete a number that is incorrect.

(32) **INSTR1**

- The INSTR1 announcement is played to a touch-tone user who dials (0) for instructions.

(33) **INSTR2**

- The INSTR2 announcement is the second announcement played to the user whose feature is off and the user dials (0) for instructions.

(34) **INSTR3**

- The INSTR3 announcement is the second announcement played to the user whose feature is on and the user dials (0) for instructions.

(35) **INTRUPTD**

- The INTRUPTD announcement is used when the 5ESS[®]-2000 switch forces the user to go on-hook because of some internal error.

(36) **LISTFULL**

- The LISTFULL announcement will be played if the user is trying to add an entry to their screening list and the list is full.

(37) **MUSTADD**

- When the user is changing the feature status to on, and there are no entries on the list, then the user must add entries to their list. This announcement is used to ask the user to add an entry.

(38) **NAT_CAR**

- The NAT_CAR announcement is the first announcement in the NAT selection procedure for CAR. It asks the user to select either the forwarding or recording NAT option.

(39) **NAT_SCA**

- The NAT_SCA is the first announcement in the NAT selection procedure for SCA. It asks the user to select either the forwarding or recording NAT option.

(40) **NON_ENTR**

- The NON_ENTR announcement is given to the user after the feature status or welcome announcements at the beginning of the SLE session in which the screening list is empty.

(41) **NON_HIST**

- The NON_HIST announcement is played when the user is attempting to take the number from the incoming line history block (ILHB), and add or delete it from the list, and the ILHB has no number in it.

(42) **NON_LIST**

- The NON_LIST announcement is played when the user is attempting to use list read (1) and the screening list is empty.

(43) **NON_PRVT**

- The NON_PRVT announcement is played when the user is successful in deleting all private entries (09).

(44) **NOTONLST**

- The NOTONLST announcement is played when the user attempts to delete a public DN that is not on the list.

(45) **NTONLSTH**

- The NTONLSTH announcement is played when the user attempts to delete a private DN that is not on the list.

(46) **NTXONLST**

- The NTXONLST announcement is played when the user attempts to delete an extension that is not on the list.

(47) **PRV_ENT1**

- The PRV_ENT1 announcement is played after the feature status announcements at the beginning of the SLE session in which the screening list contains only one private entry.

(48) **PRV_ENT2**

- The PRV_ENT2 announcement is played after the feature status announcements at the beginning of the SLE session in which the screening list contains only two or more private entries.

(49) **PRV_LST1**

- The PRV_LST1 announcement is played when the user dials (1) to read the list and has only one private entry on the list.

(50) PRV_LST2

- The PRV_LST2 announcement is played when the user dials (1) to read the list and has only two or more private entries on the list.

(51) PRV_RMVD

- The PRV_RMVD announcement is played when the user has successfully deleted a private DN.

(52) PUBADDED

- The PUBADDED announcement is played when the user has successfully added a public DN.

(53) PUB_ENT1

- The PUB_ENT1 announcement is played after the feature status announcements at the beginning of an SLE session in which the screening list contains only one public entry.

(54) PUB_ENT2

- The PUB_ENT2 announcement is played after the feature status announcements at the beginning of an SLE session in which the screening list contains only two or more public entries.

(55) PUB_LST1

- The PUB_LST1 announcement is played when the user dials (1) to read the list and has only one public entry on the list. Then, the list is voiced back to the user.

(56) PRV_LST2

- The PRV_LST2 announcement is played when the user dials (1) to read the list and has only two or more public entries on the list. Then, the list is voiced back to the user.

(57) PUB_RMVD

- The PUB_RMVD announcement is played when the user has successfully removed a public DN.

(58) RCRD_CAR

- The RCRD_CAR announcement is played when the NAT for CAR is recording, and the 5ESS®-2000 switch is prompting the user to confirm the NAT.

(59) RCRD_SCA

- The RCRD_SCA announcement is played when the NAT for SCA is recording, and the 5ESS®-2000 switch is prompting the user to confirm the NAT.

(60) RD_FIRST

- The RD_FIRST announcement is played during list read to voice back the first public number on the screening list, if that number is a DN.

(61) **RDXFIRST**

- The RDXFIRST announcement is played during list read to voice back the first public number on the screening list, if that number is an extension.

(62) **RD_NEXT**

- The RD_NEXT announcement is played during list read to voice back each public DN on the screening list. This announcement is not used to voice back the first public entry on the list (see RD_FIRST/RDXFIRST).

(63) **RDXNEXT**

- The RDXNEXT announcement is played during list read to voice back each public extension on the screening list. This announcement is not used to voice back the first public entry on the list (see RD_FIRST/RDXFIRST).

(64) **REJECT**

- The REJECT announcement is played for the touch-tone SCR user at the beginning of the SLE session. This announcement is played after the size of the list is announced to the user.

(65) **RMV_NUM**

- The RMV_NUM announcement is played when a touch-tone user dials "*" to delete a number from the screening list. This announcement will not be played if the user entered SLE via the dial pulse access code, or the user is in an IDP where "*" is valid in an extension (see RMV_NUMP).

(66) **RMV_INUM**

- The RMV_INUM announcement is played when a touch-tone user dials "*" to delete a number from the screening list and has heard the RMV_NUM announcement and not dialed any digits. This announcement will not be played if the user entered SLE via the dial pulse access code, or the user is in an IDP where "*" is valid in an extension (see RMVINUMP).

(67) **SCA_ERRF**

- The SCA_ERRF announcement will be played before the HANGUP announcement when an SCA user has done something wrong that will result in termination of the SLE session (such as, made repeated dialing mistakes), and the NAT is set to forwarding and the feature is activated.

(68) **SCA_ERRR**

- The SCA_ERRR announcement will be played before the HANGUP announcement when an SCA user has done something wrong that will result in termination of the SLE session (such as, made repeated dialing mistakes), and the NAT is set to recording and the feature is activated.

(69) SCA_OFF

- At the beginning of the session, if the feature is off, the first announcement is SCA_OFF.
- When the user changes the feature status from on to off, the SCA_OFF announcement is used.
- If the user has done something wrong that will result in termination of the SLE session (such as, made repeated dialing mistakes), and the user is editing the SCA features list and the feature is off, the SCA_OFF announcement will be played before the HANGUP announcement.
- The SCA_OFF display is also displayed when the user has an ISDN set and deactivates the SCA feature via feature button.

(70) SCA_ON

- When an SCA user enters an SLE session, and the SCA feature is activated, the user is given the WLCM_SCA announcement, told how many entries are on their list, and asked to confirm their NAT. Then, the SCA_ON announcement is played.
- When a user activates the SCA feature via SLE, and the user has entries on their screening list, the user is asked to confirm their NAT. Then, the SCA_ON announcement is played.
- The SCA_ON display is also displayed when the user has an ISDN set and activates the SCA feature via feature button.

(71) SCA_RCRD

- The SCA_RCRD announcement is used to inform the user that they have selected recording for their NAT during the NAT confirmation procedure.

(72) SCF_ERR

- The SCF_ERR announcement will be played before the HANGUP announcement when an SCF user has done something wrong that will result in termination of the SLE session (such as, made repeated dialing mistakes), and the feature is activated.

(73) SCF_OFF

- At the beginning of the session, if the feature is off, the first announcement is SCF_OFF.
- When the user changes the feature status from on to off, the SCF_OFF announcement is used.
- If the user has done something wrong that will result in termination of the SLE session (such as, made repeated dialing mistakes), and the user is editing the SCF features list and the feature is off, the SCF_OFF announcement will be played before the HANGUP announcement.
- The SCF_OFF display is also displayed when the user has an ISDN set and deactivates the SCF feature via feature button.

(74) SCF_ON

- When an SCF user enters an SLE session, and the SCF feature is activated, the user is given the WLCM_SCF announcement, told how many entries are on their list, and asked to confirm their RTN. Then, the SCF_ON announcement is played.
- When a user activates the SCF feature via SLE, and the user has entries on their screening list, the user is asked to confirm their RTN. Then, the SCF_ON announcement is played.
- The SCF_ON display is also displayed when the user has an ISDN set and activates the SCF feature via feature button.

(75) **SCR_OFF**

- At the beginning of the session, if the feature is off, the first announcement is SCR_OFF.
- When the user changes the feature status from on to off, the SCR_OFF announcement is used.
- If the user has done something wrong that will result in termination of the SLE session (such as, made repeated dialing mistakes), and the user is editing the SCR features list and the feature is off, the SCR_OFF announcement will be played before the HANGUP announcement.
- The SCR_OFF display is also displayed when the user has an ISDN set and deactivates the SCR feature via feature button.

(76) **SCR_ON**

- At beginning of the session, when the feature is on, the first announcement played is the SCR_ON announcement.
- User activates feature with entries on his/her list and gets SCR_ON announcement.
- The SCR_ON display is also displayed when the user has an ISDN set and activates the SCR feature via feature button.

(77) **SDA_OFF**

- At the beginning of the session, if the feature is off, the first announcement is SDA_OFF.
- When the user changes the feature status from on to off, the SDA_OFF announcement is used.
- If the user has done something wrong that will result in termination of the SLE session (such as, made repeated dialing mistakes), and the user is editing the SDA features list and the feature is off, the SDA_OFF announcement will be played before the HANGUP announcement.
- The SDA_OFF display is also displayed when the user has an ISDN set and deactivates the SDA feature via feature button.

(78) **SDA_ON**

- At beginning of the session, when the feature is on, the first announcement played is the SDA_ON announcement.
- User activates feature with entries on his/her list and gets SDA_ON announcement.

- The SDA_ON display is also displayed when the user has an ISDN set and activates the SDA feature via feature button.

(79) **TOO_FEW**

- The TOO_FEW announcement is played when the user is trying to add or delete a DN and has dialed less than seven digits.

(80) **TOO_MANY**

- The TOO_MANY announcement is played when the user is trying to add or delete a DN and has dialed 11 digits where the first digit is not 1, or the user has dialed 8 or 9 digits where the first 2 digits are not 10.

(81) **TOT_ENT1**

- The TOT_ENT1 announcement is played after the feature status announcements at the beginning of an SLE session in which the screening list contains only two or more entries and one of the entries is private.

(82) **TOT_ENTX**

- The TOT_ENTX announcement is played after the feature status announcements at the beginning of an SLE session in which the screening list contains only two or more entries and two or more of the entries are private. This announcement is always followed by the TOT_ENTY announcement.

(83) **TOT_ENTY**

- The TOT_ENTY announcement is played after the feature status announcements at the beginning of an SLE session in which the screening list contains only two or more entries and two or more of the entries are private. This announcement is always followed by the TOT_ENTX announcement.

(84) **TOT_LST1**

- The TOT_LST1 announcement is played when the user dials (1) to read the list and has only two or more entries on the list and one of the entries is private. Then, the list is voiced back to the user.

(85) **TOT_LSTX**

- The TOT_LSTX announcement is played when the user dials (1) to read the list and has only two or more entries and two or more of the entries are private. This announcement is always followed by the TOT_LSTY announcement.

(86) **TOT_LSTY**

- The TOT_LSTY announcement is played when the user dials (1) to read the list and has only two or more entries and two or more of the entries are private. This announcement is always followed by the TOT_LSTx announcement.

(87) TURN_OFF

- The TURN_OFF announcement is the last announcement played during initialization of SLE, before the user enters the main command entry state.
- This announcement is also played if the user does nothing (times-out) in the command editing state when the feature is on.

(88) TURN_ON

- The TURN_ON announcement is the last announcement played during initialization of SLE, before the user enters the main command entry state.
- This announcement is also played if the user does nothing (times-out) in the command editing state when the feature is off.

(89) UNAVAIL

- The UNAVAIL announcement is played when the user is trying to add or delete a DN from the screening list and the number is valid but not available with the LASS features (for example, the number has terminal group restrictions that restrict it from making a call to the LASS user).

(90) WLCM_CAR

- The WLCM_CAR announcement is the first announcement played when the user is entering an SLE session for the CAR feature and the feature is active.

(91) WLCM_SCA

- The WLCM_SCA announcement is the first announcement played when the user is entering an SLE session for the SCA feature and the feature is active.

(92) WLCM_SCF

- The WLCM_SCF announcement is the first announcement played when the user is entering an SLE session for the SCF feature and the feature is active.

(93) ADDNUMP

- The ADDNUMP announcement is played when a dial pulse user dials "1,2" to add a number to the screening list. This announcement will be played if the user entered SLE via the touch-tone access code and "#" is valid in an extension in the user's IDP (see ADDNUM).

(94) ADDNUMPO

- The ADDNUMPO announcement is played when a dial pulse user dials "1,2" to add a number to the screening list and has heard the ADDNUMP announcement and not dialed any digits. This announcement will be played if the user entered SLE via the touch-tone access code and "#" is valid in an extension in the users IDP (see ADDNUMTO).

(95) DIALAFTP

- When a dial pulse user does nothing after dialing 1,2 to add, they receive the ADDNUMPO announcement 3 times. If the user still does nothing, they will receive the DIALAFTP announcement.
- When a dial pulse user does nothing after dialing 1,1 to delete, they receive the RMVINUMP announcement 3 times. If the user still does nothing, they will receive the DIALAFTP announcement.

(96) INSTR1P

- The INSTR1P announcement is played to a dial pulse user who dials (0) for instructions.

(97) MUSTADDP

- When the user is changing the feature status to on, and there are no entries on the list, then the user must add entries to their list. This announcement is used to ask the user to add an entry.

(98) PAUSE

- This announcement MUST remain a 1/4 second pause. It is used when SLE determines that more digits must be collected during the add and delete commands.
- This display MUST remain a blank display. It is used by SLE to clear the user's display at the end of an SLE session.

(99) REJECTP

- The REJECTP announcement is played for the dial pulse SCR user at the beginning of the SLE session. This announcement is played after the size of the list is announced to the user.

(100) RMV_NUMP

- The RMV_NUMP announcement is played when a dial pulse user dials "1,1" to delete a number from the screening list. This announcement will be played if the user entered SLE via the touch-tone access code and the user is in an IDP where "*" is valid in an extension (see RMV_NUM).

(101) RMVINUMP

- The RMVINUMP announcement is played when a dial pulse user dials "1,1" to delete a number from the screening list and has heard the RMV_NUMP announcement and not dialed any digits. This announcement will be played if the user entered SLE via the touch-tone access code, and the user is in an IDP where "*" is valid in an extension (see RMV_INUM).

(102) NO_NAT

- The NO_NAT display is used when an ISDN user is trying to activate SCA or CAR via feature, and no NAT has been previously stored.

(103) NO_RTN

- The NO_RTN display is used when an ISDN user is trying to activate SCF, SCA, or CAR via feature button, and no RTN has been previously stored.

(104) **CAR_INSP**

- The CAR_INSP display is used when an ISDN user uses the INSPECT feature to inspect the CAR feature button.

(105) **SCA_INSP**

- The SCA_INSP display is used when an ISDN user uses the INSPECT feature to inspect the SCA feature button.

(106) **SCF_INSP**

- The SCF_INSP display is used when an ISDN user uses the INSPECT feature to inspect the SCF feature button.

(107) **SCR_INSP**

- The SCR_INSP display is used when an ISDN user uses the INSPECT feature to inspect the SCR feature button.

(108) **SDA_INSP**

- The SDA_INSP display is used when an ISDN user uses the INSPECT feature to inspect the SDA feature button.

The following list is a guide to assist in the customizing of announcements for the Bellcore standard interface. The list identifies how each announcement and display is used in an SLE session for the Bellcore standard interface.

(1) **ADDLATR**

- If an intraswitch or interswitch query is sent to determine if the DN can be added to the screening list, and the response is not received, or the data is temporarily unavailable, the ADDLATR announcement is used.

(2) **ADDLATR2**

- If an intraswitch or interswitch query is sent to determine if the DN can be added to the screening list, and the response is not received, or the data is temporarily unavailable, the ADDLATR2 announcement is used. This announcement is given when adding an entry to list as part of feature activation.

(3) **ADD_NUM**

- The ADD_NUM announcement is played when a touch-tone user dials "#" to add a number to the screening list. The ADD_NUM announcement is also played after the user has heard the ADD_NUM announcement and not dialed any digits. This announcement will not be played if the user entered SLE

via the dial pulse access code, or the user is in an IDP where "#" is valid in an extension (see ADD_NUMP).

(4) **ALRY_EXT**

- The ALRY_EXT announcement is played when the user is attempting to add an extension to the list and that extension is already on the list.

(5) **ALRY_PRV**

- The ALRY_PRV announcement is played when the user is attempting to add a private number from the ILHB to the list and that number is already on the list.

(6) **ALRY_PUB**

- The ALRY_PUB announcement is played when the user is attempting to add a DN to the list and that DN is already on the list as a public or private entry.

(7) **BADCAR**

- The BADCAR announcement is played when the user enters an invalid RTN for the CAR feature.

(8) **BADCMD**

- If a user enters an invalid command during the main command entry state, the BADCMD announcement is played. The only valid commands include list entry addition (# or 1,2), list entry deletion (* or 1,1), voice back editing instructions (0), read list (1), toggle feature status (3), delete all list entries (08/*08), and delete all private list entries (09/*09).
- If a user enters an invalid command during the playback of his or her screening list, the BADCMD announcement is played. The only valid commands include list entry addition (# or 1,2), list entry deletion (* or 1,1), voice back editing instructions (0), read list (1), toggle feature status (3), delete all list entries (08), delete all private list entries (09), and delete the currently voiced back entry (07).

(9) **BADSCA**

- The BADSCA announcement is played when the user enters an invalid RTN for the SCA feature.

(10) **BADSCF**

- The BADSCF announcement is played when the user enters an invalid RTN for the SCF feature.

(11) **CANCEL**

- The CANCEL announcement is played when the user is dialing a DN to be added or deleted, and they press the "*" key after not dialing 7/1+7/10 or 1+10 digits.
- If the user is dialing an extension to be added or deleted, and they press the "*" key and "*" is not valid in an extension in their IDP.

(12) CANCEL2

- The CANCEL2 announcement is played when the user is dialing a DN to be added and they press the "*" key after not dialing 7/1+7/10 or 1+10 digits. This announcement is only given as part of feature activation.
- CANCEL2 is also played when the user is dialing a extension to be added, and they press the "*" key and "*" is not valid in an extension in their IDP. This announcement is only given as part of feature activation.
- CANCEL2 is also played when the user is entering an RTN for CAR, SCA, or SCF and then presses the "*" key and "*" is not valid in an extension in their IDP.

(13) CARERRF

- The CARERRF announcement will be played before the HANGUP announcement when a CAR user has done something wrong that will result in termination of the SLE session (such as, made repeated dialing mistakes), and the NAT is set to forwarding and the feature is activated.

(14) CONTIN0

- The CONTIN0 announcement is played after the user tried to add a number to the list and the user was told that the list is full, and after the announcement ADDLATR (see ADDLATR), CONTIN0 announcement would only be played if the user does not dial anything for 4 seconds after hearing the ADDLATR announcement.

(15) CONTIN0H

- The CONTIN0H announcement is played after confirming a change in feature status, or after announcement stating that the number the user is trying to add is already on the list, and after the user has successfully added an entry or deleted one or more entries. CONTIN0H announcement would only be played if the user does not dial anything for 4 seconds before hearing the announcement.

(16) DELETD

- The DELETD announcement is played when the user has deleted all entries via the "delete all entries" command (08 or *08).

(17) DIAL_AFT

- When a touch-tone user does nothing after dialing "#" to add, they receive the ADD_NUM announcement 3 times. If the user still does nothing, they will receive the DIAL_AFT announcement.
- When a touch-tone user does nothing after dialing "*" to delete, they receive the RMVNUM announcement 3 times. If the user still does nothing, they will receive the DIAL_AFT announcement.

(18) DIALCAR

- The DIALCAR announcement is used to prompt the user to enter the RTN when trying to set the NAT for CAR to forwarding. If the user dialed the touch-tone access code, or is in an IDP where the "#" is not part

of the IDP, the user will hear DIALCAR announcement (see DIALCARP).

(19) **DIALSCA**

- The DIALSCA announcement is used to prompt the user to enter the RTN when trying to set the NAT for SCA to forwarding. If the user dialed the touch-tone access code, or is in an IDP where the "#" is not part of the IDP, the user will hear DIALSCA announcement (see DIALSCAP).

(20) **DIALSCF**

- The DIALSCF announcement is used to prompt the user when they are trying to enter their RTN for SCF. If the user dialed the touch-tone access code, or is in an IDP where the "#" is not part of the IDP, the user will hear DIALSCF announcement (see DIALSCFP).

(21) **EMTYLST**

- The EMTYLST announcement is played when the user is trying to read the list, to delete an entry (*), delete all entries (08 or *08), or delete all private entries (09 or *09), and the list is empty.

(22) **EMTYNOW**

- The EMTYNOW announcement is played when the last public entry is being voiced back and the user deletes that entry using 07, and the resulting list is empty.

(23) **ENDLIST**

- The END_LIST announcement is played when the last public entry is being voiced back and there is at least one entry left on a user's screening list.

(24) **EXTADDED**

- The EXTADDED announcement is played when the user has successfully added an extension to the screening list (see EXTADDE2).

(25) **EXTADDE2**

- The EXTADDE2 announcement is played when the user has successfully added an extension to the screening list as part of feature activation.

(26) **EXT_RMVD**

- The EXT_RMVD announcement is played when the user has successfully removed an extension from the screening list (see EXTRMVD2).

(27) **EXTRMVD2**

- The EXTRMVD2 announcement is played when the user has successfully removed an extension from the screening list during list read.

(28) FRWDCAR

- The FRWDCAR announcement is used to prompt the user to confirm a forwarding NAT for CAR.

(29) FRWDSCA

- The FRWDSCA announcement is used to prompt the user to confirm a forwarding NAT for SCA.

(30) FRWDSCF

- The FRWDSCF announcement is used to prompt the user to confirm the RTN for SCF.

(31) INCORCT

- The INCORCT announcement will be played when the user has attempted to add or delete a number that is incorrect (see INCORCT2).

(32) INCORCT2

- The INCORCT2 announcement will be played during feature activation when the user has attempted to add a number that is incorrect.

(33) INSTOFF

- The INSTOFF announcement is played to a touch-tone user whose feature is on and dials (0) for instructions.

(34) INSTON

- The INSTON announcement is played to a touch-tone user whose feature is off and dials (0) for instructions.

(35) LSTFULL

- The LSTFULL announcement will be played if the user is trying to add an entry to their screening list and the list is full.

(36) MUST_ADD

- When a touch-tone user is changing the feature status to on, and there are no entries on the list, then the user must add entries to their list. This announcement is used to ask the user to add an entry (see MUST_ADDP).

(37) NONENTR

- The NONENTR announcement is given to the user after the feature status at the beginning of the SLE session in which the screening list is empty.

(38) NONHIST

- The NONHIST announcement is played when the user is attempting to take the number from the incoming line history block (ILHB) and add or delete it from the list and the ILHB has no number in it, or the number has less than 10 digits (see NONHIST2).

(39) NONHIST2

- The NONHIST2 announcement is played as part of feature activation when the user is attempting to take the number from the incoming line history block (ILHB) and add or delete it from the list and the ILHB has no number in it, or the number has less than 10 digits.

(40) NOTNLST

- The NOTNLST announcement is played when the user attempts to delete a number that is not on the list.

(41) PRVADDED

- The PRVADDED announcement is played when the user has successfully added a private DN to the screening list (see PRADDED2).

(42) PRADDED2

- The PRADDED2 announcement is played during feature activation when the user has successfully added a private DN to the screening list.

(43) PRVENT1

- The PRVENT1 announcement is played after the feature status announcements at the beginning of an SLE session in which the screening list contains only one private entry.

(44) PRVENT2

- The PRVENT2 announcement is played after the feature status announcements at the beginning of an SLE session in which the screening list contains only two or more private entries.

(45) PRVLST1

- The PRVLST1 announcement is played when the user dials "1" to read the list and has only one private entry on the list.

(46) PRVLST2

- The PRVLST2 announcement is played when the user dial "1" to read the list and has only two or more private entries on the list.

(47) PUBADDED

- The PUBADDED announcement is played when the user has successfully added a public DN (see PUBADDE2).

(48) **PUBADDE2**

- The PUBADDE2 announcement is played during feature activation when the user has successfully added a public DN.

(49) **PUBENT1**

- The PUBENT1 announcement is played after the feature status announcements at the beginning of an SLE session in which the screening list contains only one public entry.

(50) **PUBENT2**

- The PUBENT2 announcement is played after the feature status announcements at the beginning of an SLE session in which the screening list contains only two or more public entries.

(51) **PUBLST1**

- The PUBLST1 announcement is played when the user dials "1" to read the list and has only one public entry on the list. Then, the list is voiced back to the user.

(52) **PUBLST2**

- The PUBLST2 announcement is played when the user dials "1" to read the list and has only two or more public entries on the list. Then, the list is voiced back to the user.

(53) **PUB_RMVD**

- The PUB_RMVD announcement is played when the user has successfully removed a public DN (see PUBRMVD2).

(54) **PUBRMVD2**

- The PUBRMVD2 announcement is played during read list when the user dials 07 and has successfully removed a public DN.

(55) **RD_SAME**

- The RD_SAME announcement is played during list read after the user dialed an incorrect command during voice back of a public DN that is not the first entry on the list.

(56) **RDXSAME**

- The RDXSAME announcement is played during list read after the user dialed an incorrect command during voice back of a extension that is not the first entry on the list.

(57) REJECTL

- The REJECTL announcement is played for the touch-tone SCR user at the beginning of the SLE session. This announcement is played after the size of the list is announced to the user.

(58) RMVNUM

- The RMVNUM announcement is played when a touch-tone user dials "*" to delete a number from the screening list. This announcement will not be played if the user entered SLE via the dial pulse access code, or the user is in an IDP where "*" is valid in an extension (see RMVNUMP). RMVNUM will also be played if the user does not dial any digits after hearing the announcement or dials "0" after or when listening to this announcement.

(59) SCAERRF

- The SCAERRF announcement will be played before the HANGUP announcement when an SCA user has done something wrong that will result in termination of the SLE session (such as, made repeated dialing mistakes), and the NAT is set to forwarding and the feature is activated.

(60) SCFERR

- The SCFERR announcement will be played before the HANGUP announcement when an SCF user has done something wrong that will result in termination of the SLE session (such as, made repeated dialing mistakes), and the feature is activated.

(61) START0

- The START0 announcement will be played 4 seconds after DIAL_AFT, DIAL_AFP, INCORCT, NONHIST, TOOFEW, TOOMANY, and UNAVAIL announcement if the user does not dial any digits.

(62) START0H

- The START0H announcement will be played 4 seconds after the NOTNLST announcement if the user does not dial any digits.

(63) TOOFEW

- The TOOFEW announcement is played when the user is trying to add or delete a DN and has dialed less than seven digits (see TOOFEW2).

(64) TOOFEW2

- The TOOFEW2 announcement is played during feature activation when the user is trying to add or delete a DN and has dialed less than seven digits.

(65) TOOMNY

- The TOOMNY announcement is played when the user is trying to add or delete a DN and has dialed 11 digits where the first digit is not 1, or the user has dialed 8 or 9 digits where the first 2 digits are not 10.

(66) TOOMNY2

- The TOOMNY2 announcement is played during feature activation when the user is trying to add or delete a DN and has dialed 11 digits where the first digit is not 1, or the user has dialed 8 or 9 digits where the first 2 digits are not 10.

(67) TOTENT1

- The TOTENT1 announcement is played after the feature status announcements at the beginning of an SLE session in which the screening list contains only two or more entries and one of the entries is private.

(68) TOTENTX

- The TOTENTX announcement is played after the feature status announcements at the beginning of an SLE session in which the screening list contains only two or more entries and two or more of the entries are private. This announcement is always followed by the TOTENTY announcement.

(69) TOTENTY

- The TOTENTY announcement is played after the feature status announcements at the beginning of an SLE session in which the screening list contains only two or more entries and two or more of the entries is private. This announcement is always followed by the TOTENTX announcement.

(70) TOTLST1

- The TOTLST1 announcement is played when the user dials "1" to read the list and has only two or more entries on the list and one of the entries is private. Then, the list is voiced back to the user.

(71) TOTLSTX

- The TOTLSTX announcement is played when the user dials (1) to read the list and has only two or more entries and two or more of the entries are private. This announcement is always followed by the TOTLSTY announcement.

(72) TOTLSTY

- The TOTLSTY announcement is played when the user dials "1" to read the list and has only two or more entries and two or more of the entries are private. This announcement is always followed by the TOTLSTX announcement.

(73) TRYOTHER

- The TRYOTHER announcement is played after PRVLST1, PRVLST2, and EMTYLST when the user tries read a list which is either empty or it contains private entries only.

(74) UNAVAIL

- The UNAVAL announcement is played when the user is trying to add or delete a DN from the screening list and the number is valid but not available with the LASS features (that is, the number has terminal group restrictions that restrict it from making a call to the LASS user) (see UNAVAL2)

(75) **UNAVAL2**

- The UNAVAL2 announcement is played during feature activation when the user is trying to add a DN from the screening list and the number is valid but not available with the LASS features (that is, the number has terminal group restrictions that restrict it from making a call to the LASS user).

(76) **ADD_NUMP**

- The ADD_NUMP announcement is played when a dial pulse user dials "1,2" to add a number to the screening list. The ADD_NUMP announcement is also played after the user has heard the ADD_NUMP announcement and not dialed any digits. This announcement will also be played if the user entered SLE via the touch-tone access code and "#" is valid in an extension in the users IDP (see ADD_NUM).

(77) **DIAL_AFP**

- When a dial pulse user does nothing after dialing 1,2 to add, they receive the ADD_NUMP announcement 3 times. If the user still does nothing, they will receive the DIAL_AFP announcement.
- When a dial pulse user does nothing after dialing 1,1 to delete, they receive the RMVNUMP announcement 3 times. If the user still does nothing, they will receive the DIAL_AFP announcement.

(78) **DIALCARP**

- The DIALCARP announcement is used to prompt a dial pulse user to enter the RTN when trying to set the NAT to forwarding. DIALCARP would also be used to prompt a touch-tone user that is in an IDP and the "#" is valid in an extension.

(79) **DIALSCAP**

- The DIALSCAP announcement is used to prompt a dial pulse user to enter the RTN when trying to set the NAT to forwarding. DIALSCAP would also be used to prompt a touch-tone user that is in an IDP and the "#" is valid in an extension.

(80) **DIALSCFP**

- The DIALSCFP announcement is used to prompt a dial pulse user when they are trying to enter their RTN. DIALSCFP would also be used to prompt a touch-tone user that is in an IDP and the "#" is valid in an extension.

(81) **INSTOFFP**

- The INSTOFFP announcement is played to a dial pulse user whose feature is on and dials "0" for instructions.

(82) **INSTONP**

- The INSTONP announcement is played to a dial pulse user whose feature is off and dials "0" for instructions.

(83) MUST_ADP

- When a dial pulse user is attempting to activate the feature and there are no entries on the list, then the user must add entries to their list. This announcement is used to ask the user to add an entry.

(84) REJECTLP

- The REJECTLP announcement is played for the dial pulse SCR user at the beginning of the SLE session. This announcement is played after the size of the list is announced to the user.

(85) RMVNUMP

- The RMVNUMP announcement is played when a dial pulse user dials "1,1" to delete a number from the screening list. This announcement will be played if the user entered SLE via the touch-tone access code and the user is in an IDP where "*" is valid in an extension (see RMV_NUM). This announcement would also be played if the user does not dial any digits, or dials "0" after or when listening to this announcement.

The following list is an example of how the Lucent Technologies defaults can be customized to create an interface similar to the Bellcore standard interface. The customizations are available by J drawing lists L-MG and L-MJ. Customizing the associated ISDN display should be considered when customizing the announcement. For each announcement and display, the Bellcore SLE TR-TSY-000220 wording is given.

Note that not all TR-220 announcements can be provided by customizing the standard announcement.

#	NAME	CUSTOMIZED ANNOUNCEMENT	SUGGESTED DISPLAY
1	ADDLATER	We're sorry, please try adding the number again in a few minutes.	Sorry, try adding number again later.
2	ADDNUM	Dial the number to be added, then press the number sign key again. (1/4 second pause) To add the last calling party, dial zero one, then press the number sign key again. (1/4 second pause) Please dial now.	Please dial a number, then #.
3	ADDNUMTO	(Prompt tone) Dial the number to be added, then press the number sign key again. (1/4 second pause) To add the last calling party, dial zero one, then press the number sign key again.	Please dial a number, then #.

		(1/4 second pause)	
		Please dial now.	
7	BAD_CAR	(Prompt tone) The number you have dialed, [DN], is not permitted.	Sorry, invalid number dialed.
8	BAD_CMD	(1/4 second pause) We're sorry, the digits dialed are not a valid command.	Sorry, invalid command dialed.
9	BAD_SCA	The number you have dialed, [DN], is not permitted.	Sorry, invalid number dialed.
10	BAD_SCF	(1/4 second pause) The number you have dialed, [DN], is not permitted.	Sorry, invalid number dialed.
17	CONTINUE	(1/4 second pause) (1 second pause) (1 second pause) Please continue, dial zero for instructions, or hang up.	Please continue, or dial
18	DELETED	(Prompt tone) There are no more entries on your list.	No entries on your list.
19	DIALAFT	We're sorry, you must dial a telephone number after dialing the number sign key or the star key. Please start again.	Please start again.
29	FRWD_SCF	(Prompt tone) Your calls will be forwarded to [RTN]. If this number is correct, dial one. IF this number is not correct, dial zero. Please dial now.	Calls forwarded to: [RTN]
40	NON_ENTR	(Prompt tone) There are no entries on your list. You may dial during the announcements for faster service. When you have finished, hang up. (1 second pause) (1 second pause)	No entries on your list.
41	NON_HIST	(1second pause) We're sorry, the number of the last calling party is not available.	Sorry, number is not available.
48	PRV_ENT1	There is one private entry on your list. You may dial during the announcements for faster service. When you have finished, hang up. (1 second pause)	One entry on your list.

49	PRV_ENT2	(1 second pause) (1 second pause) There are [Y] private entries on your list. You may dial during the announcements for faster service. When you have finished, hang up.	[Y] entries on your list.
54	PUB_ENT1	(1 second pause) (1 second pause) (1 second pause) There is one entry on your list. You may dial during the announcements for faster service. When you have finished, hang up. (1 second pause) (1 second pause) (1 second pause)	One entry on your list.
55	PUB_ENT2	There are [X] entries on your list. You may dial during the announcements for faster service. When you have finished, hang up.	[X] entries on your list.
56	PUB_LST1	(1 second pause) (1 second pause) (1 second pause) There is one entry on your list. To delete an entry, dial zero seven as soon as you hear it.	One entry on your list.
57	PUB_LST2	(1/4 second pause) There are [X] entries on your list. To delete an entry, dial zero seven as soon as you hear it.	[X] entries on your list.
65	REJECT	(1/4 second pause) To reject the last calling party, press the number sign key, dial zero one, and then press the number sign key again.	To reject last caller, dial #0,1#.
66	RMV_NUM	(1 second pause) Dial the number to be removed, then press the star key again. Please dial now.	Please dial a number, then *.
67	RMV_INUM	(Prompt tone) Dial the number to be removed, then press the star key again. Please dial now.	Please dial a number, then *.
82	TOT_ENT1	(Prompt tone) There are [X] entries on your list, including one private entry. You may dial during the announcements for faster service. When you have finished, hang up.	[X] entries on your list.
84	TOT_ENTY	(1 second pause) (1 second pause) (1 second pause) including [Y] private entries. You may dial	

		during the announcements for faster service. When you have finished, hang up.	
		(1 second pause)	
		(1 second pause)	
85	TOT_LST1	(1 second pause) There are [X] entries on your list, including one private entry. To delete an entry, dial zero seven as soon as you hear it.	[X] entries on your list.
87	TOT_LSTY	(1/4 second pause) including [Y] private entries. To delete an entry, dial zero seven as soon as you hear it.	
91	WLCM_CAR	(1/4 second pause) Your Computer Access Restriction service is now on.	Computer Access Restriction
92	WLCM_SCA	Your Selective Call Acceptance service is now on.	Selective Call Acceptance
93	WLCM_SCF	Your Selective Call Forwarding service is now on.	Selective Call Forwarding
94	ADDNUMP	Dial the number to be added. (1/4 second pause)	Please dial a number.
		To add the last calling party, dial zero one.	
		(1/4 second pause)	
		Please dial now.	
95	ADDNUMPO	(Prompt tone) Dial the number to be added. (1/4 second pause)	Please dial a number.
		To add the last calling party, dial zero one.	
		(1/4 second pause)	
		Please dial now.	
96	DIALAFTP	(Prompt tone) We're sorry, you must dial a telephone number after dialing one two or one one. Please start again.	Please start again.
98	MUSTADDP	(Prompt tone) To turn on this service, you must add an entry to your list.	Add an entry to your list.
		(1 second pause)	
		To add an entry, dial one two.	

100	REJECTP	(Prompt tone) To reject the last calling party, dial one two and then dial zero one. (1 second pause)	To reject last caller, dial 1,2 0,1.
101	RMV_NUMP	(1 second pause) (Confirmation tone, 3 second pause) "Please dial the number to be removed."	Remove:
102	RMVINUMP	(Confirmation tone) "Please dial the number to be removed." (Confirmation tone)	Remove:

7.7 ADMINISTRATION

7.7.1 Measurements

Counts similar to those currently generated for the DSU2-RAF in other capabilities are also generated by SLE. The counts consist of the following:

- Attempts by LASS to use (access) a DSU2-RAF circuit [BRCS ACCESS (46) and OUTHC(13).
- Attempts by LASS to use (access) a DSU2-RAF circuit that failed due to all units in use (occupied) [BRCS OVFL (46)].
- LASS usage of DSU2-RAF circuits — determined by 100-second scanning [BRCS TOTUSG(46)].
- LASS maintenance usage (out of service) of DSU2-RAF circuits — determined by 100-second scanning [BRCS MTUSG (46)].

These counts are generated for existing sections (46 and 13) of the 30-Minute Traffic Report. These counts will not be separated from existing counts for other BRCS features. For details regarding other traffic counts, which are kept by the LASS Selective features, see "Measurements", for the following:

- SCA — "Measurements", Section 8.8.1
- CAR — "Measurements", Section 9.8.1
- SCR — "Measurements", Section 10.8.1
- SCF — "Measurements", Section 11.8.1
- SDA — "Measurements", Section 12.8.1 .

7.7.2 Billing

Event and continuation AMA records are created for the LASS features. LSF features use a structure code, 1360, and enhancements to formatting the existing structure code, 1030. Each AMA record will use either structure code 1030 or structure code 1360. Structure code 1030 will record billing information for SCF, SCR, and SDA. Structure code 1360 will record billing information for SCA and CAR. Formats of both structure codes can be found in "LASS Billing", Section 2.9 .

An event record is created for usage-sensitive billing purposes. The event record is created when an SLE session

occurs. The activation/deactivation of a feature using feature buttons also results in an AMA event record. Only one AMA record is made per editing session, regardless of how many LSF features are assigned. The AMA tracer counts are pegged when AMA records are made.

In addition to event AMA recording, continuation records are required for each user with a screening list and usage-sensitive billing. Once per day, at 3:07 a.m., the AMA record is made for each subscriber with a screening list.

8. LASS SELECTIVE CALL ACCEPTANCE

8.1 GENERAL

8.1.1 Definition

The Local Area Signaling Services (LASS) Selective Call Acceptance (SCA) feature further expands the LATA-wide LASS capabilities. It allows customers to accept incoming voice calls only from certain calling parties. Calling party telephone numbers (*identity attributes*) may be 7- or 10-digit directory numbers or 1- to 7-digit extension numbers for users with extension dialing. Figure 8-1 is a pictorial representation of how the SCA feature works.

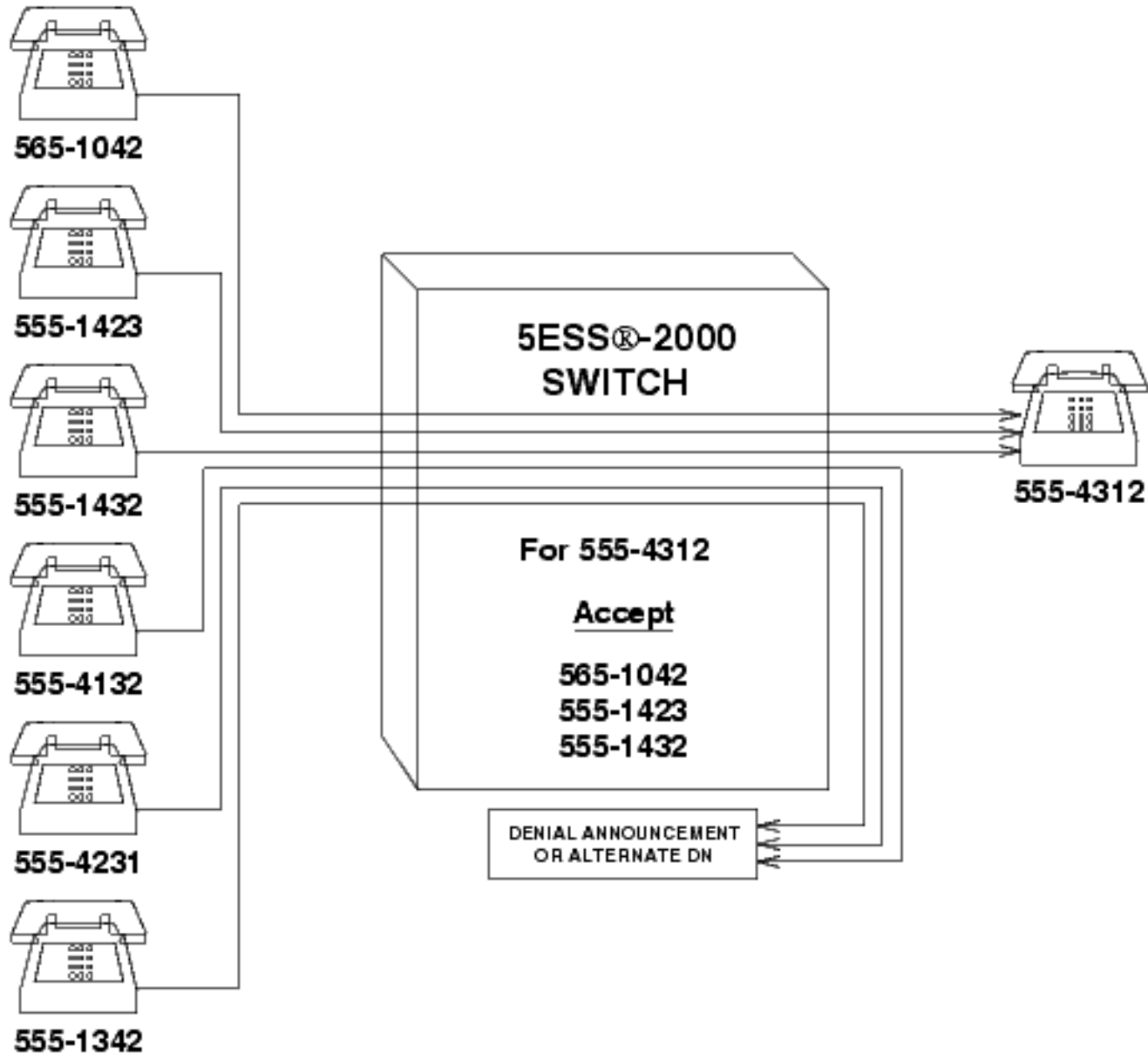


Figure 8-1 Selective Call Acceptance

Users create an SCA screening list of telephone numbers from which calls may be accepted making use of the screen list editing (SLE) capability. The SLE capability is used to add and delete telephone numbers from the

acceptance list and to specify the non-accepted call treatment. For all terminating calls, the telephone number of the calling party is compared to entries on the screening list. Only calls from parties *identified* on the screening list are allowed to terminate.

Calls from parties not on the SCA screening list are routed to an appropriate announcement or alternate directory number, depending on the customer's selection at activation time. In this case, the SCA customer does not receive any alerting.

The SCA feature is available for analog and integrated services digital network (ISDN) stations and works intra-office or interoffice using common channel signaling 7 (SS7) links.

8.1.2 Economic Worth

The economic worth to the service provider is expected to be quite good in terms of revenue generation and ease of implementation. Business and residential customers want to control access to their telephones. If affordably priced, many telephone customers will utilize the SCA feature based on this personal control. Some examples of this personal control using the SCA feature are as follows:

- The SCA feature can be used in place of an answering machine to screen calls.
- Customers can create a "Do Not Disturb" condition by creating an SCA screening list consisting of only the customer's directory number (DN). Calls from all other parties will not be accepted.

8.1.3 Availability

The SCA feature is available in 5E6 and later software releases.

8.1.4 Feature Application

The SCA feature is provided on a per-DN basis.

8.2 USER PERSPECTIVE

8.2.1 User Profile

Business and residential customers having a need or desire to accept calls only from specific telephone numbers are the most likely candidates for this service. A residential user may wish to receive calls only from certain relatives, friends, and/or business associates. Business users may wish to have a special SCA line for special callers. The advantage of this approach over an unlisted number is that the user controls access. Even if the number is given to unauthorized callers, such callers will be rejected until their numbers are added to the SCA list. The user can change the list at will according to the user's needs.

8.2.2 Customer Premises Equipment

The SCA feature works with both analog and ISDN customer premises equipment.

The type of customer premises equipment (CPE) expected to be the most widely used with SCA is an analog station set. Both dual tone multifrequency (DTMF) and dial pulse (DP) sets are supported.

Other CPE supporting SCA are ISDN types A, B, C, and D terminals with and without display capability, and ISDN types A, B, C, and D terminals with and without an SCA feature button. Part IV (Basic Call) ISDN terminals are not supported.

8.2.3 User Operation

8.2.3.1 General

To access the SCA feature, a user simply picks up the phone and dials the SCA access code. If the user is not assigned the feature or cannot access the feature, the user receives reorder or a service provider standard announcement indicating that the feature cannot be accessed. If the user has access to the feature, an announcement (and display for Custom ISDN users) indicates this. If the feature is turned off, an announcement (and display for Custom ISDN users) indicates the status of the feature. If the feature is on, the user is informed of the number of entries on the list and their type after the initial announcement.

If the SCA feature is off, an announcement informs the user to dial [3] to turn the feature on. If a user chooses to edit the screening list, the user can add, remove, or review the entries currently on the list through interactive announcements.

Refer to "LASS Screen List Editing", Section 7, for detailed SLE operation and information.

8.2.3.2 Activation

User activation sequences for the SCA feature are given in Table 8-1 and Figure 8-2. Users having ISDN terminals with feature buttons can activate SCA by using a specified activate/deactivate feature button. A screening list must exist and a non-accepted treatment (NAT) must be chosen before SCA can be activated by feature button.

The following is a descriptive example taken from Table 8-1, *Initial Activation Choosing Forwarding as NAT*. For explanations of items enclosed in brackets [], refer to the notes at the end of Table 8-1.

- Initially, the SCA user goes off-hook and dials the SCA [access code] provided by the service provider.
- At this point, the customer listens to announcements [+] outlining the available options.
- After listening to the announcements, the customer dials [3] to activate the SCA feature.
- Further announcements [+] allow the user to choose the type of non-accepted treatment (NAT) callers not on the SCA list will receive.
- The customer can choose to have callers hear an announcement (provided by the service provider) or forward calls to another telephone number. The customer selects the forwarding option by dialing [0].
- This announcement [+] tells the customer to enter the forwarding number that will receive non-accepted calls.
- 555-1234 is an example of a remote telephone number (RTN) a customer might enter at this point [RTN].
- Additional announcements [+] give the user the opportunity to confirm the RTN.
- The RTN is confirmed by entering [1].
- Currently, there are no telephone numbers on the acceptance list. The announcements [+] give the customer the option of adding numbers to the acceptance list. The SCA feature will not activate without at least one list entry.
- Pressing the [#] symbol allows an entry to be added to the SCA screening list.
- Announcements [+] instruct the user to enter the telephone number on the list.
- The customer dials a valid telephone number or extension [Valid DN/extension].
- At this point, SCA is active, the RTN has been entered, forwarding as NAT is active, and at least one telephone number is on the acceptance list. Although the customer can listen to additional announcements and make

other choices, this session is complete and the customer can go on-hook at any time to terminate the session.

The flowchart in Figure 8-2 shows some of the choices the SCA customer can make during the SCA activation/deactivation process.

Table 8-1 Analog and ISDN SCA End-User Normal Activation Dialing Sequence

ACTIVATION	GOALS	OPERATIONS a b c d e f
Initial Activation: SCA previously inactive and no stored NAT exists	User initially activates SCA and chooses recording as NAT User initially activates SCA and chooses forwarding as NAT	[access code] + [3] + [1] + [#] + [valid DN/extension] [access code] + [3] + [0] + [RTN] + [1] + [#] + [valid DN/extension]
Regular Activation: SCA previously inactive and stored Recording NAT exists	User keeps recording as NAT and activates SCA User changes NAT from recording to forwarding and activates SCA	[access code] + [3] + [1] [access code] + [3] + [0] + [RTN] + [1]
Regular Activation: SCA previously inactive and stored Forwarding NAT exists	User keeps forwarding as NAT and activates SCA User changes NAT from forwarding to recording and activates SCA User keeps forwarding as NAT, but changes to new RTN	[access code] + [3] + [1] [access code] + [3] + [0] + [1] [access code] + [3] + [0] + [0] + [RTN] + [1]
Regular Activation: SCA previously active and stored Recording NAT exists	User keeps recording as NAT and keeps SCA active User changes NAT from recording to forwarding and keeps SCA active	[access code] + [1] [access code] + [0] + [RTN] + [1]
Regular Activation: SCA previously active and stored Forwarding NAT exists	User keeps forwarding as NAT and keeps SCA active User changes NAT from forwarding to recording and keeps SCA active User keeps forwarding as NAT, but changes to new RTN and keeps SCA active	[access code] + [1] [access code] + [0] + [1] [access code] + [0] + [0] + [RTN] + [1]
Notes: a. If an attempt is made to activate an empty list, the user is prompted to add a list entry. b. Users can perform any editing in place of dialing [3]. c. NAT refers to Nonaccepted Treatment. d. [] refers to a specific code dialed in the session. e. RTN refers to a remote telephone number (forward-to DN). f. "+" indicates announcements between the dialing code.		

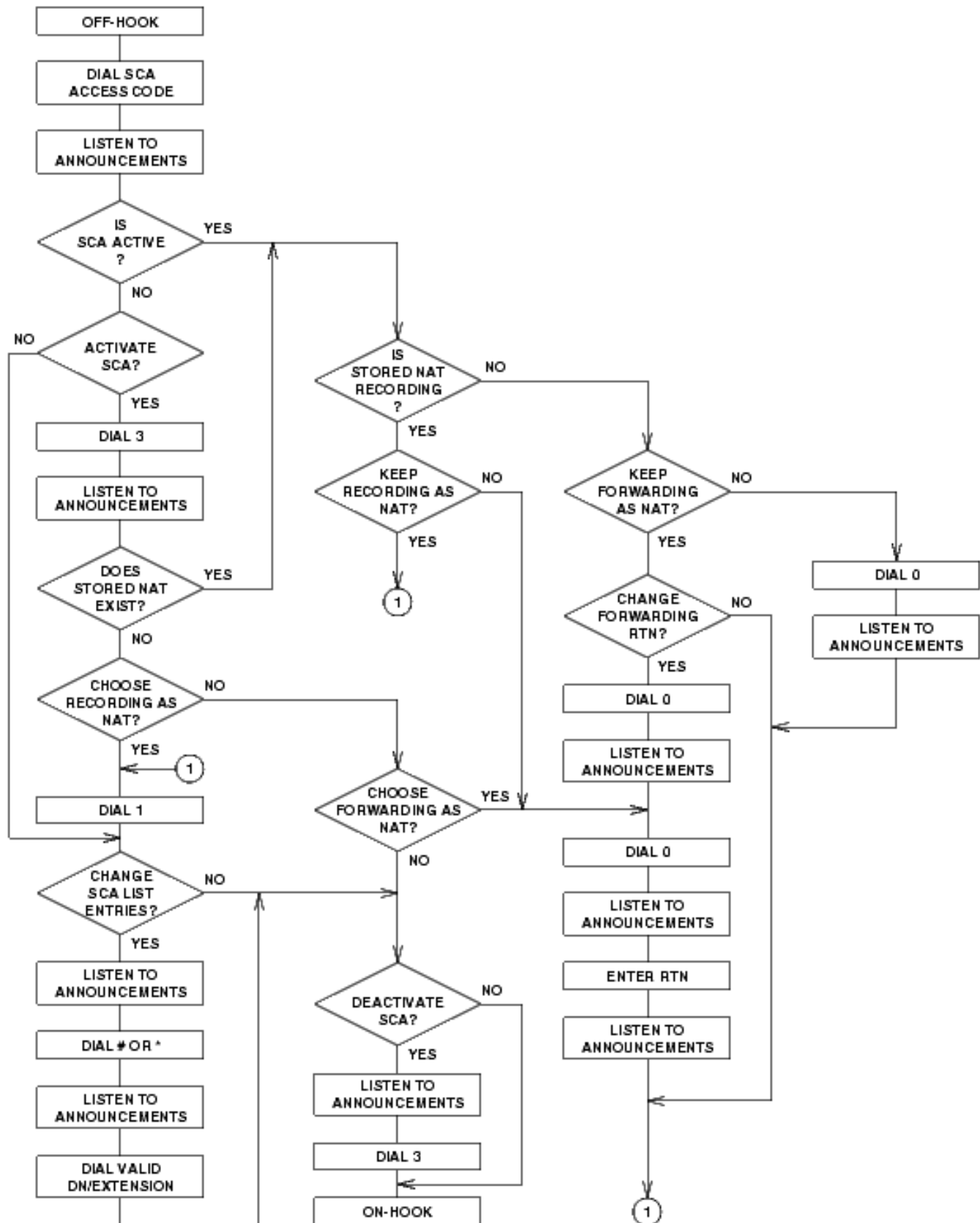


Figure 8-2 SCA End-User Dialing Sequence Flow Diagram**8.2.3.3 Deactivation**

User deactivation sequences for the SCA feature are given in Table 8-2 and Figure 8-2. Users having ISDN terminals with feature buttons can deactivate SCA by using a specified activate/deactivate feature button.

Table 8-2 Analog and ISDN SCA End-User Normal Deactivation Dialing Sequence

DEACTIVATION	GOALS	OPERATIONS a b c d e
Regular Deactivation: SCA previously active and stored Recording NAT exists	User keeps recording as NAT and deactivates SCA User changes NAT from recording to forwarding and deactivates SCA	[access code] + [1] + [3] or [access code] + [3] [access code] + [0] + [RTN] + [1] + [3]
Regular Deactivation: SCA previously active and stored Forwarding NAT exists	User keeps forwarding as NAT and deactivates SCA User changes NAT from forwarding to recording and deactivates SCA User keeps forwarding as NAT, but changes to new RTN and deactivates SCA	[access code] + [1] + [3] or [access code] + [3] [access code] + [0] + [1] + [3] [access code] + [0] + [0] + [RTN] + [1] + [3]
Notes: a. Users can perform any editing in place of dialing [3]. b. NAT refers to Nonaccepted Treatment. c. [] refers to a specific code dialed in the session. d. RTN refers to a remote telephone number (forward-to DN). e. "+" indicates announcements between the dialing code.		

8.2.4 Operational Limitations

The SCA feature requires that interswitch calls use SS7 or peer-to-peer primary rate interface (PRI) connectivity in order to provide interswitch calling line information. Inter-LATA LASS is dependent on the network interconnect capability between LATAs.

For SCA forwarding NAT, SCA has a default value of 99 for the simultaneous intra-office forwarding limit and a default value of 1 for the simultaneous interoffice forwarding limit. The service provider can change both limits on a per-office basis with values between 1 and 99. The consecutive forwarding limit default is 5 for SCA and can be changed to a maximum of 32.

Ping ring is not provided at the forwarding station when an active SCA user forwards non-accepted calls.

Telephone numbers (DNs or extensions) that are not assigned at the user's switch, which are to be added to the SCA list, need to be validated if validation is to be performed.

A caller can call an SCA customer and be rejected because of routing even if the caller's DN is on the SCA customer's acceptance list. As an example, a caller making a call routed over a SS7 trunk to an SCA customer will be accepted if the caller's DN is on the SCA screening list. However, the same caller's DN routed over a non-SS7 trunk will be rejected because the caller's DN does not route with the call and SCA only accepts calls from received DNs on the list.

8.3 INTERACTIONS**8.3.1 General Rules**

Unless otherwise noted, feature interactions apply to SCA. The interactions between SCA and other features are described in terms of originating feature interactions and terminating feature interactions. An originating interaction is when the SCA station user is the originating party, while a terminating interaction is when the SCA station user is the terminating party on a call.

For Screen List Editing interactions, as well as interactions related to RTN assignment, refer to "Screen List Editing", Section 7 .

General rules that apply to SCA feature interaction are as follows:

- Incoming calls arriving from common channel signaling 7 (SS7) trunks or peer-to-peer PRI are screened against the active SCA screening list. If a calling party DN is not received for an incoming call (for example, calls from a private facility), the call is not screened and is denied or forwarded.
- Unaccepted calls do not forward to a remote station over private facility trunks if the SCA user has forwarding as non-accepted treatment (NAT).
- All Terminal Group and Station Restriction (TGSR) features have precedence over SCA.
- The SCA screening is done after the switch checks the busy/idle status and is also done before queuing is allowed.
- The SCA feature takes precedence over the Call Forwarding and Call Waiting features.
- If an SCA user initiates a call and encounters a busy line or trunk, and if the user is rung back when the line or trunk becomes idle, ringback is allowed regardless of the SCA status.
- An attendant is not allowed to bypass the SCA station user unless the attendant's DN is on the active SCA screening list or the attendant has the Attendant Emergency Override feature.
- Display interactions apply only to Custom ISDN users since National ISDN SCA does not provide displays.

8.3.2 800 Service [Also Known as Inward Wide Area Telecommunications Service (INWATS)]

The 800 Service feature provides inward service from one or more predetermined areas at a rate based on expected usage.

NOTE: The 800 Service feature is not limited to the 800 NPA if the switch has implemented a toll-free treatment feature that allows additional toll-free Service Access Codes (SAC) such as 888 or 877.

Originating: The SCA feature is allowed on an 800 service line.

Terminating: No interaction.

8.3.3 800 Service Simulated Facilities Group

The 800 Service Simulated Facilities Group feature can restrict the number of simultaneous INWATS calls through software rather than by the physical size of a dedicated trunk group.

Originating: See "800 Service", Section 8.3.2 .

Terminating: No interaction.

8.3.4 900 Services

The 900 Service provides inward service from one or more predetermined areas at a rate based on expected usage.

Originating: The SCA feature is allowed on a 900 service line.

Terminating: No interaction.

8.3.5 Account Codes [Electronic Tandem Switching (ETS) Optional Account Codes]

The Account Codes (ACCT) feature allows the customer to add an account code to an automatic message accounting (AMA) or message detail recording (MDR) record for customer allocation of telecommunication charges.

Originating: The account code, as well as the account use code (access code), can be entered before the SCA access code as is done for the Business and Residence Custom Services (BRCS) features, so that billing can be charged to a different account. In addition, the account code use button is recognized as described above for the account use code. In this case, the account code must still be entered by the SCA user.

If the SCA user is off-hook and not involved in a call, the use of a dialed account use code and a dialed account code are allowed before the use of the SCA access code, but not afterwards. If the SCA user is involved in off-hook activation or deactivation via the SCA feature button (and is not involved in a call), dialed account codes/buttons are allowed before the use of the SCA access code, but not afterwards. If the SCA user is on-hook, the use of a feature button for an account use code is not allowed, either before or after the use of an SCA feature button.

Terminating: No interaction.

8.3.6 Add-On/Consultation Hold Incoming Only

Add-on/Consultation Hold Incoming Only is a terminal group variation of the Three-Way Calling feature. It provides three-way calling restricted to incoming direct inward dialed (DID) calls.

Originating/Terminating: See "Three-Way Calling", Section 8.3.215 .

8.3.7 Advanced Services Platform

Advanced Services Platform (ASP) provides a platform of service-independent capabilities on a 5ESS[®]-2000 switch allowing the switch to interact with external network elements. For further information and for the latest details on LASS features and ASP interactions, Please see the following documents:

235-190-125 *Advanced Services Platform Release 0 and 0.1A*

235-190-126 *Advanced Services Platform Release 0.1B*

Originating: No interaction.

Terminating: If available at the terminating switch, ASP calls are identified by the public DN of the originator and are subject to SCA screening and termination treatment.

A DN trigger is not accepted as the forward-to number for SCA if the trigger is provided at the user's switch. SCA cannot query the SCP to determine the associated routing number. The user receives error treatment for an invalid forward-to-number. DN triggers provided at other switches are validated as normal by the user's switch. However, the user's switch will not query the other switch to validate the forward-to number, and the other switch will not query the service control point.

ASP access codes cannot be entered as part of the screening list entry, or forwarding to number. Attempts to do so result in long term denial. However, access codes that are part of a speed calling entry (for a forward-to-number only) or are provided on translation by an IDP are accepted.

When a user enters a forward-to number for SCA, the line is not checked to determine if it is semirestricted or fully restricted with ASP. Calls forwarded to an ASP line which is fully restricted plus ASP, receive reorder if the calling party is outside the line's terminal group and the call is not an ASP call. Calls forwarded by SCA to lines that are semirestricted plus ASP are given reorder tone if the calling party is outside the line's terminal group, and the call is not an ASP call and the call was redirected via a Call Transfer or Call Pickup feature.

The SCP is queried before the call is screened by any of the LASS Selective features for incoming calls to a DN trigger. The instructions returned from the SCP determine if the call is offered to a LASS Selective feature user. Additionally, the SCP is not queried if a user adds a number to the screening list that is a subscribed trigger.

List entries that are DN triggers at the user's switch cannot be added to a screening list because DN triggers are not associated with a physical port. The user's switch does not query the SCP. Attempts to add these entries to a screening list result in long-term denial. This also applies to list entries which are DN triggers at a remote switch. Normal validation procedures apply because the query for the DN characteristics is still made by the originating switch.

8.3.8 Attendant Call Transfer (Also Known as Call Splitting)

Attendant Call Transfer allows the attendant to flash and dial a code before dialing the third leg of a three-way call.

Originating: No interaction.

Terminating: The attendant's DN must be on the SCA station user's screening list before the attendant can initiate a call transfer to the SCA station. The DNs of parties whose calls are transferred by the attendant are not screened. This allows calling parties to bypass SCA screening when attempting to reach an SCA customer by using an attendant as an intermediary.

If the SCA user has *forwarding* as NAT and the attendant's DN is not on the SCA user's screening list, the attendant will connect to the user's RTN during an attempt to transfer a call to the SCA user. The call can be transferred to a party answering at the RTN. If the SCA user has *recording* as NAT, the attendant will receive a denial announcement.

8.3.9 Attendant Camp-On

Attendant Camp-On allows calls the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: No interaction.

Terminating:

- Manual Camp-On

See "Dial Call Waiting", Section 8.3.71 .

- Automatic Camp-On

See "Call Waiting Originating", Section 8.3.48 .

8.3.10 Attendant Conference Six-Way

Attendant Conference Six-Way allows an attendant to initiate a conference call involving up to six parties (including the attendant).

Originating: No interaction.

Terminating: The SCA feature takes precedence over the Attendant Conference feature. The attendant's DN must be on the active SCA screening list before a six-way conference call, including the SCA user, can be established.

If the SCA user has *forwarding* as NAT and the attendant's DN is not on the SCA user's screening list, the attendant will connect to the user's RTN during an attempt to add the SCA user to a conference call. The party answering at the RTN can be added to the conference call. If the SCA user has *recording* as NAT, the attendant will receive a denial announcement.

8.3.11 Attendant Control of Facilities

NOTE: Attendant Control of Facilities (ACOF) is not supported on standard BRI (National ISDN).

Attendant Control of Facilities (ACOF) permits an attendant to restrict dial access from a station to tie trunks, foreign exchange trunks, and wide area telecommunications service (WATS) by operating a key or dialing a code. When control is activated, calls to these facilities are routed to an attendant for appropriate action.

Originating: The ACOF feature can be used to restrict access to SCA by individualized dialing plan (IDP) defined dialed codes. It cannot be used to restrict access to SCA by office dialing plan (ODP) defined dialed codes.

Terminating: No interaction.

8.3.12 Attendant Direct Station Selection

NOTE: Attendant Direct Station Selection (ADSS) is not supported on standard BRI (National ISDN).

Attendant Direct Station Selection (ADSS) allows an attendant with a console to place calls to stations in the business group by simply pressing a nonlocking pushbutton key associated with the desired station line.

Originating: No interaction.

Terminating: An incoming call arriving from an attendant is screened by the active screening list.

8.3.13 Attendant Identification of Incoming Calls

NOTE: Attendant Identification of Incoming Calls is not supported on standard BRI (National ISDN).

Attendant Identification of Incoming Calls provides identification, via incoming call indicator lamps on the attendant console, of listed directory number (LDN) calls directed toward different LDNs but served by the same attendant.

Originating/Terminating: No interaction.

8.3.14 Attendant Position

NOTE: Attendant Position is not supported on standard BRI (National ISDN).

Attendant Position allows a customer to designate a particular station within a business customer group as an attendant position.

Originating: The SCA feature cannot be assigned to an attendant position.

Terminating: No interaction.

8.3.15 Attendant Recall from Satellite

Attendant Recall from Satellite gives stations located at remote locations without an attendant, but with the Satellite

Attendant Transfer feature, the ability to transfer an incoming call by flashing the switchhook to generate a recall to the main location attendant, who performs the transfer for the remote station.

Originating: No interaction.

Terminating: See "Attendant Call Transfer", Section 8.3.8 .

8.3.16 Authorization Codes (ETS Authorization Codes)

The Authorization Codes (ATH) feature allows the station user to input an assigned code to change the restrictions associated with the originating station to those associated with the assigned authorization code.

Originating: An authorization code sequence can be dialed before the SCA access code is dialed as is done for ACCT. In addition, the ATH code is permitted after the dialed SCA code. The switch prompts the SCA user for the authorization code. Thus, unauthorized use of SCA can be avoided. Authorization code use buttons are also recognized as described for the authorization use codes.

If the SCA user is off-hook and not involved in a call, the use of a dialed authorization use code and a dialed authorization code are allowed either before or after the use of the SCA access code. If the SCA user is involved in off-hook activation or deactivation via the SCA feature button (and is not involved in a call), dialed authorization codes/buttons are allowed either before or after the use of the SCA access code. If the SCA user is on-hook, the use of a feature button for an authorization use code is not allowed, either before or after the use of an SCA feature button.

Terminating: No interaction.

8.3.17 Automatic Alternate Routing

Automatic Alternate Routing (AAR) provides alternate routing capability similar to ARS-Deluxe. The difference being that AAR is used to route calls to stations on the customer's private network.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 8.3.22 .

8.3.18 Automatic Callback

The LASS Automatic Callback (AC) feature enables users to easily return the most recently received call.

Originating: If the SCA user activates SCA before AC delayed processing ringback is given, the SCA user receives ringback, even though the DN is not on the list (since the SCA user initiates this AC call).

Automatic Callback activations toward a line with SCA active receive a CFV/SCF short term denial announcement (instead of the usual reorder tone) if they are not on the acceptance list. The terminating switch returns an indication that SCF is active.

Terminating: Automatic Callback camp-on to a line with SCA active is not affected by SCA if the DN of the AC caller is on the SCA screening list.

If the DN of the AC caller is not on the SCA customer's SCA screening list, AC camp-on to a line with SCA active will not occur. If the DN of the AC caller is not on the SCA screening list and SCA is active with *recording* as NAT, the AC caller is connected to an SCA denial announcement. If the DN of the AC caller is not on the SCA screening list and SCA is active with *forwarding* as NAT, the AC caller receives short-term denial treatment and, if applicable, feature button rejection treatment.

A party answering AC ringback, as a result of AC camp-on to the line of an SCA customer, is connected to an SCA

denial announcement if SCA is active with *recording* as NAT on the SCA user's line and the DN of the party answering the AC ringback is not on the SCA screening list. This assumes that the DN of the party answering AC ringback is on the SCA screening list or that SCA is not active on the SCA user's line at the time of AC camp-on to that line. If the NAT is *forwarding* instead of *recording*, the call from the party answering ringback will forward to the RTN.

8.3.19 Automatic Callback-Calling

Automatic Callback-Calling (ACBC) allows the user, after reaching a busy station, to hang up and dial an activation code to activate ACBC. This feature only applies to two stations in the same Business and Residence Custom Services (BRCS)/Centrex group.

Originating: By dialing the ACBC activation code, an SCA user encountering a busy station automatically receives ringback when the station becomes idle. Active ACBC calls (originated by an active SCA line) bypass the SCA feature and ring back the active SCA line when the called station is idle.

Terminating: Automatic Callback-Calling camp-on to a line with SCA active is not affected by SCA if the DN of the ACBC caller is on the SCA screening list.

If the DN of the ACBC caller is not on the SCA customer's SCA screening list, ACBC camp-on to a line with SCA active will not occur. If the DN of the ACBC caller is not on the SCA screening list and SCA is active with *recording* as NAT, the ACBC caller is connected to an SCA denial announcement. If the DN of the ACBC caller is not on the SCA screening list, SCA is active with *forwarding* as NAT, and the RTN is in the same switch, the ACBC request is directed to the RTN. Assuming normal termination, the RTN is alerted as a result of the ACBC request if idle, or camp-on to the line of the RTN occurs if the RTN is busy. If the DN of the ACBC caller is not on the SCA screening list, SCA is active with *forwarding* as NAT, and the RTN is in another switch, the ACBC caller receives short-term denial treatment and, if applicable, feature button rejection treatment.

A party answering ACBC ringback, as a result of ACBC camp-on to the line of an SCA customer, is connected to an SCA denial announcement if SCA is active with *recording* as NAT on the SCA user's line and the DN of the party answering the ACBC ringback is not on the SCA screening list. This assumes that the DN of the party answering ACBC ringback is on the SCA screening list or that SCA is not active on the SCA user's line at the time of ACBC camp-on to that line. If the NAT is *forwarding* instead of *recording*, the call from the party answering ringback will forward to the RTN.

8.3.20 Automatic Intercept System (Also Known as Remote Intercept System)

Automatic Intercept System (AIS) allows Class 5 offices to route calls to nonworking telephone numbers or to telephone numbers placed on trouble intercept to an AIS where they are connected to announcements and/or operators.

Originating: No interaction.

Terminating: Regardless of SCA, AIS rerouting will occur.

8.3.21 Automatic Recall

The LASS Automatic Recall (AR) feature allows users to redial the most recent called party.

Originating: If the SCA user activates the SCA feature before the AR delayed processing ringback is given, the SCA user will receive ringback even though the DN is not on the list (since the SCA user initiates this AR call).

Terminating: Automatic Recall camp-on to a line with SCA active is not affected by SCA if the DN of the AR caller is on the SCA screening list.

If the DN of the AR caller is not on the SCA customer's SCA screening list, AR camp-on to a line with SCA active will not occur. If the DN of the AR caller is not on the SCA screening list and SCA is active with *recording* as NAT, the AR caller is connected to an SCA denial announcement. If the DN of the AR caller is not on the SCA screening list and SCA is active with *forwarding* as NAT, the AR caller receives call forwarding denial treatment and, if applicable, feature button rejection treatment.

A party answering AR ringback, as a result of AR camp-on to the line of an SCA customer, is connected to an SCA denial announcement if SCA is active with *recording* as NAT on the SCA user's line and the DN of the party answering the AR ringback is not on the SCA screening list. This assumes that the DN of the party answering AR ringback is on the SCA screening list or that SCA is not active on the SCA user's line at the time of AR camp-on to that line. If the NAT is *forwarding* instead of *recording*, the call from the party answering ringback will forward to the RTN.

8.3.22 Automatic Route Selection (Also Known as Flexible Route Selection)

Automatic Route Selection (ARS) directs outgoing, business group line calls to the customer's most preferred available route.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, calls routed by ARS are subject to SCA screening and terminating treatment. The calling party number is not available for calls routed over non-SS7 private facilities. Such calls will receive SCA non-accepted treatment.

8.3.23 Automatic Voice Network Interface

NOTE: Automatic Voice Network (AUTOVON) Interface is not supported on standard BRI (National ISDN).

Automatic Voice Network (AUTOVON) Interface provides an interface with the AUTOVON network, including provisions for prioritizing call handling.

Originating: No interaction.

Terminating: Routine AUTOVON calls to an active SCA line are screened if the DN is delivered through the Defense System Network (DSN). Priority calls are not screened against the SCA screening list and will be accepted by the SCA user. See "Precedence and Preemption", Section 8.3.188, for details.

8.3.24 Basic Emergency Service (911)

NOTE: Basic Emergency Service is not supported on standard BRI (National ISDN).

Basic Emergency Service provides a 3-digit universal telephone number (911) for public use throughout the United States to report an emergency or request emergency assistance.

Originating: Because Public Service Answering Points (PSAPs) are connected to the serving tandem office via dedicated non-SS7 trunks, SCA is not compatible with these PSAPs. The PSAP does not have an SCA screening list associated with it. The SCA user can dial 911 for emergency assistance.

Terminating: Refer to "Emergency Ringback", Section 8.3.84, for ringback interactions.

8.3.25 Basic Queuing (Queuing for Lines)

Basic Queuing provides queuing for lines, call waiting lamps control, and delay announcements.

Originating: No interaction.

Terminating: An incoming caller's DN is screened on the active SCA list before it is put on the queue.

8.3.26 BRCS Compatibility with ISDN

The BRCS Compatibility features ensure that many of the existing BRCS features and services function with supported ISDN station sets so that users experience equivalent, similar, or expanded circuit-switched voice service by subscribing to these ISDN BRCS features and services.

Originating/Terminating: See the individual BRCS features.

8.3.27 BRCS Feature Grouping

The BRCS Feature Grouping provides a logical grouping of features and groups that are used by business customers receiving communications services from a central office switch. This feature works with both analog BRCS and ISDN BRCS features.

Originating: This feature allows the SCA feature to be offered on a business-wide basis as opposed to a per-DN basis. The SCA feature can be placed in a BRCS Feature Group (BFG).

Terminating: No interaction.

8.3.28 Business Group Line

Business Group Line provides capabilities similar to those for individual lines, but is classed as a member of a group of business lines belonging to a single customer.

Originating: The SCA feature can be assigned to business group lines.

Terminating: No interaction.

8.3.29 Busy Line Verification

Busy Line Verification (BLV) allows an operator to complete a connection to a busy line to determine the off-hook/on-hook status of the line or if a conversation exists on the line.

Originating: No interaction.

Terminating: Busy Line Verification to an SCA line is allowed. No screening will be performed regardless of the SCA feature status.

8.3.30 Call by Call Access from a 5ESS®-2000 Switch in a Private Network to Interexchange Carrier Services

This feature allows the private network customer to generate, on a per-call basis, a request for services from an interexchange carrier or local exchange carrier.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SCA screening and termination treatment.

8.3.31 Call Forwarding Busy Line

Call Forwarding Busy Line (CFBL) permits calls attempting to terminate to a busy line to be redirected to another customer-specified line.

Originating: No interaction.

Terminating: The SCA feature takes precedence over CFBL. A call to an idle or busy line of an SCA user with SCA and CFBL active will receive SCA NAT treatment if the DN of the caller is not on the SCA screening list. If the line is busy with SCA and CFBL active, and the calling DN is on the SCA list, the call will forward to the CFBL RTN.

8.3.32 Call Forwarding Busy Line Incoming Only

Call Forwarding Busy Line Incoming Only (CFBLIO) ensures that only incoming DID calls forward to the specified business group line.

Originating: No interaction.

Terminating: The CFBLIO feature is only operational for calls originating from outside the terminal group of the station with the CFBLIO feature. Otherwise, the interaction of CFBLIO with SCA is identical to that described in "Call Forwarding Busy Line", Section 8.3.31 .

8.3.33 Call Forwarding Do Not Answer

Call Forwarding Do Not Answer (CFDA) forwards incoming calls to a station to another preselected station within the same customer group, or to the attendant, when the called station is not answered after a customer-specified number of rings.

Originating: No interaction.

Terminating: Calls forwarding to a customer via CFDA *are screened* on the basis of the originating party's DN at the remote station for both intraswitch calls and interswitch calls. If the calling party's DN is on the remote station SCA screening list, and the SCA user is busy, only ringing is given (a multiple progression tone is not allowed for intraswitch CFDA calls). If the calling party's DN is on the SCA list and the called user is idle with SCA and CFDA active, the call will forward to the CFDA RTN after CFDA timing expires. A call to an idle or busy line with SCA and CFDA active from a DN that is not on the SCA screening list will receive SCA NAT.

8.3.34 Call Forwarding Do Not Answer Incoming Only

Call Forwarding Do Not Answer Incoming Only (CFDAIO) ensures that only incoming DID calls to the business group line forward, if not answered, after a customer-specified number of rings.

Originating: No interaction.

Terminating: The CFDAIO feature is only operational for interterminal-group (incoming) calls. Otherwise, the interaction of CFDAIO with SCA is identical to that described in "Call Forwarding Do Not Answer", Section 8.3.33 .

8.3.35 Call Forwarding Incoming Only

Call Forwarding Incoming Only (CFIO) forwards calls terminating from outside the group via DID.

Originating: No interaction.

Terminating: The CFIO feature is only operational for interterminal-group calls. Otherwise, the interaction of CFIO with SCA is identical to that described in "Call Forwarding Variable", Section 8.3.37 .

8.3.36 Call Forwarding Over Private Facilities

NOTE: The CFPF option is not supported on the standard BRI (National ISDN).

Call Forwarding over Private Facilities (CFPF) is a Call Forwarding Variable (CFV) option allowing business customers to automatically forward voice calls over the outgoing private facilities access (PFA) or automatic route selection (ARS) service selected by the customer.

Originating: No interaction.

Terminating: The SCA customer having the forwarding option is not allowed to route rejected calls to a remote station over the private facility. Incoming calls over private facilities do not have the calling party's DN's available and are not screened at the user's switch. Appropriate NAT will be provided.

8.3.37 Call Forwarding Variable

Call Forwarding Variable (CFV) allows a station user to redirect calls intended for that station to another telephone.

Originating: No interaction.

Terminating: Calls forwarded to a customer with a LASS screening list via CFV (or CFBL) are screened on the basis of the originating party's DN. The SCA feature takes precedence over CFV. It is possible for a customer to have SCA active and, at the same time, have one or more of the call forwarding features active. In this case, a terminating call will forward by a feature other than SCA only if the base station's SCA screening list contains the necessary entries to accept the call.

8.3.38 Call Forwarding In (Within) A Group

Call Forwarding In A Group (CFIAG) restricts DN's of forward-to numbers dialed during activation to intragroup extension numbers.

Originating: No interaction.

Terminating: See "Call Forwarding Variable", Section 8.3.37 .

8.3.39 Call Hold

Call Hold (CHD) allows a station user to *hold* a call in progress by flashing and then dialing the call hold code.

Originating: Calls can be placed on hold by the SCA user regardless of the SCA screen list entries. An ISDN user at the lead station of a primary DN can activate/deactivate SCA by feature button while a call is on hold on any other call appearance. A call forwarded via SCA can be placed on hold.

If an analog SCA user disconnects from a party on hold, the SCA user will receive ringback to restore the connection between the held party and the CHD line. Regardless of active SCA service on a CHD line, ringback will occur.

If a call is placed on hold prior to an analog user becoming active on another call, ringback to the analog user for the held call will occur after the new call has terminated (disconnected).

After placing a call on hold, an ISDN user must select an idle call appearance before dialing the SCA access code. If Manual Exclusion is not active for the call appearance of the ISDN held call, the held call can be picked up on any multibutton telephone key set (MTKS) of a key-system group sharing the call appearance regardless of the SCA assignment to the shared DN.

Terminating: No interaction.

8.3.40 Call Pickup (Also Known as Call Pickup Originating and Regular Call Pickup)

Call Pickup (CPU) allows a station user to answer any call within an associated preset pickup group.

Originating: The SCA user is able to answer a call directed (and alerted) to other stations in the same preset call pickup group, even if the calling party's DN is not on the SCA screening list of the party picking up the call. Calls forwarded via SCA can be picked up.

Terminating: No interaction.

8.3.41 Call Tracing

Call Tracing allows central office personnel to determine the source of annoying or threatening calls or identify lines in emergency or demand situations.

Originating: No interaction.

Terminating: The SCA feature takes precedence over Call Tracing features. If the calling party's DN is not on the active SCA list, the called party will not be alerted and no call tracing will be performed. Trace messages are not written for calls that are denied or forwarded via SCA. A trace message is only written for calls that terminate at the SCA user's station.

8.3.42 Call Transfer Attendant

Call Transfer Attendant (CTA) allows the called business group station user, while connected to a DID or private network incoming call, to transfer the call to the attendant.

Originating/Terminating: No interaction.

8.3.43 Call Transfer Individual All Calls

Call Transfer Individual All Calls (CTIAC) allows a station user to transfer any established call to another station within or outside the private branch exchange (PBX) or business group without the assistance of the attendant.

Originating: No interaction.

Terminating: The DN of the party performing the call transfer (third party) is screened against the SCA screening list and must be on the SCA user's list before the third party can initiate a call transfer to the SCA station. The DN of the party being transferred is not screened. This allows calling parties to bypass SCA screening when attempting to reach an SCA customer by using a third party as an intermediary.

If the SCA user has *forwarding* as NAT and the third party's DN is not on the SCA user's screening list, the third party will connect to the user's RTN during an attempt to transfer a call to the SCA user. The call can be transferred to a party answering at the RTN. If the SCA user has *recording* as NAT, the third party will receive a denial announcement.

8.3.44 Call Transfer Individual Incoming Only

Call Transfer Individual Incoming Only (CTIIO) allows a business group station user to transfer an incoming call to another station in the same business group without assistance of the attendant.

Originating: No interaction.

Terminating: The CTIIO feature is only operational for calls arriving from outside the user's terminal group. Otherwise, the interactions between CTIIO and SCA are identical to those described in "Call Transfer Individual All Calls", Section 8.3.43.

8.3.45 Call Transfer Internal Only

Call Transfer Internal Only (CTIO) allows a business group station user to transfer any established intragroup call to another station in the same customer group without the assistance of an attendant.

Originating: No interaction.

Terminating: See "Call Transfer Individual All Calls", Section 8.3.43 .

8.3.46 Call Transfer Outside

Call Transfer Outside (CTO) allows a station user to add on a dial "9" off-network, common control switching arrangement (CCSA), or WATS facility to an external call. A call using CTO can be transferred to a private facility.

Originating/Terminating: No interaction.

8.3.47 Call Waiting Incoming Only

NOTE: The Call Waiting Incoming Only (CWIO) feature is not supported on the standard BRI (National ISDN).

Call Waiting Incoming Only (CWIO) is a version of Call Waiting Terminating (CWT). It gives an analog station user, engaged in a telephone conversation, an audible alert indicating an incoming DID or private facility call is attempting to terminate. See "ISDN Priority Calling Incoming Only", Section 8.3.147 , for the ISDN version of CWIO.

Originating: No interaction.

Terminating: The SCA feature takes precedence over CWIO. The CWIO feature is operational only for calls arriving from outside the user's terminal group. Otherwise, the interactions between CWIO and SCA are identical to those described in "Call Waiting Terminating", Section 8.3.49 .

8.3.48 Call Waiting Originating

NOTE: The Call Waiting Originating (CWO) feature is not supported on standard BRI (National ISDN).

Call Waiting Originating (CWO) allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The CWO feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active. It is automatically invoked any time a busy intragroup station is encountered. The CWO feature is only operational for intraterminal group calls.

Originating: No interaction.

Terminating: The SCA feature takes precedence over CWO. When a business group station invokes a CWO service on a busy analog SCA user of the same intragroup as the calling station, call waiting tone will not be applied to the line of the SCA user (if analog) and priority termination treatment for the call will not be given at the line of the SCA user (if ISDN) unless the incoming caller's DN is on the SCA user's active SCA screening list. If the forward-to station is in the same terminal group, it will receive the same CWO treatment.

A CWO call to the line of an SCA user is connected to a denial announcement if the DN of the originator is not on the SCA screening list and the NAT is *recording*. A CWO call to the busy line of an SCA user will forward to the SCA user's SCA RTN if the DN of the originator is not on the SCA list and the NAT is *forwarding*. The CWO feature identification will forward if the RTN is located intraswitch. The RTN station, if analog and busy and located within the same terminal group as the base station, will receive CWO call waiting tone. If the RTN is the DN of an ISDN station with all unreserved call appearances active and at least one idle call appearance reserved for call waiting terminations, the forwarding call will terminate on the idle priority call appearance. Standard terminating treatment for CWO calls applies if the DN of the caller is on the SCA screening list.

8.3.49 Call Waiting Terminating

Call Waiting Terminating (CWT) uses a burst tone to inform a busy analog station user that another call is waiting.

Originating: No interaction.

Terminating: The SCA feature takes precedence over CWT. If the analog SCA customer has the Call Waiting feature active, and a call comes in that is not on the active SCA screening list, the call is refused and no call waiting (CW) tone results. If the caller's DN is on the active SCA list and the SCA user's analog line is busy, the SCA user will receive call waiting tone.

8.3.50 Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment

This feature allows the 5ESS®-2000 switch PBX to send the calling party number (CPN)/billing number (BN) of the originator to the public network or to another PBX on a per-trunk group basis for all calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch (whether or not originally obtained from CPN or BN data), a call to the SCA user is subject to SCA screening and termination treatment. The CPN/BN information will forward if the call forwards due to SCA NAT.

8.3.51 Cancel Call Waiting

Cancel Call Waiting (CCW) allows a customer with Call Waiting to inhibit the application of the call waiting tone for the duration of one call.

Originating/Terminating: No interaction.

8.3.52 Carrier Interconnection

Carrier Interconnection provides an interface between the local exchange, inter-LATA, and interexchange carriers.

Originating: No interaction.

Terminating: If a call forwards via SCA, the automatic number identification of the SCA user is provided to the carrier for billing purposes. Carrier Interconnection does not provide a means of delivering a calling party number for SCA screening.

8.3.53 Centrex Complex

Centrex Complex associates multiple business groups in a single switch with a single common *Complex*. All business groups in the complex share intercom calling privileges, yet may have separate private facility groups or separate dialing plans.

Originating: No interaction.

Terminating: The SCA feature takes precedence over Centrex Complex. A call arriving via the Centrex Complex dialing plan is screened at the active SCA station. A Centrex Complex can have SCA assigned to it.

8.3.54 Code Calling

Code Calling allows attendants and station users to dial an access code and a 2- or 3-digit called party code to activate signaling devices with a coded signal corresponding to the called code.

Originating/Terminating: See "Directed Call Pickup with Barge-In", Section 8.3.76 .

8.3.55 Code Restriction

Code Restriction blocks outgoing calls to customer-specified codes [numbering plan area (NPA), NXX].

Originating/Terminating: No interaction.

8.3.56 Signaling System 7 Network Interconnect

Signaling System 7 Network Interconnect (SS7 NI) provides an out-of-band signaling interface between local exchange carrier and interexchange carrier networks.

Originating: No interaction.

Terminating: Network Interconnect can also provide the calling party DN for calls incoming to the user from outside the LATA. The assigned DN's switch must support this capability. A call incoming via the SS7 network is subject to SCA screening.

8.3.57 Common Control Switching Arrangement Access

Common Control Switching Arrangement (CCSA) Access provides access to the customer's CCSA network.

Originating: No interaction.

Terminating: Calls arriving from CCSA trunks do not have the calling party DN available and cannot be screened at the active SCA station. Appropriate NAT will be applied.

8.3.58 Computer Access Restriction

Computer Access Restriction (CAR) allows the customer to restrict access to a computer connected through a modem to the telephone line. The CAR feature, operational only for voice calls, is not operational for ISDN packet-switched or circuit-switched data calls.

Originating: This feature also covers voice calls that originate from a modem. The SCA and CAR features are mutually exclusive and cannot be assigned to the same line. However, if SCA is generally available to a line, the CAR feature can be assigned and denied access to the SCA feature.

Terminating: No interaction.

8.3.59 Conference Calling Six-Way (Also Known as Station Dial Conference)

Conference Calling Six-Way allows a station user to establish a conference call involving up to five other parties without attendant assistance.

Originating: If the SCA customer has Conference Calling active, the SCA access code will be accepted after all called parties have been placed on hold.

Terminating: An SCA user can be added to a six-way conference call only if the DN of the party dialing the SCA user is on the user's SCA screening list.

A party dialing the DN of an SCA user, during an attempt to add the SCA user to a conference call, will connect to the SCA user's RTN if the DN of the calling party is not on the SCA screening list and the SCA user has *forwarding* as NAT. The party answering at the RTN can be added to the conference call. If the SCA user has *recording* as NAT, the calling party will receive a denial announcement.

8.3.60 Critical Interdigit Timing

Critical Interdigit Timing is activated when the digits received provide sufficient information to complete a call, but the possibility of receiving additional valid digits exists.

Originating: Standard interdigit dialing applies to the dialing of the SCA access code.

Terminating: No interaction.

8.3.61 Customer Access Treatment Code Restriction

Customer Access Treatment (CAT) Code Restriction allows the creation of subgroups in a business group to provide additional restriction or access functions.

Originating: The CAT codes can be used to restrict SCA activation/deactivation.

Terminating: No interaction.

8.3.62 Customer-Changeable Speed Calling

Customer-Changeable Speed Calling (CCSC) allows customers to assign their own speed calling codes directly and immediately from their own telephone by dialing a change speed calling list access code, an abbreviated code, and a new telephone number.

Originating: The SCA access code is allowed as a legitimate speed calling list entry. The SCA access code can be assigned to a speed calling feature button.

Terminating: No interaction.

8.3.63 Customer Dialed Account Recording

Customer Dialed Account Recording (CDAR) allows a business group customer to associate a personal account number with a given call and have it recorded on the AMA record. The customer can use this record for allocating charges on both outgoing and incoming calls.

Originating: The same ACCT treatment as described in "Account Codes", Section 8.3.5, applies to CDAR.

Terminating: No interaction.

8.3.64 Customer-Originated Trace

Customer Originated Trace (COT) lets the terminating party request an automatic trace of the last call received.

Originating: Only calls alerting the SCA user can be traced when the SCA user invokes the Customer Originated Trace feature. A customer originated trace can be performed at the forwarded station.

Terminating: No interaction.

8.3.65 Customer Station Rearrangement via Remote Memory Access System

Customer Station Rearrangement (CSR) via remote memory access system (RMAS) allows business customers to make changes affecting their telephone service from an on-premises terminal.

Originating: The CSR user can activate and deactivate SCA. The SCA screening list cannot be edited via CSR.

Terminating: No interaction.

8.3.66 Delayed Announcement for Queued Calls on Hunt Group

Delay Announcement for Queued Calls on Hunt Group allows a customer-generated automatic announcement for multiline groups with queuing.

Originating: No interaction.

Terminating: The SCA feature takes precedence over the Delayed Announcement for Queued Calls on Hunt Group feature. Calls to a line with SCA active are screened for SCA termination treatment before being queued. Only calls that are allowed to terminate at the station of the SCA user are queued. This feature provides a customer-generated automatic announcement for multiline hunt groups with queuing only for those calls whose DNs are on the SCA screening list.

8.3.67 Deluxe Automatic Route Selection

Deluxe Automatic Route Selection (DARS) extends the choice of private routes for each NPA/NXX to 16 versus 4 for basic ARS.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 8.3.22 .

8.3.68 Deluxe Queuing

Deluxe Queuing is composed of the following two parts: Priority Queuing and Ringback Queuing.

Originating/Terminating: See "Basic Queuing", Section 8.3.25 .

8.3.69 Dial Access to ISDN Attendant

Dial Access to ISDN Attendant provides dial access from the station to the ISDN attendant within the customer group.

Originating/Terminating: No interaction.

8.3.70 Dial Access to Private Facilities

Dial Access to Private Facilities (DAPF) lets a customer choose to terminate the private facilities at the central office and access those facilities by dialing a unique access code per facility.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SCA customer cannot be screened. That is, the original calling party's DN is not available. Appropriate NAT will be applied.

8.3.71 Dial Call Waiting

NOTE: The Dial Call Waiting (DCW) feature is not supported on standard BRI (National ISDN).

Dial Call Waiting (DCW) allows an originating business group station to invoke call waiting service on selected intragroup calls by dialing an access code followed by the extension number of the station to be call waited. Dial Call Waiting allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The DCW feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active.

Originating: No interaction.

Terminating: The SCA feature takes precedence over DCW. A DCW call to the line of an SCA user will receive SCA NAT if the DN of the originator is not on the SCA screening list. Standard terminating treatment for DCW calls is applicable if the DN of the caller is on the SCA screening list.

When a business group station invokes a DCW service on an analog SCA user of the same intragroup as the calling station, call waiting tone will not be applied to the line of the SCA user if the line is analog, and priority termination treatment for the call will not be given at the line of the SCA user if the line is ISDN, unless the incoming caller's DN is on the SCA user's active SCA screening list.

8.3.72 Dial Pulsing

Dial Pulsing provides the capability to transmit and receive direct current address signals between offices.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SCA customer cannot be screened. That is, the original calling party's DN is not available. Appropriate NAT will be applied.

8.3.73 Dial Through Attendant

Dial Through Attendant (DTA) allows a station user to complete the dialing on other than station-to-station calls after the attendant selects the private facility on attendant handled calls.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 8.3.22 .

8.3.74 Dial Transfer to Tandem Tie Line

Dial Transfer to Tandem Tie Line makes the Call Transfer feature compatible with tie lines (trunks). After flashing, a station user with normal access to tie lines can dial a call through the tie line and transfer the original call to it.

Originating: No interaction.

Terminating: See "Call Transfer Individual All Calls", Section 8.3.43 .

8.3.75 Direct Connect

Direct Connect automatically places a call to a preselected called number when a station goes off-hook.

Originating: No interaction.

Terminating: A call via Direct Connect is screened at the active SCA station user if the calling party DN is available. The SCA feature can be assigned to a direct connect line, but the screening list must be built and maintained through recent change.

8.3.76 Directed Call Pickup with Barge-In

Directed Call Pickup with Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, barge-in alert tone is provided and a three-way call is established.

Originating: The SCA user is able to answer a call directed (and alerted) to other stations in the same preset call pickup group, even if the calling party's DN is not on the SCA screening list.

Terminating: This feature allows other stations in the same preset call pickup group to pick up a call that alerts (rings) an SCA user.

8.3.77 Directed Call Pickup without Barge-In

Directed Call Pickup without Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, the party dialing the pickup code is routed to reorder rather than permitted to barge-in on the established connection and create a three-way call.

Originating/Terminating: See "Directed Call Pickup with Barge-In", Section 8.3.76 .

8.3.78 Distinctive Ringing

Distinctive Ringing (DR) applies a distinctive ringing or call waiting tone pattern enabling a station user to determine the source of an incoming call.

Originating: No interaction.

Terminating: The SCA feature takes precedence over the Distinctive Ringing feature (excluding DR associated with PP precedence calls). An incoming caller's DN must be on the active SCA screening list before distinctive ringing can be applied. Calls made with PP precedence are not subject to SCA screening.

8.3.79 Dual Call Coverage (Also Known as Dual Telephone Coverage)

Dual Call Coverage allows calls originating internal to a customer's terminal group to route to a message center other than the one servicing outside calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via Dual Call Coverage is subject to SCA screening and termination treatment. The SCA feature can be used for Dual Call Coverage call redirection.

8.3.80 Electronic Tandem Switching Trunk Access (Also Known as Access to ETS Trunks)

Electronic Tandem Switching Trunk Access provides access to a customer's ETS facilities on a distant switch.

Originating: No interaction.

Terminating: Calls arriving via electronic tandem network (ETN) trunks do not have the calling party's DNs available and are not screened at the active SCA station. Appropriate NAT will be applied.

8.3.81 Electronic Tandem Switching on Primary Rate Interface Trunks

The ETS on PRI Trunks feature allows the 5ESS®-2000 switch to provide ETN trunking between a 5ESS®-2000 switch central office node and one or more digital PBX nodes in an ETN.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SCA screening and termination treatment.

8.3.82 Electronic Tandem Network Interworking in the 5ESS®-2000 Switch Private Network Environment

This feature gives the 5ESS®-2000 switch private network customer, using the Electronic Tandem Switching (ETS) feature, expanded capabilities using the primary rate interface (PRI) to connect multiple private ETN nodes.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SCA screening and termination treatment.

8.3.83 Emergency Access to ISDN Attendant

Emergency Access to ISDN Attendant allows a station user to dial an emergency code to gain immediate access to the attendant.

Originating/Terminating: No interaction.

8.3.84 Emergency Ringback

Emergency Ringback is associated with the basic 911 emergency service used to recall a customer station immediately following disconnect from, and at the request of, an emergency bureau.

Originating: Emergency Ringback takes precedence over SCA. Emergency Ringback calls are not screened for SCA termination treatment.

Terminating: No interaction.

8.3.85 Enhanced Private Switched Communications Service Access

Enhanced Private Switched Communications Service (EPSCS) Access provides the ability to terminate access lines to the EPSCS switch.

Originating: No interaction.

Terminating: Calls arriving from EPSCS trunks do not have the calling party DN available and cannot be screened at the active SCA station. Appropriate NAT will be applied.

8.3.86 Expensive Route Warning Tone

Expensive Route Warning Tone (ERWT) indicates when a more expensive route is about to be used.

Originating/Terminating: No interaction.

8.3.87 Facility Restriction Level

Facility Restriction Level (FRL) defines the calling privileges associated with a line.

Originating/Terminating: No interaction.

8.3.88 Feature Code Definition

The Feature Code Definition is the access code defined by the service provider which allows the SCA user to access the SCA feature.

Originating: The service provider is allowed to change the SCA feature access code.

Terminating: No interaction.

8.3.89 Flexible Night Service (Also Known as Attendant Call Forwarding)

Flexible Night Service (FNS) routes calls normally directed to the attendant group to a different location (night location, also known as a night directory number).

Originating: No interaction.

Terminating: See "ISDN Attendant Night Service", Section 8.3.118 .

8.3.90 Foreign Exchange Line

Foreign Exchange (FX) Line provides line termination in a central office different from the line providing service to the customer.

Originating: No interaction.

Terminating: Calls arriving from FX lines do not have the calling party DN available. These calls cannot be screened at the active SCA station. Appropriate NAT will be applied.

8.3.91 Four- and Eight-Party

Four- and Eight-Party provides POTS for up to four or eight customers sharing the same line.

Originating: The SCA feature cannot be assigned on four- and eight-party lines.

Terminating: No interaction.

8.3.92 Fully Restricted Originating and Terminating

Fully Restricted Originating and Terminating (FROT) provides the ability to deny a station's ability to originate and/or receive calls to or from outside the business group. It also blocks "dial 0" calls to an attendant and calls from an attendant to the station.

Originating: An SCA fully restricted originating user having forwarding NAT can only route unaccepted calls to other numbers of the same terminal group.

Terminating: Fully Restricted Terminating takes precedence over SCA. An SCA user who is fully restricted terminating can only screen calls from other members of the same group. In addition, when a fully restricted originating user calls an SCA user (having *forwarding* as NAT) in the same terminal group, assuming his/her DN is not on the SCA list, the interaction will be the same as that described in "Call Forwarding Variable", Section 8.3.37 . That is, when the fully restricted originating user calls an SCA user within the same terminal group, the SCA user has designated an RTN outside of the terminal group, and the fully restricted user's DN is not on the SCA list, the call will not forward to that RTN. Instead standard error treatment is returned to the fully restricted user.

8.3.93 Home Intercom (Also Known as Home Intercom/Single Line Variety Package)

Home Intercom/Single Line Variety Package (HI/SVP) allows the HI/SVP user to ring all telephone sets (extensions) associated with the line by dialing specified codes from the station.

Originating: An SCA user can use the HI/SVP feature to ring his/her extensions.

Terminating: Since an HI/SVP call is not originated by another caller, the switch will not invoke the SCA service. That is, when a Home Intercom user dials a special code to ring other extensions on the line, the call is not screened and is always accepted.

8.3.94 Hunt Group Transfer for Circuit-Switched Data Calls

This feature allows circuit-switched data (CSD) calls to a CSD multiline hunt group (MLHG) to forward to a second CSD MLHG.

Originating/Terminating: No interaction.

8.3.95 In-Progress Call Tracing

In-Progress Call Tracing is one type of Call Tracing feature that identifies a call in progress.

Originating: No interaction.

Terminating: See "Call Tracing", Section 8.3.41 .

8.3.96 Individual Calling Line Identification Calling Number Delivery (Analog)

Individual Calling Line Identification (ICLID) Calling Number Delivery transmits data on an incoming call to the terminating station set.

Originating: No interaction.

Terminating: No ICLID information is displayed at the SCA station for calls denied or forwarded by the SCA user. The ICLID information is sent to the remote station if the SCA user has forwarding treatment.

8.3.97 Individual Calling Line Identification Directory Number Privacy

Individual Calling Line Identification (ICLID) Directory Number Privacy (DNP) allows the calling party to prevent delivery of the origination DN to the terminating station set.

Originating: No interaction.

Terminating: Calls from DNs with a privacy restriction preventing display of the calling number are screened for SCA termination treatment in the same manner as calls from DNs without the calling number display restriction. If the number is forwarded, the original calling number DN will be displayed at the terminating station.

8.3.98 Individualized Dialing Plan

The Individualized Dialing Plan (IDP) feature allows digits to be interpreted according to the IDP of the customer instead of the office dialing plan (ODP) and/or the standard office abbreviated dialing list.

Originating: In the case of ISDN, no SCA button depressions are allowed during the second dial tone after dialing the Escape to POTS access code, such as *9. If the user escapes to POTS, the SCA access code defined in the ODP must be used.

The LASS Dialed Code Restrictions on IDP Users feature affects access to LASS features AC, AR, COT, ICLID CND, and PCP, SCA, SCR, CAR, SCF, and SDA. This feature, an optioned feature available on an SM basis via the Secured Feature Upgrade View (View 8.22). The LASS Dialed Code Restrictions on IDP Users feature, controls dial code access to LASS features for IDP users. The default value for this feature is disabled (inactive). When this feature is disabled, IDP users can use the access codes defined in their IDP in addition to the ODP defined dialed access codes to access LASS features. Using an ODP defined dial access code for access to a LASS feature by an IDP user may require the dialing of an IDP defined "escape to POTS access code" (9, or *9) immediately prior to dialing the ODP defined access code. Dialing of an ODP defined access code directly (not preceded by an escape to POTS code) is allowed if the error treatment for the user's IDP has been set to use the office code on RC View 9.10.

When the LASS Dialed Code Restrictions on IDP Users feature is enabled (active), an IDP user cannot use an ODP defined dial access code to access a LASS feature. The ODP defined dial access code cannot be used whether or not the ODP LASS code is preceded by an escape to POTS code and regardless of the error treatment for the user's IDP group. Reorder tone is returned to an IDP user after an ODP access code is dialed to access a LASS feature.

Additionally, with this feature enabled, neither an ODP nor an IDP defined dial access code for a LASS feature will be accepted by the 5ESS®-2000 switch at any time after an escape to POTS code has been dialed by an IDP user in a single, off-hook dialing scenario. However, an IDP user can dial an escape to POTS code followed by an automatic route selection (ARS), authorization, or an account code prior to the dialing of an IDP (but not ODP) LASS code. Dialing an ARS, authorization, or account code in conjunction with an IDP LASS dialed access code is allowed regardless of the activation status of the LASS Dialed Code Restrictions on IDP Users feature.

The LASS Dialed Code Restrictions on IDP Users feature requires dialed codes used for access to LASS features to be defined in the IDP. Except for ARS, authorization, or account codes, activation of this optioned feature requires that access to non-LASS features allowed to be dialed prior to the LASS access codes must also be defined in the IDP. This allows IDP users to use non-LASS features in conjunction with LASS features.

Terminating: Calls from parties overriding their dialing plan are screened by SCA.

8.3.99 Inspect for ISDN Terminals

NOTE: The Inspect for ISDN Terminals feature is not supported on standard BRI (National ISDN).

Inspect for ISDN Terminals retrieves and displays call-related information about any call appearance having a call associated with it. Inspect also displays feature button identification.

Originating: When the Inspect feature is used to inspect the SCA feature button, *Selective call acceptance on/off* is displayed.

Terminating: Independent of whether SCA is active or inactive, the SCA user can retrieve call-related information about any call appearance having a call associated with it. If the SCA user is in an Inspect session and presses the SCA feature button, the SCA feature status will not be affected, but the Inspect information associated with SCA feature button will be displayed.

NOTE: Display interactions apply to Custom ISDN *only*.

If the user presses the SCA feature button and then presses the Inspect button, the display information associated with the Inspect session may overwrite the display information associated with the SCA feature button for Lucent Technologies customer premises equipment. Other CPE may respond differently.

8.3.100 Intercom Calling Restriction

Intercom Calling Restriction counts and limits the number of intercom calls that can be in progress at any one time within a customer group. It also sets a maximum total simultaneous call volume that includes intercom and calls external to the customer group.

Originating: No interaction.

Terminating: When a call from a party using Intercom Dialing forwards via SCA to a DN in the same intercom group, only one simulated facilities group (SFG) member is seized for the call.

8.3.101 Intercom Dialing

Intercom Dialing, in conjunction with the special dialing plan, permits station users in the business group to place

calls to each other on a 1- to 7-digit basis.

Originating: No interaction.

Terminating: Calls arriving via intercom dialing are screened against the active SCA screening list.

8.3.102 Intra-LATA Presubscribed Inter-LATA capability (Intra-LATA PIC)

The Intra-LATA PIC capability allows the Local Exchange Carrier (LEC) to open up certain Intra-LATA toll routes which were previously handled exclusively by the LEC, to competition on an equal access basis between the LEC and Inter-LATA Carriers (ICs).

The Intra-LATA PIC capability allows a subscriber to presubscribe to an Intra-LATA Toll Carrier (PTC) that handles all of his/her Intra-LATA Toll traffic (7 digit or 10 digit calls with or without a "1/0" prefix), if dialed without a 10XXX (or 101XXXX) prefix, but which may or may not be the same as the Presubscribed Inter-LATA Carrier (PIC).

Originating: The ability to add an Intra-LATA Toll number to a screening list of an SLE feature (such as, Selective Call Acceptance, Selective Call Forwarding, etc.) will not be affected by whether the INTER LATA SCREEN field on RC/V View 8.21 is set to Y or N. The ability to add an Intra-LATA (Local or Toll) number to a screening list of an SLE feature will not be affected by whether calls made by the SLE feature subscriber are carried by the LEC or an IC.

Terminating: SCA will work properly with incoming Intra-LATA PIC calls provided that the calling number is delivered. However, if the LEC does not transmit the calling party number to the IC or the IC does not transmit the calling party number to the LEC, then SCA will not work properly. Note that the CPN SUBSC option on RC/V View 10.2 can be used to allow/disallow passing of the SS7 Calling Party Number parameter to an IC.

8.3.103 Intermodule Trunking

Intermodule Trunking provides trunking between modules connected to the same base 5ESS®-2000 switch.

Originating: No interaction.

Terminating: The SCA feature should work the same way on calls over Intermodule Trunking as it does on calls over regular interoffice trunks.

8.3.104 Intraswitch/Interswitch Calling Party Number/Billing Number Optioning to Terminating User

This feature allows the terminating PRI or BRI user to request delivery of the calling party number or billing number on an *exclusive* or *preferred* basis on every call for circuit-switched voice/data calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch (whether or not originally obtained from CPN or BN data), a call to the SCA user is subject to SCA screening and termination treatment.

8.3.105 ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants

NOTE: The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature is not supported on standard BRI (National ISDN).

The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature allows a supervisor, or attendant, to display data about an attendant position.

Originating/Terminating: No interaction.

8.3.106 ISDN Attendant Busy Verification of Lines and Trunks

NOTE: The ISDN Attendant Busy Verification of Lines and Trunks feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Busy Verification of Lines and Trunks feature allows an attendant to determine whether a line or trunk within the same customer group is busy or idle.

Originating: No interaction.

Terminating: See "Busy Line Verification", Section 8.3.29 .

8.3.107 ISDN Attendant Call Hold

The ISDN Attendant Call Hold feature allows the ISDN attendant to hold a call in progress to originate another call, or pick up a call on hold.

Originating/Terminating: No interaction.

8.3.108 ISDN Attendant Call Splitting

The ISDN Attendant Call Splitting feature allows the ISDN attendant to consult privately with the called party without the calling party hearing.

Originating: No interaction.

Terminating: The SCA feature takes precedence over ISDN Attendant Call Splitting. Also, see "Attendant Call Transfer", Section 8.3.8 .

8.3.109 ISDN Attendant Call Transfer

The ISDN Attendant Call Transfer feature is the ISDN version of Attendant Call Transfer.

Originating: No interaction.

Terminating: See "Attendant Call Transfer", Section 8.3.8 .

8.3.110 ISDN Attendant Camp-On

The ISDN Attendant Camp-On feature is the ISDN version of the Attendant Camp-On feature. It allows calls that the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: No interaction.

Terminating: The SCA feature takes precedence over Attendant Camp-On. The attendant's DN must be on the SCA screening list before attendant camp-on calls can be accepted. Also, see "Attendant Camp-On", Section 8.3.9 .

8.3.111 ISDN Attendant Conference Calling

The ISDN Attendant Conference Calling feature allows the attendant to set up conference calls with any combination of extensions or trunks on the internal conference bridge. The maximum number of parties on the conference call is limited to the capacity of the multiport conference circuit.

Originating: No interaction.

Terminating: See "Attendant Conference Six-Way", Section 8.3.10 .

8.3.112 ISDN Attendant Control of Facilities

The ISDN Attendant Control of Facilities feature is the ISDN version of ACOF.

Originating: See "Attendant Control of Facilities", Section 8.3.11 .

Terminating: No interaction.

8.3.113 ISDN Attendant Control of Voice Terminals

NOTE: The ISDN Attendant Control of Voice Terminals feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Control of Voice Terminals (ACVT) feature enables an attendant to impose an originating or terminating restriction (or both) on a DN or group of DNs. The ACVT feature routes calls destined for a line or group of lines to the attendant for handling. It is activated by the attendant or automatically by the switch.

Originating: No interaction.

Terminating: The ACVT feature takes precedence over SCA. This feature routes calls destined for an SCA line to the attendant for handling regardless of the SCA feature status.

8.3.114 ISDN Attendant Direct Station Selection

NOTE: The ISDN Attendant Direct Station Selection feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Direct Station Selection (DSS) feature allows the attendant to display the status of up to 10,000 DNs in 100 groups of 100 contiguous DNs starting at 00.

Originating: No interaction.

Terminating: See "Attendant Direct Station Selection", Section 8.3.12 .

8.3.115 ISDN Attendant Emergency Override

NOTE: The ISDN Attendant Emergency Override feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Emergency Override (AEO) feature allows the attendant to complete incoming calls to stations as follows:

- Calls that are busy from setting the make-busy key
- Calls that have a series completion or multiline hunt arrangement
- Calls with Call Forwarding active
- Calls with terminating restrictions.

Originating: No interaction.

Terminating: The AEO feature takes precedence over SCA. That is, when the attendant activates AEO, the call will terminate to the SCA station user regardless of the SCA feature status. Such calls will not undergo SCA screening.

8.3.116 ISDN Attendant Incoming Call Identification

NOTE: The ISDN Attendant Incoming Call Identification feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Incoming Call Identification feature allows an attendant to identify the type of facility over which an incoming call to the attendant was routed.

Originating/Terminating: No interaction.

8.3.117 ISDN Attendant Make-Busy Key

Originating/Terminating: No interaction.

8.3.118 ISDN Attendant Night Service

The ISDN Attendant Night Service feature routes calls directed to the ISDN attendant to a different station.

Originating: No interaction.

Terminating: When a call is forwarded via ISDN Attendant Night Service from an attendant's line to a line with SCA active, the DN of the original caller is compared with DNs on the SCA screening list.

8.3.119 ISDN Attendant Position Busy

NOTE: The ISDN Attendant Position Busy feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Position Busy feature allows the position to be made busy by the attendant. When the attendant position is made busy in a single position arrangement, new calls to the position receive busy treatment. In a multiple position arrangement, new calls are directed to a different console position.

Originating/Terminating: No interaction.

8.3.120 ISDN Attendant Selective Customer Control of Facilities

NOTE: The ISDN Attendant Selective Customer Control of Facilities feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Selective Customer Control of Facilities (ASCCOF) feature allows an attendant to deny access to a trunk or simulated facility group.

Originating/Terminating: No interaction.

8.3.121 ISDN Attendant Through Dialing

The ISDN Attendant Through Dialing feature allows an attendant to access an outgoing facility for a calling party within the group who has restrictions or difficulty in placing an outgoing call.

Originating/Terminating: No interaction.

8.3.122 ISDN Attendant Traffic

The ISDN Attendant Traffic feature provides the traffic counts for each attendant console position.

Originating/Terminating: No interaction.

8.3.123 ISDN Attendant Trunk Identification

NOTE: The ISDN Attendant Trunk Identification feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Trunk Identification feature provides a display of the trunk group and member number of the incoming or outgoing trunk in use at the request of the attendant or automatically on incoming trunk calls.

Originating/Terminating: No interaction.

8.3.124 ISDN Automatic Customer Station Rearrangement

The ISDN Automatic Customer Station Rearrangement (ACSR) feature allows users to rearrange their DNs automatically when an ISDN station set is moved.

Originating: Users with the ACSR feature will be able to retain the SCA feature status and associated screening lists when the DN is relocated. Once the ACSR update is applied by the switch, the feature status will be the same as before the move. Screening lists will also be the same.

In the interim period between ACSR invocation and application of the update by the switch, access to SLE will be denied and previously activated SCA features will be inoperable (for example, incoming calls will not be screened).

Depressions of the SCA feature button during an active ACSR session are ignored.

Terminating: No interaction.

8.3.125 ISDN Automatic-Hold/Drop Preference

NOTE: The ISDN Automatic-Hold/Drop Preference feature is not supported on standard BRI (National ISDN).

The ISDN Automatic-Hold/Drop Preference feature automatically determines how to handle a call active on one call appearance when the user shifts to another appearance. Two types of treatment are provided: automatic-drop and automatic-hold.

Originating/Terminating: No interaction.

8.3.126 ISDN Basic Message Service

The ISDN Basic Message Service (BMS) feature provides basic personalized message service for customer groups.

Originating: No interaction.

Terminating: The SCA feature takes precedence over BMS. Calls can be routed to the Message Service System center using SCF, CFV, CFBL, or CFDA if the incoming caller's DN is on the SCA screening list.

Non-accepted SCA calls can be routed to the message service system (MSS) if the user has the forwarding option and chooses to do so.

8.3.127 ISDN Bridging

The ISDN Bridging feature allows the multibutton key system (MBKS) set user to bridge onto a currently active call by pressing the active call appearance button on the MBKS set and going off-hook. This establishes a three-way call. This is different from standard Three-Way Calling because the third party initiates the bridge to the active call. Bridging is inhibited if Manual Exclusion is activated at an MBKS set engaged in the active call.

Originating: No interaction.

Terminating: If a user activates bridging onto an active call, no screening will be done against the SCA screening list.

8.3.128 ISDN Customer Station Rearrangement via **MACSTAR®** I and II Software

The ISDN Customer Station Rearrangement via **MACSTAR®** I and II software feature expands the Manual Customer Station Rearrangement (CSR) capabilities to include customer control over the ISDN feature.

Originating: No interaction.

Terminating: See "Customer Station Rearrangement via Remote Memory Access System", Section 8.3.65 .

8.3.129 ISDN Delayed and Abbreviated Ringing

The ISDN Delayed and Abbreviated Ringing (DAR) feature alerts an MBKS set for a predetermined interval before ringing another designated MBKS set.

Originating: No interaction.

Terminating: The SCA feature takes precedence over the Delayed and Abbreviated Ringing feature. For incoming calls to the shared DN's that are not denied or forwarded via SCA, ISDN terminals sharing a DN with DAR will receive delayed and abbreviated ringing.

8.3.130 ISDN Drop

The ISDN Drop feature allows the MBKS set user to drop the last party added to a conference call. For a 2-party call, pressing this button disconnects the MBKS set from the call.

Originating/Terminating: No interaction.

8.3.131 ISDN Electronic Directory Service Autocall (Also Known as Automatic Call Setup)

The ISDN Electronic Directory Service Autocall feature allows ISDN station users able to access the applications processor directly to place a call to the party associated with a query display by pressing the appropriate button.

Originating: No interaction.

Terminating: Calls placed via Autocall are screened by SCA.

8.3.132 ISDN Electronic Directory Service Calling Name Display

NOTE: The ISDN Electronic Directory Service Calling Name Display feature is not supported on standard BRI (National ISDN).

The ISDN Electronic Directory Service Calling Name Display (CND) feature gives the calling party's name and telephone number to the called party.

Originating: No interaction.

Terminating: Calling Name Display provides the calling party's name and telephone number to the SCA users if the incoming DN is on the SCA screening list.

Calling name information is not sent to the SCA user if the call is denied or forwarded. For calls not denied or forwarded by SCA, CND data is displayed at the lead port.

8.3.133 ISDN Electronic Directory Service Directory Query Display/Autocall

NOTE 1: The ISDN Electronic Directory Service Directory Query Display/Autocall feature is not supported

on standard BRI (National ISDN).

NOTE 2: Display interactions apply to Custom ISDN *only*.

The ISDN Electronic Directory Service Directory Query Display (DQD) allows the user to query the electronic directory data base for a name using the ISDN station set. The user can generate an Autocall by pressing the appropriate button.

Originating: Independent of whether SCA is active or inactive, the SCA user can query the directory data base for a name. The SCA user can then generate an Autocall by pressing the appropriate button. If the SCA user is in a DQD session and presses the SCA feature button, the display information associated with SCA is not sent. If the user presses the SCA feature button and then presses the DQD button, the display information associated with the DQD session may overwrite the display information associated with the SCA feature button.

Terminating: No interaction.

8.3.134 ISDN Electronic Directory Service Query Service (Also Known as Application Processor Query Service)

NOTE: The ISDN Electronic Directory Service Query Service feature is not supported on standard BRI (National ISDN).

The ISDN Electronic Directory Service Query Service allows a user to query the applications processor (AP) directory using a video display terminal for call and personnel information on a per-customer group basis.

Originating/Terminating: No interaction.

8.3.135 ISDN Hold

The ISDN Hold feature allows the MBKS set user to place a call on hold by pressing the function button. Any MBKS set with a call appearance for call on hold can pick up the call by pressing the call appearance button.

Originating/Terminating: No interaction.

8.3.136 ISDN ICLID Calling Number Delivery

This feature provides calling party data on calls originated from both analog and digital lines on the same 5ESS®-2000 switch for ISDN subscribers and attendants. The ICLID feature is an enhancement to the ISDN intraswitch ICLID feature, which is available only to ISDN users with display station sets.

Originating: No interaction.

Terminating: No ICLID information is displayed at the SCA station for calls denied by the SCA user. If the SCA user has forwarding treatment, ICLID information will be sent to the remote station.

NOTE: Display interactions apply to Custom ISDN *only*.

The ISDN ICLID data is sent to the terminals of ISDN ICLID and SCA customers in the NORMAL display mode. Display data associated with the activation or deactivation of an SCA feature by feature button is sent to the terminals of SCA customers with the display capability in the MISCELLANEOUS display mode. The ISDN ICLID displays have lower precedence than the SCA feature and, therefore, will be overwritten by SCA displays.

8.3.137 ISDN Initiated Priority Calling

The ISDN Initiated Priority Calling (IPC) feature provides the ISDN equivalent of Dial Call Waiting.

Originating: No interaction.

Terminating: An incoming call via IPC is first screened against SCA before it alerts the SCA user. For ISDN users, incoming calls can terminate as usual if the calling DN is on the screening list. Also, see "Dial Call Waiting", Section 8.3.71 .

8.3.138 ISDN Manual Exclusion

The ISDN Manual Exclusion feature allows an MBKS set user to inhibit other stations from picking up a call on hold or bridging onto a call that is active at that station.

Originating/Terminating: No interaction.

8.3.139 ISDN Message Service Automatic Call Setup (Also Known as Autocall)

The ISDN Message Service Automatic Call Setup feature allows ISDN clients with the Message Retrieval Display or Direct Access to Message Data Base feature to automatically set up a call to the directory number being displayed during the retrieval session.

Originating: No interaction.

Terminating: Calls placed via Autocall are screened by SCA.

8.3.140 ISDN Message Service Message Retrieval Display

The ISDN Message Service Message Retrieval Display (MRD) allows ISDN station users to directly retrieve their Message Service Center or Leave Word Calling messages independent of whether SCA is active or inactive.

Originating: Independent of whether SCA is active or not, the SCA user can retrieve his/her Message Service Center or Leave Word Calling messages using MRD. The SCA user can generate an Autocall by pressing the appropriate button.

NOTE: Display interactions apply to Custom ISDN *only*.

If the SCA user is in an MRD session and presses the SCA feature button, the display information associated with SCA may not display since it is sent in the MISCELLANEOUS display mode while the terminal is in the higher precedence MRD display mode. If the user presses the SCA feature button and then presses the MRD button, the display information associated with the MRD session may overwrite the display information associated with the SCA feature button.

Terminating: No interaction.

8.3.141 ISDN Multiple Call Appearances

The ISDN Multiple Call Appearances feature allows an MBKS set to have more than one DN button assigned to the same DN. Incoming calls for this DN are handled in much the same way as Series Completion. A hunt is made for an idle call appearance of the called DN when a call is made to a DN that has multiple call appearances on an MBKS set.

Originating/Terminating: No interaction.

8.3.142 ISDN Multiple DNs

The ISDN Multiple DNs feature assigns multiple directory numbers to a terminal.

Originating: The SCA feature can be assigned to each DN of an ISDN multiple DN terminal. However, feature

button use for SCA only applies to the terminal's primary DN.

Terminating: No interaction.

8.3.143 ISDN Number of Calls on Queue (Attendant)

Number of Calls on Queue can display each ISDN incoming call identification (ICI) type. By repeating the request, the attendant can display all ICI queues.

Originating/Terminating: No interaction.

8.3.144 ISDN Number of Calls on Queue (MLHG)

Originating: If the SCA user is active and the MLHG Queue status is requested, the MLHG Queue status display takes precedence and will overwrite the existing SCA display. The SCA display data will not be sent to the terminal while the Queue status is active. The SCA display data will not appear on the user's terminal while the Queue status is active.

Terminating: No interaction.

8.3.145 ISDN Originating Priority Calling

The ISDN Originating Priority Calling (OPC) feature provides the ISDN equivalent of Call Waiting Originating.

Originating: No interaction.

Terminating: The SCA feature takes precedence over OPC. An incoming call via OPC is first screened against SCA before it alerts the SCA user. See "Call Waiting Originating", Section 8.3.48.

8.3.146 ISDN Outgoing Called Line Identification

The ISDN Outgoing Called Line Identification (OCLID) feature provides a user originating a call with information about the called party and the facility or destination. Facility and call destination information is provided via the ISDN ICI call types.

Originating: For an SCA user having the forwarding option, the OCLID interaction can be found in the *SCF ISDN OCLID* feature interaction section.

NOTE: Display interactions apply to Custom ISDN *only*.

If an SCA user has OCLID, is on a call, and presses the SCA feature button, the display information associated with SCA will be sent and the OCLID data will be overwritten since OCLID displays are sent in the NORMAL display mode and SCA displays are sent in the MISCELLANEOUS display mode.

Terminating: No interaction.

8.3.147 ISDN Priority Calling Incoming Only

The ISDN Priority Calling Incoming Only (PCIO) feature is the ISDN equivalent of the Call Waiting Incoming Only feature. With this feature, calls outside the business group can terminate to an idle call appearance reserved for incoming calls (calls from outside the terminal group) when all unreserved call appearances are active.

Originating: No interaction.

Terminating: The SCA feature takes precedence over Priority Calling Incoming Only feature. An incoming call via Priority Calling Incoming Only is screened against SCA before it alerts the SCA user.

8.3.148 ISDN Shared Call Appearances of a Directory Number

The ISDN Shared Call Appearances of a Directory Number feature allows several MBKS station sets to share one or more DNs.

Originating: When a DN has shared ISDN call appearances and has SCA assigned to it, only the lead port (primary DN) for the DN is allowed access for activating and deactivating.

Terminating: No interaction.

8.3.149 ISDN Single-Digit Intercom

The ISDN Intercom (ICOM) feature is a form of ISDN station-to-station calling. The ICOM user can originate a call to the ICOM group member by pressing the ICOM buttons.

Originating: No interaction.

Terminating: An ICOM call terminating to an SCA user is not screened against the SCA screening list.

8.3.150 ISDN Time and Date Display

NOTE 1: The ISDN Time and Date Display is not supported on standard BRI (National ISDN).

NOTE 2: Display interactions apply to Custom ISDN **only**.

The ISDN Time and Date Display feature is a subscription feature for ISDN attendants and ISDN station set users. The 5ESS®-2000 switch provides the time and date to the ISDN station set.

Originating: Independent of whether SCA is active or not, the SCA user can obtain the Time and Date display. If the SCA user is in a Time and Date session and presses the SCA feature button, display information associated with SCA will not display since both SCA and Time and Date displays are sent in the MISCELLANEOUS display mode. If the user presses the SCA feature button and then presses the Time and Date button, display information associated with the Time and Date session will overwrite the display information associated with the SCA feature button for Lucent Technologies customer premises equipment. Other CPE may respond differently.

Terminating: No interaction.

8.3.151 ISDN Total Number of Calls Handled Display for ISDN Attendants

NOTE: The ISDN Total Number of Calls Handled Display for ISDN Attendants feature is not supported on standard BRI (National ISDN).

Total Number of Calls Handled Display for ISDN Attendants provides supervisors with traffic data information about each attendant in the ISDN attendant group.

Originating/Terminating: No interaction.

8.3.152 Line Time Slot Bridging

Line Time Slot Bridging (LTSB) provides an off-premises extension to a single directory number and bridging of two separate DNs in two separate locations with barge-in capabilities for customers served by the same 5ESS®-2000 switch. The Line Time Slot Bridging feature is only available via a service order.

Originating:

- Single DN for both lines

For lines equipped with Line Time Slot Bridging with one DN, only one SCA list applies to both phones. Only the lead port is allowed to activate, deactivate, or edit the feature.

- Separate DN for each line.

For lines equipped with Line Time Slot Bridging with two DNs, SCA cannot be assigned to either DN.

Terminating:

- Single DN for both lines

The switch alerts each phone (if the incoming DN is on the SCA list) if the user has activated SCA.

- Separate DN for each line.

No interaction.

8.3.153 Loudspeaker Paging

Loudspeaker Paging allows dial access to customer-owned loudspeaker paging equipment.

Originating/Terminating: See "Call Pickup", Section 8.3.40 .

8.3.154 Main Satellite Service

Main Satellite Service allows a customer receiving business group service provided by two or more separate switching machines in the same geographic area to receive the same service available as if all locations were served by a single switch.

Originating: See "Dial Access to Private Facilities", Section 8.3.70 .

Terminating: A call arriving from the main-satellite service environment via tie trunk will not have the calling party's DN available and the call will not be screened at the active SCA station. Appropriate NAT will be applied. Also, see "Dial Access to Private Facilities", Section 8.3.70 .

8.3.155 Make-Busy Key

Make-Busy Key (MBK) allows designated lines to look busy to the central office by means of a key operation.

Originating: No interaction.

Terminating: The SCA feature takes precedence over MBK. The MBK feature allows SCA lines to look busy to the central office by means of a key operation. Any incoming calls will be screened against SCA (if the user has SCA active) before the switch checks MBK.

8.3.156 Message Detail Recording on Customer Premises

Message Detail Recording (MDR) on Customer Premises provides call detail information on public telephone network and private facility calls via a tape unit located on the customer premises.

Originating: No interaction.

Terminating: The SCA feature is compatible with MDR.

8.3.157 Message Service Automatic Call (History) Display

Message Service Automatic Call (History) Display uses the 5ESS®-2000 switch call history information with the AP data base to display call information, client status information, and messages to the message service attendant when the message service client calls from his/her station set to receive messages.

Originating/Terminating: No interaction.

8.3.158 Message Service Automatic Control of Message Waiting Indicator

Message Service Automatic Control of Message Waiting Indicator automatically activates the message waiting indicator at the client's station set when a message is recorded in the message data base.

Originating: No interaction.

Terminating: The Message Service System attendant can activate the message waiting indicator at the SCA station set independent of the SCA status.

8.3.159 Message Service Direct Access to Message Data Base

Message Service Direct Access to Message Data Base allows clients to update their status information, leave messages for one or more clients, and retrieve messages without assistance from the message service attendant.

Originating/Terminating: No interaction.

8.3.160 Message Service Leave Word Calling

Message Service Leave Word Calling (LWC) allows a client to leave a *canned* message for another client of the message service without assistance from a message service attendant.

Originating: No interaction.

Terminating: A leave word calling message can be left for a called station when the caller's call is denied by SCA or forwarded via SCA. The interactions between LWC and SCA forwarding are consistent with the interactions between LWC and CFV forwarding.

8.3.161 Message Service Message Data Base

Message Service Message Data Base stores customer organizational data, client status data, and standard *canned* messages. A message data base is available to the message service attendant on the applications processor.

Originating/Terminating: No interaction.

8.3.162 Message Service Print Message On Demand

Message Service Print Message On Demand provides a printout of messages at a predetermined printer upon request from the Message Services client.

Originating/Terminating: No interaction.

8.3.163 Multifrequency Pulsing

Multifrequency Pulsing provides the capability to transmit alternate current address signals between offices. Each address digit is transmitted as a pulsed pair of frequencies.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SCA customer cannot be screened. That is, the original calling party's DN is not available. Appropriate NAT will be applied.

8.3.164 Multiline Hunt Service Circular Hunting

Multiline Hunt Service Circular Hunting allows all lines in a multiline hunt group to be tested for busy, regardless of the point of entry into the group.

Originating: No interaction.

Terminating: When a feature is assigned to the main DN of the group, it applies to the group as a whole. All calls to the main DN are screened using the main DN lists. Such screening is performed before any check on busy/idle status of any of the group terminals. Calls to hunt DNs in the group are also screened using the main DN lists.

If the SCA user has chosen a forwarding option for non-accepted calls, incoming calls will be routed to an alternate DN (if the incoming call's DN is not on the SCA list), regardless of whether the calls were dialed directly to the pilot DN or were dialed directly to the non-pilot DN.

If the individual no-hunt DNs have SCA assigned to them and they are dialed direct, calls will be screened against the individual lists whether or not SCA is active for the main DN list. Calls are screened before hunting occurs.

8.3.165 Multiline Hunt Service ISDN Attendant (ISAT)

NOTE: Multiline Hunt Service for ISDN Attendant (ISAT) feature origination is not supported on standard BRI (National ISDN).

Multiline Hunt Service for ISDN Attendant (ISAT) is a type multiline hunting arrangement for ISDN attendant positions.

Originating/Terminating: No interaction.

8.3.166 Multiline Hunt Service Multiple Position Hunt

NOTE: Multiline Hunt Service Multiple Position Hunt feature is not supported on standard BRI (National ISDN).

Multiline Hunt Service Multiple Position Hunt provides the ability to distribute calls over a group of console positions, each of which can handle several types of incoming calls received on dedicated terminals.

Originating: The SCA feature cannot be assigned to analog attendants.

Terminating: No interaction.

8.3.167 Multiline Hunt Service Precedence Regular Hunt

Multiline Hunt Service Precedence Regular Hunt starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 8.3.164 .

8.3.168 Multiline Hunt Service Regular Hunting

Multiline Hunt Service Regular Hunting starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 8.3.164 .

8.3.169 Multiline Hunt Service Uniform Call Distribution Hunt

Multiline Hunt Service Uniform Call Distribution Hunt provides an even distribution of incoming calls among the available members of a hunt group.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 8.3.164 .

8.3.170 Multiline Variety Package Service

Multiline Variety Package Service provides a packaged group of services for customers with a small group of lines that are not defined as a business line group.

Originating/Terminating: See the individual features that are contained in the *Multiline Variety Package Service*.

8.3.171 Multiple DNs per Line with Distinctive Ringing (Multiple DNs per Line)

8.3.171.1 General

Multiple DNs per Line (MDNL) with Distinctive Ringing provides multiple DNs per single port [Line Equipment Number (LEN)]. An originating call from any of the DNs is always associated with the *Master DN*, pointed to by the LEN translator; therefore, any call placed from a DN associated with the LEN will pass the *Master DN* as the calling party number.

Originating: No interaction.

Terminating: The SCA feature can only be assigned to the *Master DN* of an MDNL group. Terminations to the different DNs are distinguished using distinctive ringing. The master screening list is used to screen all calls to the master and associated DNs.

8.3.171.2 MultiPoint Digital Subscriber Line

The MultiPoint Digital Subscriber Line (MPDSL) feature provides support for connecting multiple users and their associated terminals to a single digital subscriber line. Users share the two B-channels for digital voice or data services and the D-channel for signaling and packet data services.

Originating: No interaction.

Terminating: An MDNL line may be busy when two calls are active on the MPDSL and both B-channels are occupied. This is called B-channel blocking. The SCA feature takes precedence over MPDSL busy due to B-channel blocking. The selective feature checking is performed in the software before the check is made for B-channel blocking busy treatment.

8.3.172 National ISDN Additional Call Offering (Voice and Data)

The National ISDN Additional Call Offering (ACO) feature is based on Bellcore requirements. This feature notifies the ISDN user via Q.931 signaling procedures that there is a circuit-switched voice (CSV) or circuit-switched data (CSD) call waiting for that user at the serving 5ESS[®]-2000 switch; the call cannot be delivered due to the unavailability of a B-channel. The user can answer the incoming call by putting an existing call on hold or by disconnecting an existing call. The call reference busy limit (CRBL) subscription parameter limits the number of concurrent originating and terminating calls that the user may have established. Arriving calls beyond this limit are given busy treatment.

Originating/Terminating: The SCA feature is applied before a call is offered via additional call offering.

8.3.173 National ISDN Calling Number Identification Services

The National ISDN Calling Number Identification Services (I-CNIS) feature is based on Bellcore requirements and is an enhancement to the existing Calling Party Number (CPN)/Billing Number (BN) Transmittal in the 5ESS®-2000 Switch Private Network Environment feature.

See "Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment", Section 8.3.50 .

8.3.174 National ISDN Calling Number Identification Services Intra-Group Only Delivery Optioning

The Calling Number Identification Services (CNIS) Intra-Group Only Delivery Optioning (CNIGI) feature allows restriction of the Calling Party Number (CPN) delivery, Redirecting Number (RN) delivery, and Calling Party Subaddress (CgPS) delivery features from members of a terminal group. It also restricts the provisioning of ICLID, CNAM, and EDS displays to intra-group calls. CNIGI does not effect delivery of information to residential parties. Whether the CNIGI restriction applies depends on the settings of the CNIGI option for the office, business group, and individual line/PRI trunk. The CNIGI restriction applies to all members of the terminal group, including National ISDN BRI/PRI, Custom BRI/PRI, and analog lines.

Originating/Terminating: No interaction.

8.3.175 National ISDN Channel/Terminal Configurations and Restrictions

The Channel/Terminal Configurations and Restrictions feature provides channel and terminal configurations and restrictions according to Bellcore requirements. ISDN customers with a single terminal can be restricted to one B-channel. The ISDN customers with two or more terminals can be restricted to one B-channel via an associated group (AG). Two AGs are permitted per BRI. In an AG, customers are allowed terminals that have circuit-switched voice (CSV), circuit-switched data (CSD), on-demand B-channel (ODB) packet data, permanent packet B-channel (PPB) data, or any combination of the four services.

Originating/Terminating: A user cannot activate/deactivate the SCA/CAR features or change the SCA/CAR screening lists under B-channel blocked conditions.

8.3.176 National ISDN Interswitch Calling Number Identification Services

ISDN Interswitch Calling Number Identification Services feature is comprised of originating features and terminating features. The originating features consist of number screening, number privacy and calling party number/calling party subaddress transfer. The terminating features include calling number delivery. Interswitch Calling Number Identification Services provide the feature capabilities between switches.

Originating/Terminating: The LASS selective features take precedence over CPN/BN optioning. If the calling DN is on a screening list to be blocked, the call is offered to the terminating user, and the CPN/BN optioning feature does not send the calling party information to the terminator.

The CPN/BN information is forwarded if the call is forwarded due to Selective Call Acceptance.

8.3.177 National ISDN Electronic Key Telephone Service

The National ISDN Electronic Key Telephone Service feature allows a user served by an ISDN terminal to have access to multiple directory number (DNs). Additionally, a DN can be accessed by more than one user (that is, a Shared DN). DNs may be shared on the same basic rate interface (BRI) and or on different ISDN BRIs.

See "ISDN Shared Call Appearances of a Directory Number", Section 8.3.148 .

8.3.178 National ISDN Hold (Voice and Data)

National ISDN Hold allows a National ISDN station user to hold a call in progress by flashing and then dialing the Call Hold code or operating a function key if one is available.

Originating/Terminating: See "Call Hold", Section 8.3.39 .

8.3.179 National ISDN Three-Way Calling

National ISDN Three-Way Calling allows a customer to add a third party to an existing conversation.

See "Three-Way Calling", Section 8.3.215 .

8.3.180 Night Service

Night Service (NS) routes calls normally directed to the attendant to preselected station lines in the customer group when regular consoles are not attended.

Originating: No interaction.

Terminating: When a call is forwarded via Night Service from an attendant's line to a line with SCA active, the DN of the original caller is compared with DNs on the SCA screening list. Also, see "ISDN Attendant Night Service", Section 8.3.118 .

8.3.181 Non-Data-Link Attendant Console

NOTE: Non-Data-Link Attendant Console Waiting Originating (CWO) feature is not supported on standard BRI (National ISDN).

Non-Data-Link Attendant Console is a small desk-top position from which the attendant handles calls.

Originating: The SCA feature cannot be assigned to attendants.

Terminating: No interaction.

8.3.182 On-Hook/Off-Hook Queuing for Outgoing Trunks (Also Known as Queuing for Outgoing Trunks)

Queuing for Outgoing Trunks allows on-hook or off-hook queuing for a busy outgoing trunk. With on-hook queuing, the station is notified with a distinctive ring when a trunk is available. With off-hook queuing, the user remains off-hook, and the call is completed when the trunk is available.

Originating: With on-hook queuing, the SCA user station is notified with a distinctive ring when a trunk is available regardless of the SCA status.

Terminating: See "Ringback Queuing", Section 8.3.196 .

8.3.183 Outgoing Call Tracing

Outgoing Call Tracing is used when nuisance calls are found to be coming from one particular line. The terminating DN is put on the trace list and all originating calls from that office are checked against the list. When a call is made to the number on the list, the originating DN is identified.

Originating: No interaction.

Terminating: See "Call Tracing", Section 8.3.41 .

8.3.184 Outward Calling for PBX via ARS

Outward Calling for PBX Via ARS allows a PBX to take advantage of Business Group features relating to outgoing private facilities by terminating them at the serving switch via special access lines.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 8.3.22 .

8.3.185 Outward Wide Area Telecommunications Service (OUTWATS)

Outward Wide Area Telecommunications Service (OUTWATS) allows customers to make calls to certain zone(s) or band(s) on a direct dialing basis for a flat monthly charge or a charge based on accumulated usage.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 8.3.22 .

8.3.186 OUTWATS with Simulated Facility Group

The OUTWATS with Simulated Facility Group feature can restrict the number of simultaneous OUTWATS calls by software rather than by the physical size of a dedicated trunk group.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 8.3.22 .

8.3.187 Power Failure Transfer Attendant

Power Failure Transfer Attendant routes calls destined for the attendant to a preassigned DN during a commercial power failure at the customer premises.

Originating: No interaction.

Terminating: When a call is forwarded via Power Failure Transfer from an attendant's line to a line with SCA active, the DN of the original caller is compared with the DNs on the SCA screening list. Also, see "Night Service", Section 8.3.180 .

8.3.188 Precedence and Preemption Features

NOTE: The Precedence and Preemption feature is not supported on the standard BRI (National ISDN).

Precedence and Preemption (PP) is a part of the DSN/AUTOVON network for operating routine and precedence calls used primarily by the military.

Originating: No interaction.

Terminating: A precedence with preemption *priority* call is not screened while a precedence with preemption *routine* call is screened. If an SCA user is active on a call and a precedence with preemption *priority* call is made to this SCA user, the call will not be screened against the SCA list, but will be accepted. A precedence call can preempt an active call. A call that has been denied at the SCA station and forwarded intraswitch to the RTN will have the same precedence level as the original call.

8.3.189 Priority Queuing

Priority Queuing is used to assign a queue priority level that establishes precedence for facilities when immediate access is not obtainable.

Originating/Terminating: See "Basic Queuing", Section 8.3.25 .

8.3.190 Radio Paging Access

Radio Paging Access allows attendants and station users to access radio paging equipment and page individuals carrying pocket radio receivers.

Originating/Terminating: No interaction.

8.3.191 Recall From Subscriber

Recall From Subscriber allows the customer to recall an operator services position system (OSPS) operator for certain classes of operator-assisted calls by flashing the switchhook. The operator recalled is not necessarily the operator who originally assisted on the call.

Originating/Terminating: No interaction.

8.3.192 Recorded Telephone Dictation

Recorded Telephone Dictation (RTD) permits access to and control of customer-owned dictating equipment from a station in the customer group. The station must be equipped for dual tone multifrequency signaling.

Originating/Terminating: No interaction.

8.3.193 Remote Activation of Call Forwarding (Remote Access to Call Forwarding)

Remote Activation of Call Forwarding (RACF) provides the ability to remotely activate/deactivate call forwarding by using dialed codes.

Originating: No interaction.

Terminating: The RACF feature is used with the Call Forwarding Variable feature only. There is no interaction between the SCA and RACF features.

8.3.194 Remote Call Forwarding

Remote Call Forwarding allows all calls to a specified DN to forward to a remote 7- or 10-digit telephone number.

Originating: No interaction.

Terminating: The SCA feature takes precedence over the Remote Call Forwarding (RCF) feature. Also, see "Call Forwarding Variable", Section 8.3.37 .

8.3.195 Revertive Pulsing

Revertive Pulsing is the method of interoffice signaling originating with the panel systems and continuing with the No. 1 Crossbar.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SCA customer cannot be screened. That is, the original calling party's DN is not available. Appropriate NAT will be applied.

8.3.196 Ringback Queuing

Ringback Queuing allows a station user, encountering a busy network facility, to queue for an idle facility by dialing a function code and going on-hook in a preselected time following the queuing confirmation code. The caller is rung back when the appropriate facility becomes idle.

Originating: With the Ringback Queuing (RBQ) feature, an SCA customer can queue calls on a busy outgoing facility. When the facility becomes available, the customer receives ringback, goes off-hook, and the call is placed without having to redial. After placing an RBQ request, active SCA customers receive ringback even if the DN is not on the SCA screening list.

Terminating: No interaction.

8.3.197 Satellite Attendant Transfer

Satellite Attendant Transfer provides the same service as the Call Transfer Attendant feature to a satellite location having no attendant.

Originating/Terminating: No interaction.

8.3.198 Screen List Editing

Screen List Editing (SLE) is a capability used in conjunction with all LASS selective feature lists.

Originating: The SLE capability is necessary to build and edit the SCA screening list. For analog lines, SCA users are considered busy if they are in an editing session. For ISDN lines, SCA users are considered busy if they are in an editing session and no other call appearance is available.

Terminating: No interaction.

8.3.199 Selective Call Acceptance

Selective Call Acceptance (SCA) allows residential and business users to restrict which incoming voice calls are allowed to terminate.

Originating/Terminating: Calls may be forwarded interswitch using SS7.

8.3.200 Selective Call Forwarding

Selective Call Forwarding (SCF) allows a customer to preselect which calls will forward based on the telephone number of the calling party.

Originating: No interaction.

Terminating: The SCA feature takes precedence over SCF. The DN of an incoming call is checked against the SCA list before it is checked against the SCF list.

8.3.201 Selective Call Rejection

Selective Call Rejection (SCR) allows a customer to reject calls from telephone numbers which are on the customer's SCR list.

Originating: No interaction.

Terminating: The SCR feature takes precedence over SCA. The DN of an incoming call is checked against the

SCR list before it is checked against the SCA list.

8.3.202 Selective Carrier Denial

Selective Carrier Denial (SCD) allows the local office to selectively inhibit certain calls normally handled by a carrier from lines designated as nonpaying subscribers by the particular inter-LATA carrier that will handle the call.

Originating: No interaction.

Terminating: Prior to selectively forwarding a call requiring a carrier from the base station (the station of the SCA user), a check is made for the SCA user's subscribed carrier. Forwarding is prevented and the caller receives standard error treatment if the check reveals that the SCA user has not subscribed to a carrier.

8.3.203 Selective Control of Facilities

Selective Control of Facilities (SCOF) allows the customer, via key control, to busy out private facilities and, thereby, deny all originating access.

Originating/Terminating: No interaction.

8.3.204 Selective Distinctive Alert (Distinctive Alert)

Selective Distinctive Alert (SDA) allows a customer to preselect which calls will have distinctive alerting treatment based on the telephone numbers of the calling parties.

Originating: No interaction.

Terminating: The SCA feature takes precedence over SDA. The DN of an incoming call is checked against the SCA list before it is checked against the SDA list.

8.3.205 Semirestricted Station Originating and Terminating

Semirestricted Originating and Terminating, a type of Terminal Group and Station Restriction, provides the ability to restrict a business group line from originating and/or receiving any calls from outside the group. Outside the group means "dial 9" and DID. Intragroup calls, attendant calls, and calls over private facilities are permitted. Restricted calls are routed to the special group intercept announcement.

Originating: The SCA user having semirestricted originating forwarding NAT can only route unaccepted calls to other numbers of the terminal group or to the attendant of the terminal group.

Terminating: The Semirestricted Station Terminating feature takes precedence over SCA. An SCA user that is semirestricted terminating can only screen calls from other members of the terminal group or from the attendants of the terminal group. In addition, when a semirestricted originating user calls an SCA user (having the forwarding option) in the same terminal group, assuming his/her DN is not on the SCA list, the interaction is the same as that described in "Call Forwarding Variable", Section 8.3.37. That is, when the semirestricted originating user calls an SCA user within the same terminal group, the SCA user, having designated an RTN outside of the terminal group, with the semirestricted user's DN not on the SCA list, the call *will* forward to that RTN.

8.3.206 Series Completion

Series Completion is a type of hunting in which DNs are grouped into a prearranged ordered list.

Originating: No interaction.

Terminating: The SCA feature takes precedence over the Series Completion feature. It is possible that a customer

could have SCA active and, at the same time, have the Series Completion feature active. In this case, Series Completion treatment is applied to a terminating call only if the customer's SCA screening list contains the necessary entries to accept the call. For example, assume a call is routed via Series Completion to another line in the Series Completion group having SCA active. If the calling party is not on the SCA screening list, the call will route to a denial treatment or forward to a remote DN. No further hunting will be attempted even if this is not the last line in the Series Completion group.

8.3.207 Simulated Facility Groups for In and Out Calls

The Simulated Facility Groups for In and Out Calls feature provides the capability to restrict the number of simultaneous DID calls terminating to the group and the number of simultaneous calls originating by the group to direct distance dialing (DDD).

Originating: No interaction.

Terminating: Calls that forward via SCA to an RTN outside an SCA user's IDP or terminal group are subject to the same SFG restrictions that apply to the SCA user's direct dialing of the RTN. Calls going to the SCA user are subject to the same simulated facility group restriction as regular terminating calls.

8.3.208 Single-Digit Dialing

Single-Digit Dialing permits station users to reach any station of a preselected group or other internal facility by dialing single digit codes.

Originating: See "Intercom Dialing", Section 8.3.101 .

Terminating: The SCA feature takes precedence over Single-Digit Dialing.

8.3.209 Smart Set Interface

Smart Set Interface allows customers to use *smart* station sets. Flash requests and feature function codes are associated with unique keys on the station set.

Originating/Terminating: No interaction.

8.3.210 Special Intercept Announcement

Special Intercept Announcement allows a unique intercept announcement to be provided to each business group.

Originating: No interaction.

Terminating: For the SCA user having interswitch forwarding NAT, it is possible that an interswitch call could route to the special intercept announcement (that is, an RTN was previously entered without validation.)

8.3.211 Speed Calling (Also Known as Abbreviated Dialing)

Speed Calling permits the customer to dial selected numbers using fewer digits than normally required.

Originating: The SCA access code can be entered on a speed calling list.

Terminating: If a caller uses speed calling to an SCA user with an active SCA list, the call will be screened by SCA.

8.3.212 Tandem Call Trace

Tandem Call Trace is used when nuisance calls are found to be incoming from a tandem office. The traced DN is

marked for tracing at that office to identify the tandem trunk.

Originating: No interaction.

Terminating: See "Call Tracing", Section 8.3.41 .

8.3.213 Tandem Tie Trunk Dialing

Tandem Tie Trunk is another name for Nonsenderized Tie Trunks (NTT). It uses a switching method whereby the station user directly controls, in stages, the routing of an outgoing tie trunk call through the originating switch as well as any intermediate switches.

Originating/Terminating: See "Tie Trunk Access", Section 8.3.216 .

8.3.214 Terminal Group/Station Restriction

A Terminal Group is a grouping of two or more terminals that provide restriction on screening capabilities of certain features or interactions . Station restriction provides a means to restrict calls based on a terminal being a member of a terminal group.

Originating/Terminating: TGSR for ISDN User Part Trunks has an interaction with SCA. A user may specify a members of an multilocation business group as the forward-to party for SCA, even IG served by a different switch. The user's originating restriction must not prevent forwarding to multilocation business groups.

8.3.215 Three-way Calling

Three-Way Calling (TWC) allows a customer to add a third party to an existing conversation.

Originating: An SCA customer can also subscribe to a TWC feature. An SCA customer has the ability to place a call on hold to add a third party onto the established conversation. If the SCA user disconnects with a party on hold, the SCA user will get ringback to restore the connection to the held party. Regardless of active SCA service on a TWC line, ringback will occur.

Terminating: If an attempt is made to add a customer with an active SCA screening list onto a connection via Three-Way Calling, the attempt will be denied unless the calling party (the customer with Three-Way Calling) is on the SCA screening list.

8.3.216 Tie Trunk Access

Tie Trunk Access connects two or more business customer locations. They can terminate in an attendant console for direct access or have dial access.

Originating: No interaction.

Terminating: Calls arriving via tie trunks do not have the calling number available and do not receive NAT.

8.3.217 Time-of-Day

Time-of-Day (TOD) allows a customer to preschedule recent change, thereby, controlling activation and deactivation of certain modular features and changes to feature parameters via dialed codes and key control.

Originating: The TOD feature cannot be used to activate or deactivate SCA.

Terminating: No interaction.

8.3.218 Toll Diversion to Attendant

Toll Diversion to Attendant (TDA) intercepts toll or code calls from restricted business group lines and routes them to the attendant (or other designated line).

Originating: No interaction.

Terminating: An SCA user cannot forward unaccepted calls to a code/toll restricted number.

8.3.219 Tracing of Terminating Calls

Tracing of Terminating Calls allows the identification of calling lines while the call is in progress. When incoming calls are to be traced, the terminating DN is placed on the call tracing list where it remains until manually removed.

Originating: No interaction.

Terminating: See "Call Tracing", Section 8.3.41 .

8.3.220 Traveling Class Mark

Traveling Class Mark (TCM) carries class-of-service information along with the called number through a private network. The TCM provides unique downstream routing and screening information.

Originating/Terminating: No interaction.

8.3.221 Trunk Answer From Any Station

Trunk Answer From Any Station (TAS) activates a common alerting signal on the customer premises when the attendant positions are in night service for calls normally directed to the attendant. These calls can then be answered from any nonrestricted station in the business group by dialing a special answer code.

Originating/Terminating: No interaction.

8.3.222 Trunk Dial Transfer

Trunk Dial Transfer provides the Call Transfer Individual feature to tie trunks.

Originating/Terminating: No interaction.

8.3.223 Trunk Group Busy Lamps

The Trunk Group Busy Lamps feature provides a visual indication on a private facility trunk group basis when the facility group is all in use.

Originating/Terminating: No interaction.

8.3.224 Two-Party ANI/ONI Capability

The Two-Party Automatic Number Identification/Operator Number Identification (ANI/ONI) Capability allows operating companies the choice of giving two-party lines automatic number identification (ANI) treatment or operator number identification (ONI) treatment.

Originating: The SCA feature cannot be assigned on Two-Party ANI/ONI lines.

Terminating: Calls from Two-Party ANI users are screened against the SCA list.

8.3.225 Two-Party Line

Two-Party Line provides basic POTS to two customers sharing the same line.

Originating: The SCA feature cannot be assigned on two-party lines.

Terminating: Calls from two-party lines are screened against the SCA list.

8.3.226 Uniform Numbering

Uniform Numbering provides a customer-specified 7-digit numbering plan that identifies all business group stations interconnected by the facility network. Each customer switch connected by the electronic tandem network (ETN) is identified by a 3-digit code.

Originating: No interaction.

Terminating: Calls received over non-SS7 private facilities (using a uniform numbering dialing plan) do not have the calling party's DN available and are not screened at the active SCA station. Appropriate NAT will be applied.

8.3.227 Unrestricted Originating and Terminating

This is basically the absence of originating and/or terminating restriction in a terminal group.

Originating/Terminating: No interaction.

8.3.228 User-Side Primary Rate Interface Implementation

This feature allows PRI support in public (private trunks providing access to public facilities) and private networks.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SCA screening and termination treatment.

8.4 RESTRICTION CAPABILITY

8.4.1 General

Customer access to SCA can be denied on a per-line basis using a feature restriction indicator for each customer. In addition, IDP customers with intercom dialing can be restricted access on a group basis by not building an access code for SCA. However, if the office is generally available (GA) and the end-user escapes to POTS, the end-user can access the office GA feature. Also, certain lines in a group can be allowed access to SCA even if the rest of the group is denied access to SCA.

Only voice calls or analog modem calls which look like voice calls are screened by the SCA feature. Integrated services digital network (ISDN) circuit-switched or packet-switched data calls are not screened by the SCA feature. There is only one acceptance list per DN user for SCA.

The Dialing Plan Access Treatment (DPAT) capability (5ESS[®]-2000 switch only) can also be used to restrict individual lines from using particular access codes or ISDN feature buttons.

8.4.2 Analog Users

A maximum of 31 telephone numbers may appear in a user's acceptance list. The service provider has the capability to limit this number for the end-customer, if so desired.

Refer to Table 2-4 , for service groups denied access to the SCA service.

Manual lines, direct connect lines, and denied originating treatment lines are allowed service to SCA; however, the SCA screening list must be built via service order. Also, a service order is required to activate or deactivate SCA for these line types.

Operator calls from no-test trunks and attendant calls with emergency override are not subject to refusal by the SCA feature.

The following ringback functions can alert an active SCA line:

- Automatic Callback-Calling (ringback function)
- 911 Service Emergency Ringback
- Call Hold (ringback from held party)
- ETS Ringback Queuing
- Home Intercom/Single Line Variety Package
- LASS Automatic Callback (ringback function)
- LASS Automatic Recall (ringback function)
- Three-Way Calling (ringback from held party).

The number of users who may access SCA is limited by the amount of switch memory available for storing lists and by the number of users who may simultaneously access the announcement system or display capability.

8.4.3 ISDN Users

When a DN is shared between ISDN station sets, only the lead station for the DN is allowed access for activating, deactivating, or editing the SCA screening list. An ISDN user at the lead station, on a call appearance for a primary or secondary DN, can press the SCA feature button to turn SCA on or off for the primary DN.

The SCA feature is assigned on a per-DN basis for ISDN users with multiple DNs, as opposed to a per-terminal basis. Incoming line history blocks are assigned on a per-terminal basis. The SCA feature only applies to voice calls. Data calls are not screened by SCA.

An ISDN customer can subscribe to the SCA feature for each DN on the terminal. In this case, the customer can have SCA assigned to the primary DN with its own acceptance list and SCA assigned to the secondary DNs each with their own acceptance lists. The SCA feature button applies only to the primary DN.

When a user at the station of a shared DN dials the SCA access code, the switch does not send announcements and display messages to the non-lead terminals sharing the DN. The switch sends announcements and display messages only to the lead station terminal.

8.5 ENGINEERING

8.5.1 Special Planning Considerations

The SCA screening lists are engineered to use memory as efficiently as possible. Screening lists are not allocated based on the office parameter. Instead, the allocation is based on the individual customer's list size which keeps reserved, unused memory to a minimum.

8.5.2 Hardware

No new or modified hardware is required. Existing hardware used is the 13A, 14A, 15A, or 16A announcement system.

8.5.3 Software

Load balancing and distribution by the switch administrator does not apply. Maintenance operations are not affected by the SCA feature.

To offer intraswitch LASS, the LASS software must reside at that switch.

8.6 IMPLEMENTATION

8.6.1 ODA Implementation

Refer to "LASS Forms and Views", Section 2.4, for ODA forms used in implementing the SCA feature.

8.6.2 Recent Change Procedures

8.6.2.1 Assigning Customer Service

Service providers can provide SCA to individual customer lines on an office-wide (GENAVAIL) basis or on a subscription basis via a service order (SUBSCR). However, MLHG access to LASS always requires a service order. The service provider can assign SCA to and remove SCA from individual customer lines. For both the office-wide and service-order situations, the telephone company can offer SCA for billing on a flat-rate or usage-sensitive basis.

At the time of subscription, the service provider needs to know the type of interface (ISDN or analog) the customer has. For ISDN customers, the service provider determines whether a feature button will be used to access SCA and whether display will be used.

All offices offering the SCA feature are required to have the Screen List Editing capability. The Screen List Editing capability is not billed separately from the SCA feature; however, a billing record is created each time a usage-sensitive SCA customer accesses an SCA screening list.

See 235-190-104, *ISDN Feature Descriptions*, for feature button assignment.

8.6.2.1.1 Feature Definition

Feature definition, the modular feature construction process, must be completed before any lines can be assigned to use the feature. The SCA feature may be defined as part of the software release (preconstructed) or defined by the service provider (customized). The preconstructed features for Selective Call Acceptance are listed in Table 8-3.

Table 8-3 LASS Selective Call Acceptance BRCS Definitions

MODULAR FEATURE TYPE	PRECONSTRUCTED FEATURE NAMES	WILDCARD FEATURE SYMBOL
MFSCA	/SCAGA /SCAFR	/SA*

Expansions for these preconstructed features are as follows:

- /SCAGA — Selective Call Acceptance Generally Available
- /SCAFR — Selective Call Acceptance Flat Rate.

The Selective Call Acceptance definition view is 12.55 (ODA Form Isscafd; Office Record 5975). This view contains attributes that:

- Indicate the constructed feature name (FEATURE). One to eight characters in length with the leading character a slash (/) for the preconstructed feature.
- Allow a remark to be associated with the feature (REMARKS). One to 32 characters defining the feature in narrative form.
- Indicate whether billing is on a usage-sensitive basis or on a flat-rate basis (AMA REC). A value of "N" indicates flat-rate billing; a value of "Y" indicates usage-sensitive billing.

8.6.2.1.2 LASS Office Parameters

The LASS office parameters View 8.21 provides LASS feature office parameters keyed by the office ID. A second screen was added for LASS selective features. The added attributes associated with SCA are as follows:

- **SCA MAX SIZE** — This parameter determines the maximum number of entries on the screening list for SCA. Valid values are 3-31. The default value is 6. This parameter exists for each of the LASS selective features.
- **SCA GA FEAT** — This parameter specifies the preconstructed feature or constructed SCA feature to be used for general availability. Valid entries are up to 8-character feature names. The default is /SCAGA.
- **SCA REJ RTI** — This parameter indicates the office routing index used for the rejection treatment announcement for SCA. Valid values are 0-3617. The default value is 0.
- **SCA REJ BILL** — This parameter determines whether or not to bill for SCA reject treatment. The valid values are Y (Yes) or N (No). The default is N.

An SCA maximum-list-size office parameter with legal values of 3 through 31 is provided to indicate the maximum number of entries an SCA customer can have on the SCA screening list. This parameter is changeable via recent change. Service provider switching office personnel have the capability to build, change, delete, activate, or deactivate screening lists for SCA via a service order at the time the service is provisioned or at a later time. Typically, the service order process is not used to perform these functions. The telephone companies are expected to encourage customers to use SLE and will use a service order only when the customer is having trouble with SLE or for customers with denied origination class of service.

For Custom ISDN customers with display capability, display messages for SCA are sent. Display messages are not sent to customers with non-display CPE.

8.6.2.1.3 Feature Access

8.6.2.1.3.1 General

The LASS Feature Access View (View 8.18) provides LASS feature access options specification; for example, whether LASS is generally available, requires subscription, or is unavailable on a per-SM basis. The SCA parameter attribute indicates the access options and the default for the SCA feature. Possible values are GENAVAIL, SUBSCR, UNAVAIL, and TEMPUNAVAIL. The default value is UNAVAIL.

8.6.2.1.3.2 Allow Bits

Unlike traditional BRCS feature assignment, SCA can be made generally available (on an office or SM basis;

subscription not required), thereby, extending access to SCA for non-BRCS lines and providing ready access to the feature without the need for a service order.

Analog and ISDN line Views 1.6, 2.1, and 23.2 are modified for the SCA feature. An attribute, SCA GA ALW, was added to determine whether the LASS SCA feature is allowed general available (GA) access by the line.

8.6.2.1.3.3 Access Billing Control

For both SUBSCR and GENAVAIL, the customer line status may be marked with one of the following values:

- (1) A customer line status of SCA GA ALW (default for all non-restricted service classes) indicates that customers in an office with the office access parameter (View 8.18) set to GENAVAIL have GA access to SCA and are billed on a usage-sensitive basis (default). A customer line status of SCA GA ALW in an office with the office access parameter (View 8.18) set to SUBSCR indicates that the customer does not have GA access to SCA. The service provider can change SCA from a general offering to a subscription offering and from a subscription offering to a general offering by toggling the office access parameter from GENAVAIL to SUBSCR and from SUBSCR to GENAVAIL, respectively. It is not necessary to modify the customer line status of individual customer lines.
- (2) A customer line status of NO SCA GA ALW indicates this customer is denied GA access to SCA. The service provider uses a service order to mark a customer line NO SCA GA ALW.

For the SUBSCR case, the service provider can use a service order to subscribe individual lines to a flat-rate or usage-sensitive billed SCA feature. For the GENAVAIL case, the service provider can use a service order to subscribe individual lines to a flat-rate billing (overriding the default of usage-sensitive billing) or usage-sensitive billing. Flat-rate billing does not generate billing records. For usage-sensitive billed customers, billing records are created when an SCA screening list is changed or when the feature status is changed. (See "Billing", Section 8.8.2, for complete information on billing.)

8.6.2.1.4 Feature Assignment

Features are assigned to a line via RC line assignment views. A BRCS Feature Assignment view, Views 1.11, 2.11, and 3.11, can be used to assign the SCA feature to a customer line. View 1.11 is keyed by telephone number; View 2.11 is keyed by office equipment number and party; and View 3.11 is keyed by MLHG number and member. Attempts to assign a feature to a line which conflicts or interacts with another feature already assigned to a line are rejected. The SCA feature can be assigned to a BFG and/or cluster.

In addition to the BRCS feature assignment views, the SCA feature can also be assigned via a BRCS Assignment Combined View (1.8, 2.8, 3.8). For ISDN terminals, View 1.11 may be used to assign the SCA feature. Typically, the digital subscriber line (DSL)/BRCS assignment view (23.8) is used to assign the SCA feature to an ISDN DN.

For residential customers, the SCA access code can be established on a per-office basis. For IDP customers with intercom dialing, the SCA access code is assigned on a group basis and may, or may not, be the same code as residential customers.

8.6.2.1.5 Feature Activation

The LASS features can be activated and deactivated by a customer originated recent change (CORC), via RC LASS Selective Feature Screening List View 4.48 and the feature assignment views (listed previously), or feature activation views (1.12, 2.12, 3.12).

8.6.2.2 Deleting Customer Service

The SCA screening list and forward-to DN are deleted by recent change when removing service from a line with a

service order. When the SCA screening list is deactivated, through SLE or a service order, the forward-to DN is saved. When the SCA screening list is deleted through SLE or a service order, the forward-to DN is deleted.

8.6.2.3 Changing Customer Service

For customers having a feature button for SCA, when a service order is used to activate or deactivate the SCA feature, the feature button light will reflect the status after the next CPE restoral (about 15 minutes).

The SCA screening list telephone numbers entered by the customer via the screen list editing capability are validated; however, entries on SCA screening lists created via a service order are not validated. View 4.48 is used to add and delete screening list entries for service order applications.

The service provider can assign, change, or delete a forward-to number for the individual customer line with a service order. Again, the service providers are expected to encourage customers to use SLE and will use a service order only when the customer is having trouble.

The service provider can assign one or more dialable codes for accessing SCA. For ISDN customers, the service provider can assign a single station set SCA feature button for on-hook and off-hook activation of SCA, and on-hook and off-hook deactivation of SCA.

The SCA service status, screening list, and forward-to DN are moved when reassigning a line (for example, changing a port) with the ISDN ACSR and the CSR capability. The SCA service status, screening list, and forward-to DN are also moved when reassigning a line (for example, changing a port) through a service order.

8.6.3 Assignment Limitations

The service provider sets the maximum number of entries for customer SCA screening lists. The number set must fall between 3 and 31.

The SCA service is available to Multiline Hunt Group subscribers via service order only. For the 5ESS®-2000 switch, SCA can only be assigned to the first member of an MLHG or to individual no-hunt DNs of the MLHG. The SCA feature is allowed for secondary only DNs on a subscription basis only.

8.7 SYSTEM OPERATION

Selective Call Acceptance is a voice feature that can be useful to a large segment of the end-customer population.

The SCA feature is offered on a GENAVAIL or SUBSCR basis. A list size parameter for SCA is required to allow the service provider to control memory resources and to meet the differing list size needs of SCA end-customers.

A set of measurements for SCA allows the service provider to monitor switch resource use resulting from SCA. The billing record for SCA is: Structure Code 1360. However, the service feature field is filled in with the value 53 for SCA allowing the service provider to distinguish SCA end-customers and bill them accordingly.

Successful interswitch operation of SCA requires that the Common Channel Signaling 7 (SS7) or peer-to-peer PRI Integrated Services Digital Network (ISDN) User Part protocol provide the calling party number of all incoming interswitch calls in the initial address message (IAM). The calling party number also includes the DNs uniqueness and the presentation restriction information.

Originating Treatment — For interswitch calls, the originating switch sends the calling party number via the SS7 initial address message in addition to the Q.931 setup message delivered on the PRI or BRI during call setup.

Terminating Treatment — When a SS7 call is received, the SCA user's switch compares the calling DN (the DN contained in the calling number parameter in the IAM) with the DNs stored on the SCA screening list. If the DN does not match any of the DNs on the screening list, the calling party receives a denial announcement (service provider

specified) informing the caller that the called party does not wish to receive the call, or the calling party is forwarded to an alternate DN. When the rejected party is connected to an announcement, answer supervision (an office parameter on View 8.21) is sent from the terminating switch to the originating switch. If answer supervision is sent to the originating switch, an AMA record can be made by the originating switch. The line history block associated with the terminal is not updated since alerting is not given to the SCA customer.

The major function of the SCA feature is to screen terminating voice calls, allowing only calls from telephone numbers on the SCA screening list to complete. At the terminating office, the switch screens whether the directory number (DN) or extension of the calling party is stored on the SCA screening list. If the incoming DN matches an entry on the SCA screening list, the call completes unless another terminating feature is active that prevents the call from completing.

If the incoming DN for an SCA end-customer does not match any entry on the SCA screening list, the call is routed either to a denial announcement or to an alternate DN depending on the end-customer's choice at the time of activation. The SCA denial announcement is specified by the service provider. When the DN is not available, the call is not screened but is given NAT. Call processing for a call terminating to an active SCA user is represented in Figure 8-3.

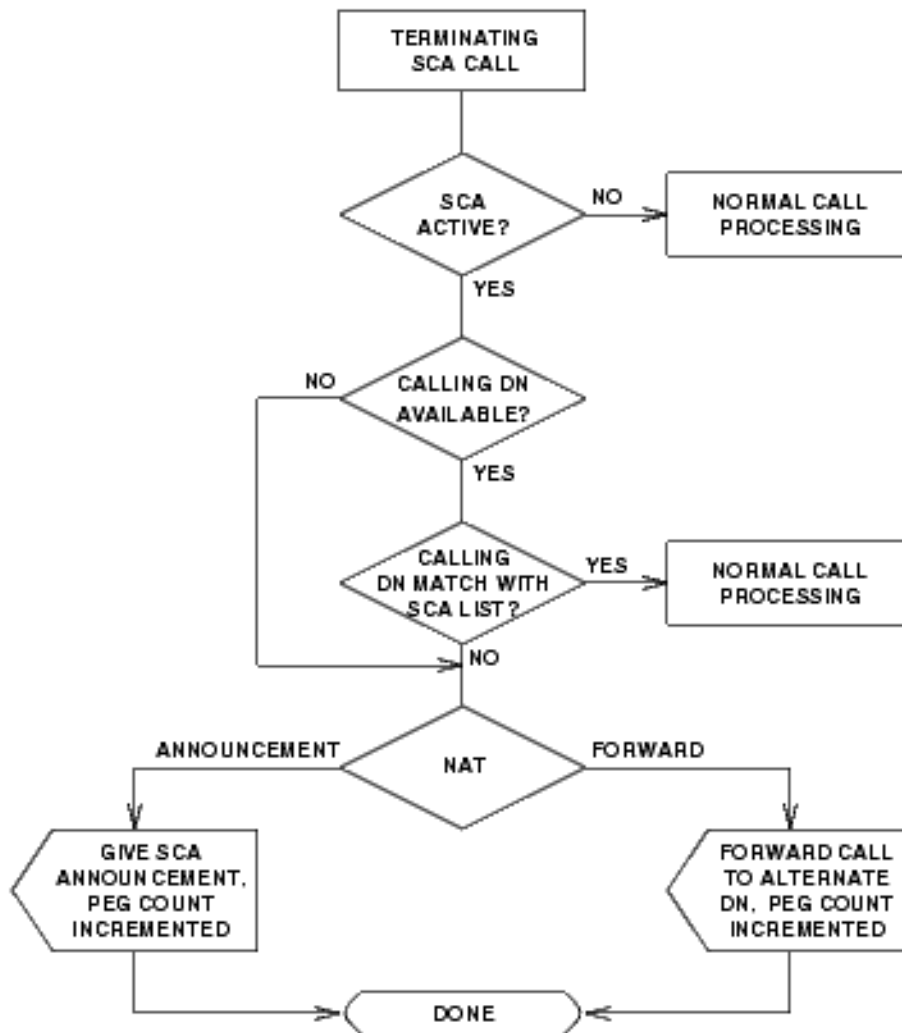


Figure 8-3 SCA Analog/ISDN Call Processing Terminating Switch

A single office count is incremented each time the SCA screening list is accessed. This count is used to engineer

sufficient announcement circuits, tone receiver circuits, and DP receivers on the 5ESS®-2000 switch. Per-office counts of the number of refused calls routed to an announcement or to a forward-to number can be used to measure refused SCA calls.

The service provider must make the following changes in order to install SCA in an office:

- The service provider must set an SCA maximum-list-size office parameter (with legal values of 3-31) to specify the maximum number of entries an SCA customer can have on the SCA screening list.

Before the service provider increases the value of the parameter, sufficient memory needs to be available for the larger lists. The service provider should not decrease the SCA office parameter below the number of entries on the largest SCA list in the office.

The switch gives no indication of the number of entries on the largest SCA list or the amount of memory available.

- The service provider must assign the SCA access code. Multiple access codes can be assigned to SCA. For ISDN customers desiring to use a feature button for accessing SCA, the service provider has the capability to assign a station set feature button via a service order.
- The service provider must engineer sufficient memory to support the maximum-sized SCA screening lists for the particular office.
- The service provider sets an office access parameter indicating whether it will (1) offer SCA to end-customers by subscription through a service order or (2) make SCA available to all lines in the office not restricted by class of service.

The office access parameter has five possible values. The SUBSCR value indicates that the SCA customers must subscribe to the feature to gain access to it and that a service order is necessary. The GENAVAIL value indicates that SCA is generally accessible to all lines/terminals in the office that are not restricted by class of service without the need of a service order to gain access to the feature.

Refer to "LASS Feature Access", Section 2.7.2.3, for additional information about office access parameters.

8.8 ADMINISTRATION

8.8.1 Measurements

The following traffic counts are taken for SCA on a per-office basis:

- Number of times the SCA access code is dialed and the SCA feature button is pressed. This is a single, new count that will be pegged for 2 different events.
- Number of successful matches while SCA is active.
- Number of calls refused and announcements provided because of SCA.
- Number of calls rerouted to forward-to DNs because of SCA.

All of the above traffic counts are new for the 5ESS®-2000 switch.

The above counts appear on the 30-minute traffic report in the section for all LASS features (section 76). The ability to turn the reporting of the LASS measurements on or off according to the needs of the service provider is provided.

8.8.2 Billing

The service provider can provide SCA on a subscription basis through a service order or on a generally-available basis. As shown in Table 8-4, Access Billing Matrix — Selective Call Acceptance, the service provider can provide SCA to customers on a per-line basis for usage-sensitive billing or flat-rate billing.

Table 8-4 illustrates the precedence in determining the type of billing (flat rate or usage sensitive) available for the SCA feature. If a particular option does not apply for a specified combination, it is shown as not applicable (NA).

Table 8-4 Access/Billing Matrix — Selective Call Acceptance

	FEATURE ACCESS OFFICE OPTION (View 8.18)	GENAVAIL FEATURE BILLING OPTION (View 8.21)	SUBSCR FEATURE BILLING OPTION (View 12.55)	FEATURE GA ALLOW (View 1.6...View 23.2)	FEATUR E ASSIGN (VIEW 1.11...Vie w 23.8)	SWITCH RESPONSE	BILLIN G ACTIO N
1	GENAVAIL	US	NA	No	No	Block	—
2	GENAVAIL	FR	NA	No	No	Block	—
3	GENAVAIL	US	NA	Yes	No	Allow	US
4	GENAVAIL	FR	NA	Yes	No	Allow	FR
5	GENAVAIL	NA	US	Yes	Yes	Allow	US
6	GENAVAIL	NA	FR	Yes	Yes	Allow	FR
7	SUBSCR	NA	US	NA	No	Block	—
8	SUBSCR	NA	FR	NA	No	Block	—
9	SUBSCR	NA	US	NA	Yes	Allow	US
1	SUBSCR	NA	FR	NA	Yes	Allow	FR
0							
1	UNAVAIL	NA	NA	NA	NA	Block	—
1							
1	TEMPUNAVAIL	NA	NA	NA	NA	Block	—
2							

Generally Available — For row 1 through row 4 combinations, the feature access office option for SCA on RC View 8.18 and the SCA GA FEAT field on RC View 8.21 are used to determine whether flat-rate (FR) or usage-sensitive (US) recording is done for the end customer. For these scenarios, the feature is not assigned via service order (column 5) but the feature access office option for SCA is set to GENAVAIL. The feature allow field (column 4) turns the access on or off for the applicable classes of service (default) or denies access to specific lines regardless of the class of service. The SCA GA FEAT field (column 2) specifies the feature name (defaults to /SCAGA), which is defined as either a preconstructed feature or modified with the feature definition, View 12.55.

Assigned — For row 5 and row 6 combinations, the feature access office option is set to GENAVAIL although the feature is assigned to the end customer via service order (column 5). The assigned feature definition will determine whether usage-sensitive AMA is recorded.

Subscription — For row 7 through row 10 combinations, the feature access office option is set to subscription. The end customer must be assigned either a preconstructed or customized feature via the applicable RC view (1.11 through 23.8).

Unavailable — The feature access option for initial provisioning is set to UNAVAIL. Access to the features will be blocked until recent change procedures are used to change the options to either GENAVAIL or SUBSCR.

Temporarily Unavailable — The TEMPUNAVAIL option is used to temporarily turn off the feature while maintaining the line history block assignments. Access to the feature will be blocked until recent change procedures are used to change the option back to either GENAVAIL or SUBSCR.

Usage-sensitive billing requires the generation of AMA records. Flat-rate billing requires a service order but does not require the generation of billing records. A combination of billing methods is also supported when a flat rate applies

in addition to usage-sensitive billing. These values are assigned per terminal for the incoming feature.

If the telephone company chooses to make SCA generally available by setting the office access option to GENAVAIL, then usage-sensitive billing applies by default (View 8.21— SCA GA FEAT /SCAGA). For both the generally available and the service order situations, the telephone company can mark the line of an individual customer for flat-rate billing via a service order. In this case, the line is assigned a version of the SCA feature which offers the flat-rate billing option (/SCAFR). This process converts a POTS line to a BRCS line.

For usage-sensitive billed SCA customers on 5ESS®-2000 switch offices that have the AMA Standard Entries feature, an event record using the new Structure Code 1360 is created for each access of the SCA screening list.

In addition, a continuation record, using the same Structure Code, is made daily (3:07 am) for each usage-sensitive customer with an SCA screening list. As long as an SCA screening list exists, whether active or inactive, a continuation record is made.

The *LASS AMA Record Format for SCA and CAR*, described in "CAR/SCA AMA Structure Code 1360", Section 2.9.3 , shows the fields of the new Structure Code 1360. The service feature field is filled in with a code of 98 for SCA to allow the service provider to distinguish SCA end-customers and bill them accordingly.

The service provider sets an office parameter to indicate whether answer supervision is to be sent for refused SCA calls which terminate to an announcement. When the terminating switch sends answer supervision, the originating switch creates a billing record for the calling party.

For SCA calls which receive the forward-to terminating treatment, the calling party is charged for the first leg of the call and the SCA customer is charged for the forward leg of the call. Routine AMA treatment is used on the forward leg of the call.

9. LASS COMPUTER ACCESS RESTRICTION

9.1 GENERAL

9.1.1 Definition

The Local Area Signaling Services (LASS) Computer Access Restriction (CAR) feature is similar to the LASS Selective Call Acceptance (SCA) feature, but is designed for analog data calls controlling computer access of voice channel data (modem-to-modem) calls. Figure 9-1 is a pictorial representation of how the CAR feature works.

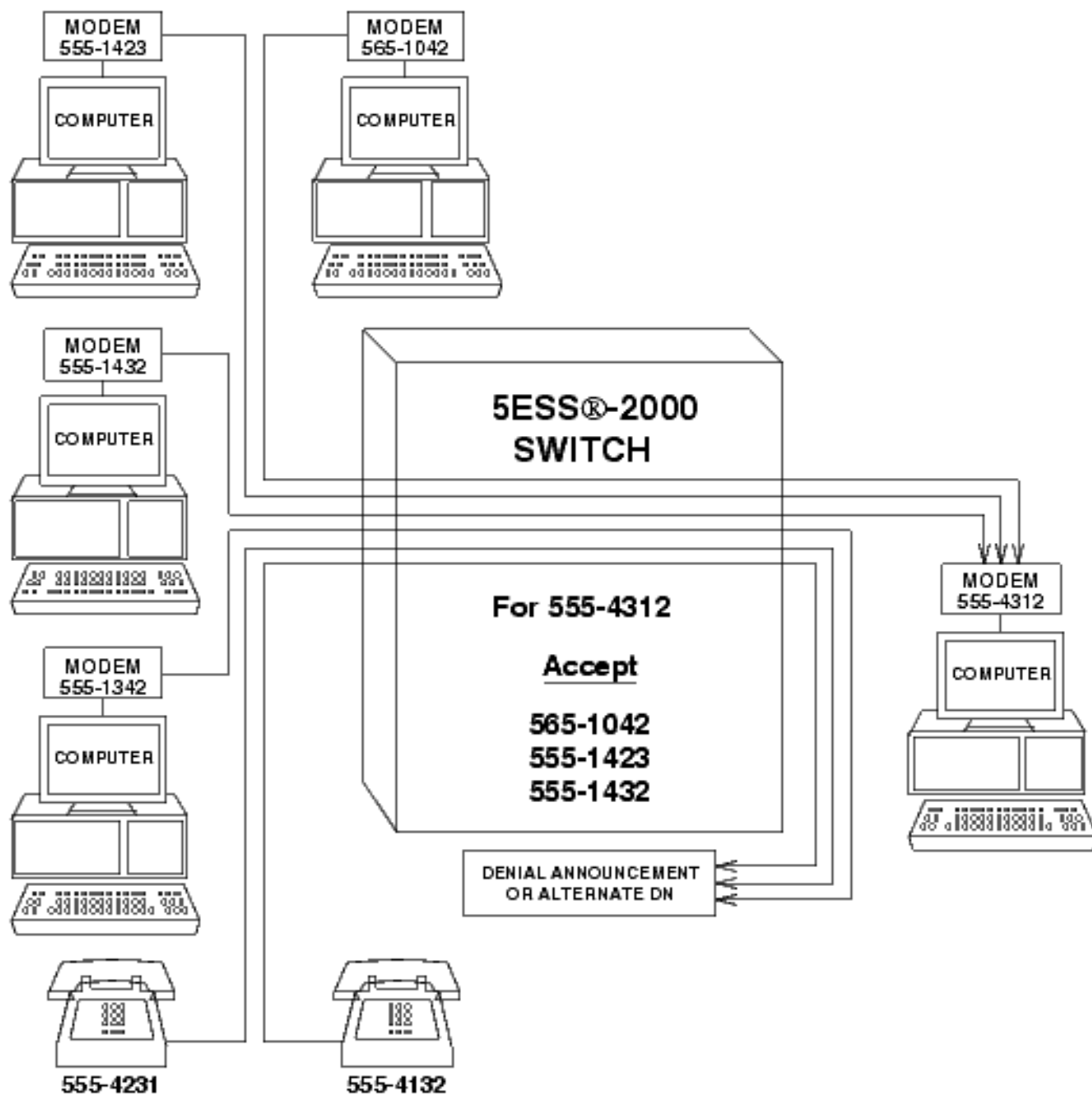


Figure 9-1 Computer Access Restriction

The CAR feature allows a customer to create a list of telephone numbers, using the screen list editing capabilities, and to accept (via a modem and computer or computer terminal attached to the customer's telephone set) voice versions of data calls only from calling parties (with modems and computers or computer terminals attached to analog telephone sets) whose telephone numbers are on the screening list.

Computer Access Restriction allows a business or residential customer to restrict the access of calling parties to the customer's computer. If the telephone number of the calling party is not on the screening list, the call routes to an announcement or forwards to an alternate directory number (DN) depending on the user's selection prior to feature activation. The CAR customer does not receive any indication of the call.

The permissible number of DNs for CAR screening lists (set by an office parameter to a maximum value of 31) is expected to be much greater than the permissible number of screening list DNs for SCA and the other LASS selective features.

Computer Access Restriction users who desire to forward their calls can:

- Forward nonaccepted calls to another computer for backup purposes
- Forward nonaccepted calls to an attendant having the Calling Number Display feature, to identify illegal incoming DNs
- Chain several DNs (lists) together forming a larger or layered CAR screening list using call forwarding.

The CAR feature is available for analog and integrated services digital network (ISDN) stations and works intra-office or interoffice using signaling system 7 (SS7) links.

9.1.2 Economic Worth

The CAR feature is marketed separately from other LASS selective features as a Computer access control feature. Computer owners need the capability to control access to their computers allowing only those authorized by them to access information available on that computer. Computer Access Restriction gives the customer control over who can access computer information by restricting access to authorized users whose telephone numbers have been placed on the CAR list associated with the computer's DN. As long as the calling party's DN is available, no amount of *computer hacking* will allow the unauthorized user access to the computer. For any call to gain access to the computer, the DN of the caller must be on the CAR list.

Small businesses may not have the sophisticated software and/or hardware needed to restrict computer access. These computer owners want and need some restriction method and many will be willing to pay a reasonable fee for the capability provided by the CAR feature.

9.1.3 Availability

The CAR feature is available in 5E6 and later software releases.

9.1.4 Feature Application

The CAR feature is provided on a per-DN basis.

9.2 USER PERSPECTIVE

9.2.1 User Profile

The CAR subscriber is primarily a business customer having a host computer connected to an analog line (or ISDN voice line) in the company's computer center, or a residential customer having a personal computer associated with

the line.

The CAR feature serves as a *modem cop* providing customers with analog dial-up networks the ability to accept calls only from authorized telephone numbers. The CAR feature is useful for businesses wanting to control access to corporate computers. For example, a parent company can protect its market data by setting the dial-up lines to accept calls only from its own satellite offices.

9.2.2 Customer Premises Equipment

The CAR feature works with both analog and ISDN customer premises equipment.

The type of customer premises equipment (CPE) expected to be the most widely used with CAR is an analog station set. Both dual tone multifrequency (DTMF) and dial pulse (DP) sets are supported.

Other CPE supporting CAR are ISDN types A, B, C, and D terminals with and without display capability, and ISDN types A, B, C, and D terminals with and without a CAR feature button. Part IV (Basic Call) ISDN terminals are not supported.

9.2.3 User Operation

9.2.3.1 General

To access the CAR feature, a user simply picks up the phone and dials the CAR access code. If the user is not assigned the feature or cannot access the feature, the user receives reorder or a service provider standard announcement indicating that the feature cannot be accessed. If the user has access to the feature, an announcement (and display for Custom ISDN users) indicates this. If the feature is turned off, an announcement (and display for ISDN users) indicates the status of the feature. If the feature is on, the user is informed of the number of entries on the list and their type after the initial announcement.

If the CAR feature is off, an announcement informs the user to dial [3] to turn the feature on. If a user chooses to edit the screening list, the user can add, remove, or review the entries currently on the list through interactive announcements.

Refer to "Screen List Editing", Section 7, for detailed SLE operation and information.

9.2.3.2 Activation

User activation sequences for the CAR feature are given in Table 9-1 and Figure 9-2. Users having ISDN terminals with feature buttons can activate CAR by using a specified activate/deactivate feature button. A screening list must exist before SCA can be activated by feature button.

The following is a descriptive example taken from Table 9-1, *Initial Activation Choosing Forwarding as NAT*. For explanations of items enclosed in brackets [], refer to the notes at the end of Table 9-1.

- Initially, the CAR user goes off-hook and dials the CAR [access code] provided by the service provider.
- At this point, the customer listens to announcements [+] outlining the available options.
- After listening to the announcements, the customer dials [3] to activate the CAR feature.
- Further announcements [+] allow the user to choose the type of non-accepted treatment (NAT) callers not on the CAR list will receive.
- The customer can choose to have callers hear an announcement (provided by the service provider) or forward calls to another telephone number. The customer selects the forwarding option by dialing [0].

- This announcement [+] tells the customer to enter the forwarding number that will receive non-accepted calls.
- 555-1234 is an example of a remote telephone number (RTN) a customer might enter at this point [RTN].
- Additional announcements [+] give the user the opportunity to confirm the RTN.
- The RTN is confirmed by entering [1].
- Currently, there are no telephone numbers on the acceptance list. The announcements [+] give the customer the option of adding numbers to the acceptance list. The CAR feature will not activate without at least one list entry.
- Pressing the [#] symbol allows an entry to be added to the CAR screening list.
- Announcements [+] instruct the user to enter the telephone number on the list.
- The customer dials a valid telephone number or extension [Valid DN/extension].
- At this point, CAR is active, the RTN has been entered, forwarding as NAT is active, and at least one telephone number is on the acceptance list. Although the customer can listen to additional announcements and make other choices, this session is complete and the customer can go on-hook at any time to terminate the session.

The flowchart in Figure 9-2 shows some of the choices the CAR customer can make during the CAR activation/deactivation process.

Table 9-1 Analog and ISDN CAR End-User Normal Activation Dialing Sequence

ACTIVATION	GOALS	OPERATIONS a b c d e f
Initial Activation: CAR previously inactive and no stored NAT exists	User initially activates CAR and chooses recording as NAT User initially activates CAR and chooses forwarding as NAT	[access code] + [3] + [1] + [#] + [valid DN/extension] [access code] + [3] + [0] + [RTN] + [1] + [#] + [valid DN/extension]
Regular Activation: CAR previously inactive and stored Recording NAT exists	User keeps recording as NAT and activates CAR User changes NAT from recording to forwarding and activates CAR	[access code] + [3] + [1] [access code] + [3] + [0] + [RTN] + [1]
Regular Activation: CAR previously inactive and stored Forwarding NAT exists	User keeps forwarding as NAT and activates CAR User changes NAT from forwarding to recording and activates CAR User keeps forwarding as NAT, but changes to new RTN	[access code] + [3] + [1] [access code] + [3] + [0] + [1] [access code] + [3] + [0] + [0] + [RTN] + [1]
Regular Activation: CAR previously active and stored Recording NAT exists	User keeps recording as NAT and keeps CAR active User changes NAT from recording to forwarding and keeps CAR active	[access code] + [1] [access code] + [0] + [RTN] + [1]
Regular Activation: CAR previously active and stored Forwarding NAT exists	User keeps forwarding as NAT and keeps CAR active User changes NAT from forwarding to recording and keeps CAR active User keeps forwarding as NAT, but changes to new RTN and keeps CAR active	[access code] + [1] [access code] + [0] + [1] [access code] + [0] + [0] + [RTN] + [1]
Notes: a. If an attempt is made to activate an empty list, the user is prompted to add a list entry. b. Users can perform any editing in place of dialing [3].		

- c. NAT refers to Non-Accepted Treatment.
- d. [] refers to a specific code dialed in the session.
- e. RTN refers to a remote telephone number (forward-to DN).
- f. "+" indicates announcements between the dialing code.

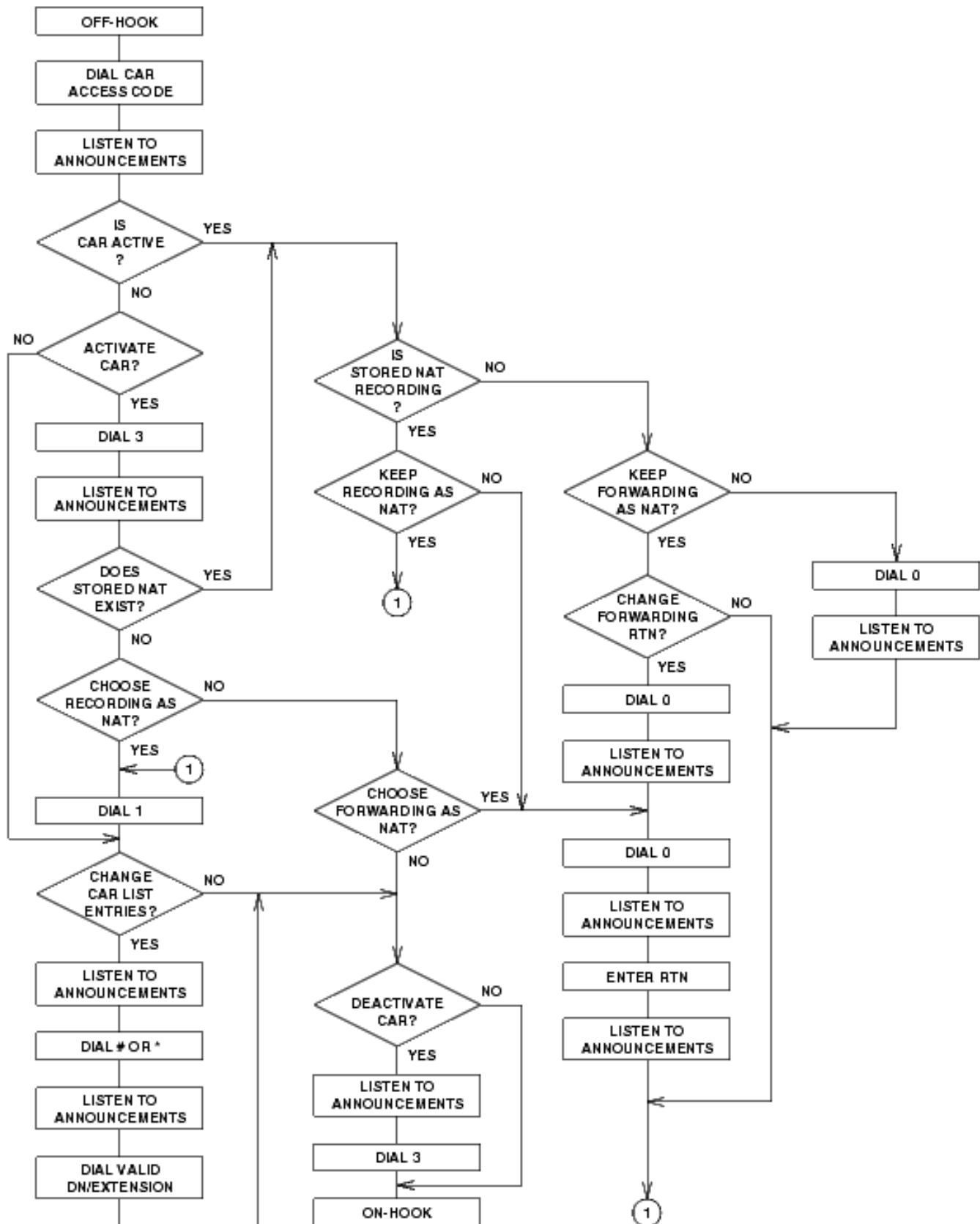


Figure 9-2 CAR End-User Dialing Sequence Flow Diagram**9.2.3.3 Deactivation**

User deactivation sequences for the CAR feature are given in Table 9-2 and Figure 9-2. Users having ISDN terminals with feature buttons can deactivate CAR by using a specified activate/deactivate feature button.

Table 9-2 Analog and ISDN CAR End-User Normal Deactivation Dialing Sequence

DEACTIVATION	GOALS	OPERATIONS a b c d e
Regular Deactivation: CAR previously active and stored Recording NAT exists	User keeps recording as NAT and deactivates CAR User changes NAT from recording to forwarding and deactivates CAR	[access code] + [1] + [3] or [access code] + [3] [access code] + [0] + [RTN] + [1] + [3]
Regular Deactivation: CAR previously active and stored Forwarding NAT exists	User keeps forwarding as NAT and deactivates CAR User changes NAT from forwarding to recording and deactivates CAR User keeps forwarding as NAT, but changes to new RTN and deactivates CAR	[access code] + [1] + [3] or [access code] + [3] [access code] + [0] + [1] + [3] [access code] + [0] + [0] + [RTN] + [1] + [3]
Notes: a. a Users can perform any editing in place of dialing [3]. b. NAT refers to Non-Accepted Treatment. c. [] refers to a specific code dialed in the session. d. RTN refers to a remote telephone number (forward-to DN). e. "+" indicates announcements between the dialing code.		

9.2.4 Operational Limitations

The CAR feature requires that interswitch calls use SS7 or peer-to-peer primary rate interface (PRI) connectivity in order to provide interswitch calling line information. Inter-LATA LASS is dependent on the network interconnect capability between LATAs.

Telephone numbers (DNs or extensions) that are not assigned at the user's switch, which are to be added to the CAR list, need to be validated if validation is to be performed.

A caller can call a CAR customer and be rejected because of routing even if the caller's DN is on the CAR customer's acceptance list. As an example, a caller making a call routed over a SS7 trunk to a CAR customer will be accepted if the caller's DN is on the CAR screening list. However, the same caller's DN routed over a non-SS7 trunk will be rejected because the caller's DN does not route with the call and CAR only accepts calls from received DN's on the list.

The CAR feature is a voice only feature and is designed to screen analog modem-to-modem calls. The CAR feature does not screen ISDN circuit-switched or packet-switched data calls.

The CAR feature can only be accessed via subscription and is not generally available to the office.

For CAR forwarding NAT, CAR has a default value of 99 for the simultaneous intra-office forwarding limit and a default value of 1 for the simultaneous interoffice forwarding limit. The service provider can change both limits on a per-office basis with values between 1 and 99. The consecutive forwarding limit default is 5 for CAR and can be

changed to a maximum of 32.

Ping ring is not provided at the forwarding station when an active CAR user forwards non-accepted calls.

9.3 INTERACTIONS

9.3.1 General Rules

The interactions between CAR and other features are described in terms of originating feature interactions and terminating feature interactions. An originating interaction is when the CAR station user is the originating party with or without a modem and a computer or computer terminal attached to the voice data station set. Terminating interaction, as described in the following subsections, assume that the CAR user is the terminating party with a modem and computer or computer terminal attached to the analog station set and that incoming calls originate via modems and computers or computer terminals attached to voice data station sets.

For Screen List Editing interactions as well as interactions related to RTN assignment, refer to "LASS Screen List Editing", Section 7 .

General rules that apply to CAR feature interaction are as follows:

- Incoming calls arriving from signaling system 7 (SS7) trunks or peer-to-peer PRI are screened against the active CAR screening list. If a calling party DN is not received for an incoming call (for example, calls from a private facility), the call is not screened and is denied or forwarded.
- Unaccepted calls do not forward to a remote station over private facility trunks if the CAR user has forwarding as non-accepted treatment (NAT).
- All Terminal Group and Station Restriction (TGSR) features have precedence over CAR.
- The CAR screening is done after the switch checks the busy/idle status and is also done before queuing is allowed.
- The CAR feature takes precedence over the Call Forwarding and Call Waiting features.
- If a CAR user initiates a call and encounters a busy line or trunk, and if the user is rung back when the line or trunk becomes idle, ringback is allowed regardless of the CAR status.
- An attendant is not allowed to bypass the CAR station user unless the attendant's DN is on the active CAR screening list or the attendant has the Attendant Emergency Override feature.
- Display interactions apply to Custom ISDN only since National ISDN CAR does not provide displays.

9.3.2 800 Service [Also Known as Inward Wide Area Telecommunications Service (INWATS)]

The 800 Service feature provides inward service from one or more predetermined areas at a rate based on expected usage.

NOTE: The 800 Service feature is not limited to the 800 NPA if the switch has implemented a toll-free treatment feature that allows additional toll-free Service Access Codes (SAC) such as 888 or 877.

Originating: The CAR feature is allowed on an 800 service line.

Terminating: No interaction.

9.3.3 800 Service Simulated Facilities Group

The 800 Service Simulated Facilities Group feature can restrict the number of simultaneous INWATS calls through software rather than by the physical size of a dedicated trunk group.

Originating/Terminating: No interaction.

9.3.4 900 Services

The 900 Service provides inward service from one or more predetermined areas at a rate based on expected usage.

Originating: The CAR feature is allowed on a 900 service line.

Terminating: No interaction.

9.3.5 Account Codes [Electronic Tandem Switching (ETS) Optional Account Codes]

The Account Codes (ACCT) feature allows the customer to add an account code to an automatic message accounting (AMA) or message detail recording (MDR) record for customer allocation of telecommunication charges.

Originating: The account code, as well as the account use code (access code), can be entered before the CAR access code as is done for the Business and Residence Custom Services (BRCS) features, so that billing can be charged to a different account. In addition, the account code use button is recognized as described above for the account use code. In this case, the account code must still be entered by the CAR user.

If the CAR user is off-hook and not involved in a call, the use of a dialed account use code and a dialed account code are allowed before the use of the CAR access code, but not afterwards. If the CAR user is involved in off-hook activation or deactivation via the CAR feature button (and is not involved in a call), dialed account codes/buttons are allowed before the use of the CAR access code, but not afterwards. If the CAR user is on-hook, the use of a feature button for an account use code is not allowed, either before or after the use of a CAR feature button.

Terminating: No interaction.

9.3.6 Add-On/Consultation Hold Incoming Only

Add-On/Consultation Hold Incoming Only is a terminal group variation of the Three-Way Calling feature. It provides three-way calling restricted to incoming direct inward dialed (DID) calls.

Originating/Terminating: No interaction.

9.3.7 Advanced Services Platform

Advanced Services Platform (ASP) provides a platform of service-independent capabilities on a 5ESS®-2000 switch allowing the switch to interact with external network elements. Only the Dialed Number Trigger (DNT) and Shared Interoffice Trunk Trigger ASP subfeatures are available for National ISDN. For further information and for the latest details on LASS features and ASP interactions, Please see the following documents:

235-190-125 *Advanced Services Platform Release 0 and 0.1A*

235-190-126 *Advanced Services Platform Release 0.1B*

Originating: No interaction.

Terminating: If available at the terminating switch, ASP calls are identified by the public DN of the originator and are subject to CAR screening and termination treatment.

A DN trigger is not accepted as the forward-to number for CAR if the trigger is provided at the user's switch. CAR

cannot query the SCP to determine the associated routing number. The user receives error treatment for an invalid forward-to number. The DN triggers provided at other switches are validated as normal by the user's switch. However, the user switch will not query the other switch to validate the forward-to number, and the other switch will not query the service control point.

The ASP access codes cannot be entered as part of the screening list entry, or forwarding to number. Attempts do so result in long-term denial. However, access codes that are part of a speed calling entry (for a forward-to number only) or are provided on translation by an IDP are accepted.

When a user enters a forward-to number for CAR, the line is not checked to determine if its is semirestricted or fully restricted with ASP. Calls forwarded to an ASP line which is fully restricted plus ASP receive reorder if the calling party is outside the line's terminal group and the call is not an ASP call. Calls forwarded by CAR to lines that are semirestricted plus ASP are given reorder tone if the calling party is outside the line's terminal group, and the call is not an ASP call and the call was redirected via a Call Transfer or Call Pickup feature.

The SCP is queried before the call is screened by any of the LASS selective features for incoming calls to a DN trigger. The instructions returned from the SCP determine if the call is offered to a LASS selective feature user. Additionally, the SCP is not queried if a user adds a number to the screening list that is a subscribed trigger.

List entries that are DN triggers at the user's switch cannot be added to a screening list because DN triggers are not associated with a physical port. The user's switch does not query the SCP. Attempts to add these entries to a screening list result in long term denial. This also applies to list entries which are DN triggers at a remote switch. Normal validation procedures apply because the query for the DN characteristics is still made by the originating switch.

9.3.8 Attendant Call Transfer (Also Known as Call Splitting)

Attendant Call Transfer allows the attendant to flash and dial a code before dialing the third leg of a three-way call.

Originating/Terminating: No interaction.

9.3.9 Attendant Camp-On

Attendant Camp-On allows calls the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: No interaction.

Terminating:

- Manual Camp-On

See "Dial Call Waiting", Section 9.3.71 .

- Automatic Camp-On

See "Call Waiting Originating", Section 9.3.48 .

9.3.10 Attendant Conference Six-Way

Attendant Conference Six-Way allows an attendant to initiate a conference call involving up to six parties (including the attendant).

Originating/Terminating: No interaction.

9.3.11 Attendant Control of Facilities

NOTE: Attendant Control of Facilities (ACOF) is not supported on standard BRI (National ISDN).

Attendant Control of Facilities (ACOF) permits an attendant to restrict dial access from a station to tie trunks, foreign exchange trunks, and wide area telecommunications service (WATS) by operating a key or dialing a code. When control is activated, calls to these facilities are routed to an attendant for appropriate action.

Originating: The ACOF feature can be used to restrict access to CAR by individualized dialing plan (IDP) defined dialed codes. It cannot be used to restrict access to CAR by office dialing plan (ODP) defined dialed codes.

Terminating: No interaction.

9.3.12 Attendant Direct Station Selection

NOTE: The Attendant Direct Station Selection (ADSS) feature is not supported on standard BRI (National ISDN).

Attendant Direct Station Selection allows an attendant with a console to place calls to stations in the business group by simply pressing a nonlocking pushbutton key associated with the desired station line.

Originating: No interaction.

Terminating: An incoming call arriving from an attendant is screened by the active screening list.

9.3.13 Attendant Identification of Incoming Calls

NOTE: The Attendant Identification Of Incoming Calls feature is not supported on standard BRI (National ISDN).

Attendant Identification of Incoming Calls provides identification, via incoming call indicator lamps on the attendant console, of listed directory number (LDN) calls directed toward different LDNs but served by the same attendant.

Originating/Terminating: No interaction.

9.3.14 Attendant Position

NOTE: Attendant Position is not supported on standard BRI (National ISDN).

Attendant Position allows a customer to designate a particular station within a business customer group as an attendant position.

Originating: The CAR feature cannot be assigned to an attendant position.

Terminating: No interaction.

9.3.15 Attendant Recall from Satellite

Attendant Recall from Satellite gives stations located at remote locations without an attendant, but with the Satellite Attendant Transfer feature, the ability to transfer an incoming call by flashing the switchhook to generate a recall to the main location attendant, who performs the transfer for the remote station.

Originating: No interaction.

Terminating: See "Attendant Call Transfer", Section 9.3.8 .

9.3.16 Authorization Codes (ETS Authorization Codes)

The Authorization Codes (ATH) feature allows the station user to input an assigned code to change the restrictions associated with the originating station to those associated with the assigned authorization code.

Originating: An authorization code sequence can be dialed before the CAR access code is dialed as is done for ACCT. In addition, the ATH code is permitted after the dialed CAR code. The switch prompts the CAR user for the authorization code. Thus, unauthorized use of CAR can be avoided. Authorization code use buttons are also recognized as described for the authorization use codes.

If the CAR user is off-hook and not involved in a call, the use of a dialed authorization use code and a dialed authorization code are allowed either before or after the use of the CAR access code. If the CAR user is involved in off-hook activation or deactivation via the CAR feature button (and is not involved in a call), dialed authorization codes/buttons are allowed either before or after the use of the CAR access code. If the CAR user is on-hook, the use of a feature button for an authorization use code is not allowed, either before or after the use of a CAR feature button.

Terminating: No interaction.

9.3.17 Automatic Alternate Routing

Automatic Alternate Routing (AAR) provides alternate routing capability similar to ARS-Deluxe. The difference being that AAR is used to route calls to stations on the customer's private network.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 9.3.22 .

9.3.18 Automatic Callback

The LASS Automatic Callback (AC) feature enables users to easily return the most recently received call.

Originating: If the CAR user activates CAR before AC delayed processing ring back is given, the CAR user receives ring back even though the DN is not on the list (since the CAR user initiates this AC call).

Terminating: Automatic Callback camp-on to a line with CAR active is not affected by CAR if the DN of the AC caller is on the CAR screening list.

If the DN of the AC caller is not on the CAR customer's CAR screening list, AC camp-on to a line with CAR active will not occur. If the DN of the AC caller is not on the CAR screening list and CAR is active with *recording* as NAT, the AC caller is connected to a CAR denial announcement. If the DN of the AC caller is not on the CAR screening list and CAR is active with *forwarding* as NAT, the AC caller receives call forwarding denial treatment and, if applicable, feature button rejection treatment.

A party answering AC ringback, as a result of AC camp-on to the line of a CAR customer, is connected to a CAR denial announcement if CAR is active with *recording* as NAT on the CAR user's line and the DN of the party answering the AC ringback is not on the CAR screening list. This assumes that the DN of the party answering AC ringback is on the CAR screening list or that CAR is not active on the CAR user's line at the time of AC camp-on to that line. If the NAT is *forwarding* instead of *recording*, the call from the party answering ringback will forward to the RTN.

9.3.19 Automatic Callback-Calling

Automatic Callback-Calling (ACBC) allows the user, after reaching a busy station, to hang up and dial an activation code to activate ACBC. This feature only applies to two stations in the same Business and Residence Custom

Services (BRCS)/Centrex group.

Originating: By dialing the ACBC activation code, a CAR user encountering a busy station automatically receives ringback when the station becomes idle. Active ACBC calls (originated by an active CAR line) bypass the CAR feature and ringback the active CAR line when the called station is idle.

Terminating: Automatic Callback-Calling camp-on to a line with CAR active is not affected by CAR if the DN of the ACBC caller is on the CAR screening list.

If the DN of the ACBC caller is not on the CAR customer's CAR screening list, ACBC camp-on to a line with CAR active will not occur. If the DN of the ACBC caller is not on the CAR screening list and CAR is active with *recording* as NAT, the ACBC caller is connected to a CAR denial announcement. If the DN of the ACBC caller is not on the CAR screening list, CAR is active with *forwarding* as NAT, and the RTN is in the same switch, the ACBC request is directed to the RTN. Assuming normal termination, the RTN is alerted as a result of the ACBC request if idle, or camp-on to the line of the RTN occurs if the RTN is busy. If the DN of the ACBC caller is not on the CAR screening list, CAR is active with *forwarding* as NAT, and the RTN is in another switch, the ACBC caller receives short-term denial treatment and, if applicable, feature button rejection treatment.

A party answering ACBC ringback, as a result of ACBC camp-on to the line of a CAR customer, is connected to a CAR denial announcement if CAR is active with *recording* as NAT on the CAR user's line and the DN of the party answering the ACBC ringback is not on the CAR screening list. This assumes that the DN of the party answering ACBC ringback is on the CAR screening list or that CAR is not active on the CAR user's line at the time of ACBC camp-on to that line. If the NAT is *forwarding* instead of *recording*, the call from the party answering ringback will forward to the RTN.

9.3.20 Automatic Intercept System (Also Known as Remote Intercept System)

Automatic Intercept System (AIS) allows Class 5 offices to route calls to nonworking telephone numbers or to telephone numbers placed on trouble intercept to an AIS where they are connected to announcements and/or operators.

Originating: No interaction.

Terminating: Regardless of CAR, AIS rerouting will occur.

9.3.21 Automatic Recall

The LASS Automatic Recall (AR) feature allows users to redial the most recent called party.

Originating: If the CAR user activates the CAR feature before the AR delayed processing ringback is given, the CAR user will receive ringback even though the DN is not on the list (since the CAR user initiates this AR call).

Terminating: Automatic Recall camp-on to a line with CAR active is not affected by CAR if the DN of the AR caller is on the CAR screening list.

If the DN of the AR caller is not on the CAR customer's CAR screening list, AR camp-on to a line with CAR active will not occur. If the DN of the AR caller is not on the CAR screening list and CAR is active with *recording* as NAT, the AR caller is connected to a CAR denial announcement. If the DN of the AR caller is not on the CAR screening list and CAR is active with *forwarding* as NAT, the AR caller receives call forwarding denial treatment and, if applicable, feature button rejection treatment.

A party answering AR ringback, as a result of AR camp-on to the line of a CAR customer, is connected to a CAR denial announcement if CAR is active with *recording* as NAT on the CAR user's line and the DN of the party answering the AR ringback is not on the CAR screening list. This assumes that the DN of the party answering AR ringback is on the CAR screening list or that CAR is not active on the CAR user's line at the time of AR camp-on to

that line. If the NAT is *forwarding* instead of *recording*, the call from the party answering ringback will forward to the RTN.

9.3.22 Automatic Route Selection (Also Known as Flexible Route Selection)

Automatic Route Selection (ARS) directs outgoing, business group line calls to the customer's most preferred available route.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, calls routed by ARS are subject to CAR screening and terminating treatment. The calling party number is not available for calls routed over non-SS7 private facilities. Such calls will receive CAR non-accepted treatment.

9.3.23 Automatic Voice Network Interface

NOTE: Automatic Voice Network (AUTOVON) Interface is not supported on standard BRI (National ISDN).

Automatic Voice Network Interface provides an interface with the AUTOVON network, including provisions for prioritizing call handling.

Originating: No interaction.

Terminating: Routine AUTOVON calls to an active CAR line are screened if the DN is delivered through the Defense System Network (DSN). Priority calls are not screened against the CAR screening list and will be accepted by the CAR user. See "Precedence and Preemption", Section 9.3.188, for details.

9.3.24 Basic Emergency Service (911)

NOTE: Basic Emergency Service is not supported on standard BRI (National ISDN).

Basic Emergency Service provides a 3-digit universal telephone number (911) for public use throughout the United States to report an emergency or request emergency assistance.

Originating: Because Public Service Answering Points (PSAPs) are connected to the serving tandem office via dedicated non-SS7 trunks, CAR is not compatible with these PSAPs. The PSAP does not have a CAR screening list associated with it. The CAR user can dial 911 for emergency assistance.

Terminating: Refer to "Emergency Ringback", Section 9.3.84, for ringback interactions.

9.3.25 Basic Queuing (Queuing for Lines)

Basic Queuing provides queuing for lines, call waiting lamps control, and delay announcements.

Originating: No interaction.

Terminating: An incoming caller's DN is screened on the active CAR list before it is put on the queue.

9.3.26 BRCS Compatibility with ISDN

The BRCS Compatibility features ensure that many of the existing BRCS features and services function with supported ISDN station sets so that users experience equivalent, similar, or expanded circuit-switched voice service by subscribing to these ISDN BRCS features and services.

Originating/Terminating: See the individual BRCS features.

9.3.27 BRCS Feature Grouping

The BRCS Feature Grouping provides a logical grouping of features and groups that are used by business customers receiving communications services from a central office switch. This feature works with both analog BRCS and ISDN BRCS features.

Originating: This feature allows the CAR feature to be offered on a business-wide basis as opposed to a per-DN basis. The CAR feature can be placed in a BRCS Feature Group (BFG).

Terminating: No interaction.

9.3.28 Business Group Line

Business Group Line provides capabilities similar to those for individual lines, but is classed as a member of a group of business lines belonging to a single customer.

Originating: The CAR feature can be assigned to business group lines.

Terminating: No interaction.

9.3.29 Busy Line Verification

Busy Line Verification (BLV) allows an operator to complete a connection to a busy line to determine the off-hook/on-hook status of the line or if a conversation exists on the line.

Originating: No interaction.

Terminating: Busy Line Verification to a CAR line is allowed. No screening will be performed regardless of the CAR feature status.

9.3.30 Call by Call Access from a 5ESS®-2000 Switch in a Private Network to Interexchange Carrier Services

This feature allows the private network customer to generate, on a per-call basis, a request for services from an interexchange carrier or local exchange carrier.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to CAR screening and termination treatment.

9.3.31 Call Forwarding Busy Line

Call Forwarding Busy Line (CFBL) permits calls attempting to terminate to a busy line to be redirected to another customer-specified line.

Originating: No interaction.

Terminating: The CAR feature takes precedence over CFBL. A call to an idle or busy line of a CAR user with CAR and CFBL active will receive CAR NAT treatment if the DN of the caller is not on the CAR screening list. If the line is busy with CAR and CFBL active, and the calling DN is on the CAR list, the call will forward to the CFBL RTN.

9.3.32 Call Forwarding Busy Line Incoming Only

Call Forwarding Busy Line Incoming Only (CFBLIO) ensures that only incoming DID calls forward to the specified

business group line.

Originating: No interaction.

Terminating: The CFBLIO feature is only operational for calls originating from outside the terminal group of the station with the CFBLIO feature. Otherwise, the interaction of CFBLIO with CAR is identical to that described in "Call Forwarding Busy Line", Section 9.3.31 .

9.3.33 Call Forwarding Do Not Answer

Call Forwarding Do Not Answer (CFDA) forwards incoming calls to a station to another preselected station within the same customer group, or to the attendant, when the called station is not answered after a customer-specified number of rings.

Originating: No interaction.

Terminating: Calls forwarding to a customer via CFDA *are screened* on the basis of the originating party's DN at the remote station for both intraswitch calls and interswitch calls. If the calling party's DN is on the remote station CAR screening list, and the CAR user is busy, only ringing is given (a multiple progression tone is not allowed for intraswitch CFDA calls). If the calling party's DN is on the CAR list and the called user is idle with CAR and CFDA active, the call will forward to the CFDA RTN after CFDA timing expires. A call to an idle or busy line with CAR and CFDA active from a DN that is not on the CAR screening list will receive CAR NAT.

9.3.34 Call Forwarding Do Not Answer Incoming Only

Call Forwarding Do Not Answer Incoming Only (CFDAIO) ensures that only incoming DID calls to the business group line forward, if not answered, after a customer-specified number of rings.

Originating: No interaction.

Terminating: The CFDAIO feature is only operational for interterminal-group (incoming) calls. Otherwise, the interaction of CFDAIO with CAR is identical to that described in "Call Forwarding Do Not Answer", Section 9.3.33 .

9.3.35 Call Forwarding Incoming Only

Call Forwarding Incoming Only (CFIO) forwards calls terminating from outside the group via DID.

Originating: No interaction.

Terminating: The CFIO feature is only operational for interterminal-group calls. Otherwise, the interaction of CFIO with CAR is identical to that described in "Call Forwarding Variable", Section 9.3.37 .

9.3.36 Call Forwarding Over Private Facilities

NOTE: The Call Forwarding Over Private Facilities option is not supported on the standard BRI (National ISDN).

Call Forwarding over Private Facilities (CFPF) is a Call Forwarding Variable (CFV) option allowing business customers to automatically forward voice calls over the outgoing private facilities access (PFA) or automatic route selection (ARS) service selected by the customer.

Originating: No interaction.

Terminating: The CAR customer having the forwarding option is not allowed to route rejected calls to a remote station over the private facility. Incoming calls over private facilities do not have the calling party's DNs available and are not screened at the user's switch. Appropriate NAT will be provided.

9.3.37 Call Forwarding Variable

Call Forwarding Variable (CFV) allows a station user to redirect calls intended for that station to another telephone.

Originating: No interaction.

Terminating: Calls forwarded to a customer with a LASS screening list via CFV (or CFBL) are screened on the basis of the originating party's DN. The CAR feature takes precedence over CFV. It is possible for a customer to have CAR active and, at the same time, have one or more of the call forwarding features active. In this case, a terminating call will forward by a feature other than CAR only if the base station's CAR screening list contains the necessary entries to accept the call.

9.3.38 Call Forwarding In (Within) A Group

Call Forwarding In A Group (CFIAG) restricts DNs of forward-to number dialed during activation to intragroup extension numbers.

Originating: No interaction.

Terminating: See "Call Forwarding Variable", Section 9.3.37 .

9.3.39 Call Hold

Call Hold (CHD) allows a station user to *hold* a call in progress by flashing and then dialing the call hold code.

Originating/Terminating: No interaction.

9.3.40 Call Pickup (Also Known as Call Pickup Originating and Regular Call Pickup)

Call Pickup (CPU) allows a station user to answer any call within an associated preset pickup group.

Originating: The CAR user is able to answer a call directed (and alerted) to other stations in the same preset call pickup group, even if the calling party's DN is not on the CAR screening list of the party picking up the call. Calls forwarded via CAR can be picked up.

Terminating: No interaction.

9.3.41 Call Tracing

Call Tracing allows central office personnel to determine the source of annoying or threatening calls or identify lines in emergency or demand situations.

Originating: No interaction.

Terminating: The CAR feature takes precedence over Call Tracing features. If the calling party's DN is not on the active CAR list, the called party will not be alerted and no call tracing will be performed. Trace messages are not written for calls that are denied or forwarded via CAR. A trace message is only written for calls that terminate at the CAR user's station.

9.3.42 Call Transfer Attendant

Call Transfer Attendant (CTA) allows the called business group station user, while connected to a DID or private network incoming call, to transfer the call to the attendant.

Originating/Terminating: No interaction.

9.3.43 Call Transfer Individual All Calls

Call Transfer Individual All Calls (CTIAC) allows a station user to transfer any established call to another station within or outside the private branch exchange (PBX) or business group without the assistance of the attendant.

Originating/Terminating: No interaction.

9.3.44 Call Transfer Individual Incoming Only

Call Transfer Individual Incoming Only (CTIIO) allows a business group station user to transfer an incoming call to another station in the same business group without assistance of the attendant.

Originating/Terminating: No interaction.

9.3.45 Call Transfer Internal Only

Call Transfer Internal Only (CTIO) allows a business group station user to transfer any established intragroup call to another station in the same customer group without the assistance of an attendant.

Originating/Terminating: No interaction.

9.3.46 Call Transfer Outside

Call Transfer Outside (CTO) allows a station user to add on a dial "9" off-network, common control switching arrangement (CCSA), or WATS facility to an external call. A call using CTO can be transferred to a private facility.

Originating/Terminating: No interaction.

9.3.47 Call Waiting Incoming Only

NOTE: The Call Waiting Incoming Only (CWIO) feature is not supported on the standard BRI (National ISDN).

Call Waiting Incoming Only is a version of Call Waiting Terminating (CWT). It gives an analog station user, engaged in a telephone conversation, an audible alert indicating an incoming DID or private facility call is attempting to terminate. See "ISDN Priority Calling Incoming Only", Section 9.3.147, for the ISDN version of CWIO.

Originating: No interaction.

Terminating: The CAR feature takes precedence over CWIO. The CWIO feature is operational only for calls arriving from outside the user's terminal group. Otherwise, the interactions between CWIO and CAR are identical to those described in "Call Waiting Terminating", Section 9.3.49.

9.3.48 Call Waiting Originating

NOTE: The Call Waiting Originating feature is not supported on standard BRI (National ISDN).

Call Waiting Originating (CWO) allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The CWO feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active. It is automatically invoked any time a busy intragroup station is encountered. The CWO feature is only operational for intraterminal group calls.

Originating: No interaction.

Terminating: The CAR feature takes precedence over CWO. When a business group station invokes a CWO service on an analog CAR user of the same intragroup as the calling station, call waiting tone will not be applied to

the line of the CAR user. Call waiting tone will cause disconnection of any active modem call.

A CWO call to the line of a CAR user is connected to a denial announcement if the DN of the originator is not on the CAR screening list and the NAT is *recording*. A CWO call to the busy line of a CAR user will forward to the CAR user's CAR RTN if the DN of the originator is not on the CAR list and the NAT is *forwarding*. The CWO feature identification will forward if the RTN is located intraswitch. The RTN station, if analog and busy and located within the same terminal group as the base station, will receive CWO call waiting tone. Standard terminating treatment for CWO calls applies if the DN of the caller is on the CAR screening list.

9.3.49 Call Waiting Terminating

Call Waiting Terminating (CWT) uses a burst tone to inform a busy analog station user that another call is waiting.

Originating: No interaction.

Terminating: The CAR feature takes precedence over CWT. If the analog CAR customer has the Call Waiting feature active, and a call comes in that is not on the active CAR screening list, the call is refused and no call waiting (CW) tone results. If the caller's DN is on the active CAR list and the CAR user's analog line is busy, the CAR user will receive call waiting tone. Call waiting tone will cause disconnection of any active modem call.

9.3.50 Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment

This feature allows the 5ESS®-2000 switch PBX to send the calling party number (CPN)/billing number (BN) of the originator to the public network or to another PBX on a per-trunk group basis for all calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch (whether or not originally obtained from CPN or BN data), a call to the CAR user is subject to CAR screening and termination treatment. The CPN/BN information will forward if the call forwards due to CAR NAT.

9.3.51 Cancel Call Waiting

Cancel Call Waiting (CCW) allows a customer with Call Waiting to inhibit the application of the call waiting tone for the duration of one call.

Originating/Terminating: No interaction.

9.3.52 Carrier Interconnection

Carrier Interconnection provides an interface between the local exchange, inter-LATA, and interexchange carriers.

Originating: No interaction.

Terminating: If a call forwards via CAR, the automatic number identification of the CAR user is provided to the carrier for billing purposes. Carrier Interconnection does not provide a means of delivering a calling party number for CAR screening.

9.3.53 Centrex Complex

Centrex Complex associates multiple business groups in a single switch with a single common *Complex*. All business groups in the complex share intercom calling privileges, yet may have separate private facility groups or separate dialing plans.

Originating: No interaction.

Terminating: The CAR feature takes precedence over Centrex Complex. A call arriving via the Centrex Complex dialing plan is screened at the active CAR station. A Centrex Complex can have CAR assigned to it.

9.3.54 Code Calling

Code Calling allows attendants and station users to dial an access code and a 2- or 3-digit called party code to activate signaling devices with a coded signal corresponding to the called code.

Originating/Terminating: See "Directed Call Pickup with Barge-In", Section 9.3.76 .

9.3.55 Code Restriction

Code Restriction blocks outgoing calls to customer-specified codes [numbering plan area (NPA), NXX].

Originating/Terminating: No interaction.

9.3.56 Signaling System 7 Network Interconnect

Signaling System 7 Network Interconnect (SS7 NI) provides an out-of-band signaling interface between local exchange carrier and interexchange carrier networks.

Originating: No interaction.

Terminating: Network Interconnect can also provide the calling party DN for calls incoming to the user from outside the LATA. The assigned DN's switch must support this capability. A call incoming via the SS7 network is subject to CAR screening.

9.3.57 Common Control Switching Arrangement Access

Common Control Switching Arrangement (CCSA) Access provides access to the customer's CCSA network.

Originating: No interaction.

Terminating: Calls arriving from CCSA trunks do not have the calling party DN available and cannot be screened at the active CAR station. Appropriate NAT will be applied.

9.3.58 Computer Access Restriction

Computer Access Restriction (CAR) allows the customer to restrict access to a computer connected through a modem to the telephone line. The CAR feature, operational only for voice calls, is not operational for ISDN packet-switched or circuit-switched data calls.

Originating/Terminating: Not applicable.

9.3.59 Conference Calling Six-Way (Also Known as Station Dial Conference)

Conference Calling Six-Way allows a station user to establish a conference call involving up to five other parties without attendant assistance.

Originating/Terminating: No interaction.

9.3.60 Critical Interdigit Timing

Critical Interdigit Timing is activated when the digits received provide sufficient information to complete a call, but the

possibility of receiving additional valid digits exists.

Originating: Standard interdigit dialing applies to the dialing of the CAR access code.

Terminating: No interaction.

9.3.61 Customer Access Treatment Code Restriction

Customer Access Treatment (CAT) Code Restriction allows the creation of subgroups in a business group to provide additional restriction or access functions.

Originating: The CAT codes can be used to restrict CAR activation/deactivation.

Terminating: No interaction.

9.3.62 Customer-Changeable Speed Calling

Customer-Changeable Speed Calling (CCSC) allows customers to assign their own speed calling codes directly and immediately from their own telephone by dialing a change speed calling list access code, an abbreviated code, and a new telephone number.

Originating: The CAR access code is allowed as a legitimate speed calling list entry. The CAR access code can be assigned to a speed calling feature button.

Terminating: No interaction.

9.3.63 Customer Dialed Account Recording

Customer Dialed Account Recording (CDAR) allows a business group customer to associate a personal account number with a given call and have it recorded on the AMA record. The customer can use this record for allocating charges on both outgoing and incoming calls.

Originating: The same ACCT treatment as described in "Account Codes", Section 9.3.5, applies to CDAR.

Terminating: No interaction.

9.3.64 Customer-Originated Trace

Customer-Originated Trace (COT) lets the terminating party request an automatic trace of the last call received.

Originating: Only calls alerting the CAR user can be traced when the CAR user invokes the Customer-Originated Trace feature. A Customer-Originated Trace can be performed at the forwarded station.

Terminating: No interaction.

9.3.65 Customer Station Rearrangement via Remote Memory Access System

Customer Station Rearrangement (CSR) via remote memory access system (RMAS) allows business customers to make changes affecting their telephone service from an on-premises terminal.

Originating: The CSR user can activate and deactivate CAR. The CAR screening list cannot be edited via CSR.

Terminating: No interaction.

9.3.66 Delayed Announcement for Queued Calls on Hunt Group

Delay Announcement for Queued Calls on Hunt Group allows a customer-generated automatic announcement for multiline groups with queuing.

Originating: No interaction.

Terminating: The CAR feature takes precedence over the Delayed Announcement for Queued Calls on Hunt Group feature. Calls to a line with CAR active are screened for CAR termination treatment before being queued. Only calls that are allowed to terminate at the station of the CAR user are queued. This feature provides a customer-generated automatic announcement for multiline hunt groups with queuing only for those calls whose DNs are on the CAR screening list.

9.3.67 Deluxe Automatic Route Selection

Deluxe Automatic Route Selection (DARS) extends the choice of private routes for each NPA/NXX to 16 versus 4 for basic ARS.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 9.3.22 .

9.3.68 Deluxe Queuing

Deluxe Queuing is composed of the following two parts: Priority Queuing and Ringback Queuing.

Originating/Terminating: See "Basic Queuing", Section 9.3.25 .

9.3.69 Dial Access to ISDN Attendant

Dial Access to ISDN Attendant provides dial access from the station to the ISDN attendant within the customer group.

Originating/Terminating: No interaction.

9.3.70 Dial Access to Private Facilities

Dial Access to Private Facilities (DAPF) lets a customer choose to terminate the private facilities at the central office and access those facilities by dialing a unique access code per facility.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to a CAR customer cannot be screened. That is, the original calling party's DN is not available. Appropriate NAT will be applied.

9.3.71 Dial Call Waiting

NOTE: The Dial Call Waiting (DCW) feature is not supported on standard BRI (National ISDN).

Dial Call Waiting allows an originating business group station to invoke call waiting service on selected intragroup calls by dialing an access code followed by the extension number of the station to be call waited. Dial Call Waiting allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The DCW feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active.

Originating: No interaction.

Terminating: The CAR feature takes precedence over DCW. A DCW call to the line of a CAR user will receive CAR

NAT if the DN of the originator is not on the CAR screening list. Standard terminating treatment for DCW calls is applicable if the DN of the caller is on the CAR screening list.

When a business group station invokes a DCW service on a CAR user (who is on the same intragroup with the calling station), the CAR user will not hear the call waiting tone unless the incoming caller's DN is on the active CAR screening list.

When a business group station invokes a DCW service on an analog CAR user of the same intragroup as the calling station, call waiting tone will not be applied to the line of the CAR user if the line is analog, and priority termination treatment for the call will not be given at the line of the CAR user if the line is ISDN, unless the incoming caller's DN is on the CAR user's active CAR screening list. Call waiting tone will cause disconnection of any active modem call.

9.3.72 Dial Pulsing

Dial Pulsing provides the capability to transmit and receive direct current address signals between offices.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to a CAR customer cannot be screened. That is, the original calling party's DN is not available. Appropriate NAT will be applied.

9.3.73 Dial Through Attendant

Dial Through Attendant (DTA) allows a station user to complete the dialing on other than station-to-station calls after the attendant selects the private facility on attendant handled calls.

Originating/Terminating: No interaction.

9.3.74 Dial Transfer to Tandem Tie Line

Dial Transfer to Tandem Tie Line makes the Call Transfer feature compatible with tie lines (trunks). After flashing, a station user with normal access to tie lines can dial a call through the tie line and transfer the original call to it.

Originating/Terminating: No interaction.

9.3.75 Direct Connect

Direct Connect automatically places a call to a preselected called number when a station goes off-hook.

Originating: No interaction.

Terminating: A call via Direct Connect is screened at the active CAR station user if the calling party DN is available. The CAR feature can be assigned to a direct connect line, but the screening list must be built and maintained through recent change.

9.3.76 Directed Call Pickup with Barge-In

Directed Call Pickup with Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, barge-in alert tone is provided and a three-way call is established.

Originating: The CAR user is able to answer a call directed (and alerted) to other stations in the same preset call pickup group, even if the calling party's DN is not on the CAR screening list.

Terminating: This feature allows other stations in the same preset call pickup group to pick up a call that alerts (rings) a CAR user.

9.3.77 Directed Call Pickup without Barge-In

Directed Call Pickup without Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, the party dialing the pickup code is routed to reorder rather than permitted to barge-in on the established connection and create a three-way call.

Originating/Terminating: See "Directed Call Pickup with Barge-In", Section 9.3.76 .

9.3.78 Distinctive Ringing

Distinctive Ringing (DR) applies a distinctive ringing or call waiting tone pattern enabling a station user to determine the source of an incoming call.

Originating: No interaction.

Terminating: The CAR feature takes precedence over the Distinctive Ringing feature (excluding DR associated with PP precedence calls). An incoming caller's DN must be on the active CAR screening list before distinctive ringing can be applied. Calls made with PP precedence are not subject to CAR screening.

9.3.79 Dual Call Coverage (Also Known as Dual Telephone Coverage)

Dual Call Coverage allows calls originating internal to a customer's terminal group to route to a message center other than the one servicing outside calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via Dual Call Coverage is subject to CAR screening and termination treatment. The CAR feature can be used for Dual Call Coverage call redirection.

9.3.80 Electronic Tandem Switching Trunk Access (Also Known as Access to ETS Trunks)

Electronic Tandem Switching Trunk Access provides access to a customer's ETS facilities on a distant switch.

Originating: No interaction.

Terminating: Calls arriving via electronic tandem network (ETN) trunks do not have the calling party's DNs available and are not screened at the active CAR station. Appropriate NAT will be applied.

9.3.81 Electronic Tandem Switching on Primary Rate Interface Trunks

The ETS on PRI Trunks feature allows the 5ESS[®]-2000 switch to provide ETN trunking between a 5ESS[®]-2000 switch central office node and one or more digital PBX nodes in an ETN.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to CAR screening and termination treatment.

9.3.82 Electronic Tandem Network Interworking in the 5ESS[®]-2000 Switch Private Network Environment

This feature gives the 5ESS[®]-2000 switch private network customer, using the Electronic Tandem Switching (ETS) feature, expanded capabilities using the primary rate interface (PRI) to connect multiple private ETN nodes.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to CAR screening and termination treatment.

9.3.83 Emergency Access to ISDN Attendant

Emergency Access to ISDN Attendant allows a station user to dial an emergency code to gain immediate access to the attendant.

Originating/Terminating: No interaction.

9.3.84 Emergency Ringback

Emergency Ringback is associated with the basic 911 emergency service used to recall a customer station immediately following disconnect from, and at the request of, an emergency bureau.

Originating: Emergency Ringback takes precedence over CAR. Emergency Ringback calls are not screened for CAR termination treatment.

Terminating: No interaction.

9.3.85 Enhanced Private Switched Communications Service Access

Enhanced Private Switched Communications Service (EPSCS) Access provides the ability to terminate access lines to the EPSCS switch.

Originating: No interaction.

Terminating: Calls arriving from EPSCS trunks do not have the calling party DN available and cannot be screened at the active CAR station. Appropriate NAT will be applied.

9.3.86 Expensive Route Warning Tone

Expensive Route Warning Tone (ERWT) indicates when a more expensive route is about to be used.

Originating/Terminating: No interaction.

9.3.87 Facility Restriction Level

Facility Restriction Level (FRL) defines the calling privileges associated with a line.

Originating/Terminating: No interaction.

9.3.88 Feature Code Definition

The Feature Code Definition is the access code defined by the service provider which allows the CAR user to access the CAR feature.

Originating: The service provider is allowed to change the CAR feature access code.

Terminating: No interaction.

9.3.89 Flexible Night Service (Also Known as Attendant Call Forwarding)

Flexible Night Service (FNS) routes calls normally directed to the attendant group to a different location (night location, also known as a night directory number).

Originating: No interaction.

Terminating: See "ISDN Attendant Night Service", Section 9.3.118.

9.3.90 Foreign Exchange Line

Foreign Exchange (FX) Line provides line termination in a central office different from the line providing service to the customer.

Originating: No interaction.

Terminating: Calls arriving from FX lines do not have the calling party DN available. These calls cannot be screened at the active CAR station. Appropriate NAT will be applied.

9.3.91 Four- and Eight-Party

Four- and Eight-Party provides POTS for up to four or eight customers sharing the same line.

Originating: The CAR feature cannot be assigned on four- and eight-party lines.

Terminating: No interaction.

9.3.92 Fully Restricted Originating and Terminating

Fully Restricted Originating and Terminating (FROT) provides the ability to deny a station's ability to originate and/or receive calls to or from outside the business group. It also blocks "dial 0" calls to an attendant and calls from an attendant to the station.

Originating: A CAR fully restricted originating user having forwarding NAT can only route unaccepted calls to other numbers of the same terminal group.

Terminating: Fully Restricted Terminating takes precedence over CAR. A CAR user who is fully restricted terminating can only screen calls from other members of the same group. In addition, when a fully restricted originating user calls a CAR user (having *forwarding* as NAT) in the same terminal group, assuming his/her DN is not on the CAR list, the interaction will be the same as that described in "Call Forwarding Variable", Section 9.3.37. That is, when the fully restricted originating user calls a CAR user within the same terminal group, the CAR user has designated an RTN outside of the terminal group, and the fully restricted user's DN is not on the CAR list, the call will not forward to that RTN. Instead standard error treatment is returned to the fully restricted user.

9.3.93 Home Intercom (Also Known as Home Intercom/Single Line Variety Package)

NOTE: The Home Intercom feature is not supported on standard BRI (National ISDN).

Home Intercom/Single Line Variety Package (HI/SVP) allows the HI/SVP user to ring all telephone sets (extensions) associated with the line by dialing specified codes from the station.

Originating: A CAR user can use the HI/SVP feature to ring his/her extensions.

Terminating: Since an HI/SVP call is not originated by another caller, the switch will not invoke the CAR service. That is, when a Home Intercom user dials a special code to ring other extensions on the line, the call is not screened and is always accepted.

9.3.94 Hunt Group Transfer for Circuit-Switched Data Calls

This feature allows circuit-switched data (CSD) calls to a CSD multiline hunt group (MLHG) to forward to a second CSD MLHG.

Originating/Terminating: No interaction.

9.3.95 In-Progress Call Tracing

In-Progress Call Tracing is one type of Call Tracing feature that identifies a call in progress.

Originating: No interaction.

Terminating: See "Call Tracing", Section 9.3.41 .

9.3.96 Individual Calling Line Identification Calling Number Delivery (Analog)

Individual Calling Line Identification (ICLID) Calling Number Delivery transmits data on an incoming call to the terminating station set.

Originating: No interaction.

Terminating: No ICLID information is displayed at the CAR station for calls denied or forwarded by the CAR user. The ICLID information is sent to the remote station if the CAR user has forwarding treatment.

9.3.97 Individual Calling Line Identification Directory Number Privacy

Individual Calling Line Identification (ICLID) Directory Number Privacy (DNP) allows the calling party to prevent delivery of the origination DN to the terminating station set.

Originating: No interaction.

Terminating: Calls from DNs with a privacy restriction preventing display of the calling number are screened for CAR termination treatment in the same manner as calls from DNs without the calling number display restriction. If the number is forwarded, the original calling number DN will be displayed at the terminating station.

9.3.98 Individualized Dialing Plan

The Individualized Dialing Plan (IDP) feature allows digits to be interpreted according to the IDP of the customer instead of the office dialing plan (ODP) and/or the standard office abbreviated dialing list.

Originating: In the case of ISDN, no CAR button depressions are allowed during the second dial tone after dialing the escape to POTS access code; such as *9. If the user escapes to POTS, the SCA access code defined in the ODP must be used.

The LASS Dialed Code Restrictions on IDP Users feature affects access to LASS features AC, AR, COT, ICLID CND, PCP, SCA, SCR, CAR, SCF, and SDA. This feature is an optioned feature available on an SM basis via the Secured Feature Upgrade View (View 8.22). The LASS Dialed Code Restrictions on IDP Users feature, controls dial code access to LASS features for IDP users. The default value for this feature is disabled (inactive). When this feature is disabled, IDP users can use the access codes defined in their IDP in addition to the ODP defined dialed access codes to access LASS features. Using an ODP defined dial access code for access to a LASS feature by an IDP user may require the dialing of an IDP defined "escape to POTS access code" (9, or *9) immediately prior to dialing the ODP defined access code. Dialing of an ODP defined access code directly (not preceded by an escape to POTS code) is allowed if the error treatment for the user's IDP has been set to use the office code on RC View 9.10.

When the LASS Dialed Code Restrictions on IDP Users feature is enabled (active), an IDP user cannot use an ODP

defined dial access code to access a LASS feature. The ODP defined dial access code cannot be used whether or not the ODP LASS code is preceded by an escape to POTS code and regardless of the error treatment for the user's IDP group. Reorder tone is returned to an IDP user after an ODP access code is dialed to access a LASS feature.

Additionally, with this feature enabled, neither an ODP nor an IDP defined dial access code for a LASS feature will be accepted by the 5ESS[®]-2000 switch at any time after an escape to POTS code has been dialed by an IDP user in a single, off-hook dialing scenario. However, an IDP user can dial an escape to POTS code followed by an automatic route selection (ARS), authorization, or an account code prior to the dialing of an IDP (but not ODP) LASS code. Dialing an ARS, authorization, or account code in conjunction with an IDP LASS dialed access code is allowed regardless of the activation status of the LASS Dialed Code Restrictions on IDP Users feature.

The LASS Dialed Code Restrictions on IDP Users feature requires dialed codes used for access to LASS features to be defined in the IDP. Except for ARS, authorization or account codes, activation of this optioned feature requires that access to non-LASS features allowed to be dialed prior to the LASS access codes must also be defined in the IDP. This allows IDP users to use non-LASS features in conjunction with LASS features.

Terminating: Calls from parties overriding their dialing plan are screened by CAR.

9.3.99 Inspect for ISDN Terminals

NOTE 1: The Inspect for ISDN Terminals feature is not supported on standard BRI (National ISDN).

NOTE 2: Display interactions apply to Custom ISDN **only**.

Inspect for ISDN Terminals retrieves and displays call-related information about any call appearance having a call associated with it. Inspect also displays feature button identification.

Originating: When the Inspect feature is used to inspect the CAR feature button, *Computer access restriction on/off* is displayed.

Terminating: Independent of whether CAR is active or inactive, the CAR user can retrieve call-related information about any call appearance having a call associated with it. If the CAR user is in an Inspect session and presses the CAR feature button, the CAR feature status will not be affected, but the Inspect information associated with CAR feature button will be displayed. If the user presses the CAR feature button and then presses the Inspect button, the display information associated with the Inspect session may overwrite the display information associated with the CAR feature button for Lucent Technologies customer premises equipment. Other CPE may respond differently.

9.3.100 Intercom Calling Restriction

Intercom Calling Restriction counts and limits the number of intercom calls that can be in progress at any one time within a customer group. It also sets a maximum total simultaneous call volume that includes intercom and calls external to the customer group.

Originating: No interaction.

Terminating: When a call from a party using Intercom Dialing forwards via CAR to a DN in the same intercom group, only one simulated facilities group (SFG) member is seized for the call.

9.3.101 Intercom Dialing

Intercom Dialing, in conjunction with the special dialing plan, permits station users in the business group to place calls to each other on a 1- to 7-digit basis.

Originating: No interaction.

Terminating: Calls arriving via intercom dialing are screened against the active CAR screening list.

9.3.102 Intra-LATA Presubscribed Inter-LATA Carrier (Intra-LATA PIC)

The Intra-LATA capability allows the Local Exchange Carrier (LEC) to open up certain Intra-LATA toll routes which were previously handled exclusively by the LEC, to competition on an equal access basis between the LEC and Inter-LATA Carriers (ICs).

The Intra-LATA PIC capability allows a subscriber to presubscribe to an Intra-LATA Toll Carrier (PTC) that handles all of his/her Intra-LATA Toll traffic (7 digit or 10 digit calls with or without a "1/0" prefix), if dialed without a 10XXX (or 101XXXX) prefix, but which may or may not be the same as the Presubscribed Inter-LATA Carrier (PIC).

Originating: The ability to add an Intra-LATA Toll number to a screening list of an SLE feature (such as, Selective Call Rejection, Computer Access Restriction, etc.) will not be affected by whether the INTER LATA SCREEN field on RC/V View 8.21 is set to Y or N. The ability to add an Intra-LATA (Local or Toll) number to a screening list of an SLE feature will not be affected by whether calls made by the SLE feature subscriber are carried by the LEC or an IC.

Terminating: CAR will work properly with incoming Intra-LATA PIC calls provided that the calling number is delivered. However, if the LEC does not transmit the calling party number to the IC or the IC does not transmit the calling party number to the LEC, then CAR will not work properly. Note that the CPN SUBSC option on RC/V View 10.2 can be used to allow/disallow passing of the SS7 Calling Party Number parameter to an IC.

9.3.103 Intermodule Trunking

Intermodule Trunking provides trunking between modules connected to the same base 5ESS®-2000 switch.

Originating: No interaction.

Terminating: The CAR feature should work the same way on calls over Inter-Module Trunking as it does on calls over regular interoffice trunks.

9.3.104 Intraswitch/Interswitch Calling Party Number/Billing Number Optioning to Terminating User

This feature allows the terminating PRI or BRI user to request delivery of the calling party number or billing number on an *exclusive* or *preferred* basis on every call for circuit-switched voice/data calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch (whether or not originally obtained from CPN or BN data), a call to the CAR user is subject to CAR screening and termination treatment.

9.3.105 ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants

NOTE: The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature is not supported on standard BRI (National ISDN).

The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature allows a supervisor, or attendant, to display data about an attendant position.

Originating/Terminating: No interaction.

9.3.106 ISDN Attendant Busy Verification of Lines and Trunks

NOTE: The ISDN Attendant Busy Verification of Lines and Trunks feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Busy Verification of Lines and Trunks feature allows an attendant to determine whether a line or trunk within the same customer group is busy or idle.

Originating: No interaction.

Terminating: See "Busy Line Verification", Section 9.3.29 .

9.3.107 ISDN Attendant Call Hold

NOTE: Attendant Call Hold is not supported on standard BRI (National ISDN).

The ISDN Attendant Call Hold feature allows the ISDN attendant to hold a call in progress to originate another call, or pick up a call on hold.

Originating/Terminating: No interaction.

9.3.108 ISDN Attendant Call Splitting

The ISDN Attendant Call Splitting feature allows the ISDN attendant to consult privately with the called party without the calling party hearing.

Originating/Terminating: No interaction.

9.3.109 ISDN Attendant Call Transfer

The ISDN Attendant Call Transfer feature is the ISDN version of Attendant Call Transfer.

Originating/Terminating: No interaction.

9.3.110 ISDN Attendant Camp-On

The ISDN Attendant Camp-On feature is the ISDN version of the Attendant Camp-On feature. It allows calls that the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: No interaction.

Terminating: The CAR feature takes precedence over Attendant Camp-On. The attendant's DN must be on the CAR screening list before attendant camp-on calls can be accepted. Also, see "Attendant Camp-On", Section 9.3.9 .

9.3.111 ISDN Attendant Conference Calling

The ISDN Attendant Conference Calling feature allows the attendant to set up conference calls with any combination of extensions or trunks on the internal conference bridge. The maximum number of parties on the conference call is limited to the capacity of the multiport conference circuit.

Originating/Terminating: No interaction.

9.3.112 ISDN Attendant Control of Facilities

NOTE: Attendant Control of Facilities (ACOF) is not supported on standard BRI (National ISDN).

The ISDN Attendant Control of Facilities feature is the ISDN version of ACOF.

Originating: See "Attendant Control of Facilities", Section 9.3.11 .

Terminating: No interaction.

9.3.113 ISDN Attendant Control of Voice Terminals

NOTE: The ISDN Attendant Control of Voice Terminals feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Control of Voice Terminals (ACVT) feature enables an attendant to impose an originating or terminating restriction (or both) on a DN or group of DNs. The ACVT feature routes calls destined for a line or group of lines to the attendant for handling. It is activated by the attendant or automatically by the switch.

Originating: No interaction.

Terminating: The ACVT feature takes precedence over CAR. This feature routes calls destined for a CAR line to the attendant for handling regardless of the CAR feature status.

9.3.114 ISDN Attendant Direct Station Selection

NOTE: The ISDN Attendant Direct Station Selection feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Direct Station Selection (DSS) feature allows the attendant to display the status of up to 10,000 DNs in 100 groups of 100 contiguous DNs starting at 00.

Originating: No interaction.

Terminating: See "Attendant Direct Station Selection", Section 9.3.12 .

9.3.115 ISDN Attendant Emergency Override

NOTE: The ISDN Attendant Emergency Override feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Emergency Override (AEO) feature allows the attendant to complete incoming calls to stations as follows:

- Calls that are busy from setting the make-busy key
- Calls that have a series completion or multiline hunt arrangement
- Calls with Call Forwarding active
- Calls with terminating restrictions.

Originating: No interaction.

Terminating: The AEO feature takes precedence over CAR. That is, when the attendant activates AEO, the call will terminate to the CAR station user regardless of the CAR feature status. Such calls will not undergo CAR screening.

9.3.116 ISDN Attendant Incoming Call Identification

NOTE: The ISDN Attendant Incoming Call Identification feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Incoming Call Identification feature allows an attendant to identify the type of facility over which an incoming call to the attendant was routed.

Originating/Terminating: No interaction.

9.3.117 ISDN Attendant Make-Busy Key

Originating/Terminating: No interaction.

9.3.118 ISDN Attendant Night Service

The ISDN Attendant Night Service feature routes calls directed to the ISDN attendant to a different station.

Originating: No interaction.

Terminating: When a call is forwarded via ISDN Attendant Night Service from an attendant's line to a line with CAR active, the DN of the original caller is compared with DNs on the CAR screening list.

9.3.119 ISDN Attendant Position Busy

NOTE: The ISDN Attendant Position Busy feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Position Busy feature allows the position to be made busy by the attendant. When the attendant position is made busy in a single position arrangement, new calls to the position receive busy treatment. In a multiple position arrangement, new calls are directed to a different console position.

Originating/Terminating: No interaction.

9.3.120 ISDN Attendant Selective Customer Control of Facilities

NOTE: The ISDN Attendant Selective Customer Control of Facilities feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Selective Customer Control of Facilities (ASCCOF) feature allows an attendant to deny access to a trunk or simulated facility group.

Originating/Terminating: No interaction.

9.3.121 ISDN Attendant Through Dialing

The ISDN Attendant Through Dialing feature allows an attendant to access an outgoing facility for a calling party within the group who has restrictions or difficulty in placing an outgoing call.

Originating/Terminating: No interaction.

9.3.122 ISDN Attendant Traffic

NOTE: The ISDN Attendant Traffic feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Traffic feature provides the traffic counts for each attendant console position.

Originating/Terminating: No interaction.

9.3.123 ISDN Attendant Trunk Identification

NOTE: The ISDN Attendant Trunk Identification feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Trunk Identification feature provides a display of the trunk group and member number of the incoming or outgoing trunk in use at the request of the attendant or automatically on incoming trunk calls.

Originating/Terminating: No interaction.

9.3.124 ISDN Automatic Customer Station Rearrangement

The ISDN Automatic Customer Station Rearrangement (ACSR) feature allows users to rearrange their DN's automatically when an ISDN station set is moved.

Originating: Users with the ACSR feature will be able to retain the CAR feature status and associated screening lists when the DN is relocated. Once the ACSR update is applied by the switch, the feature status will be the same as before the move. Screening lists will also be the same.

In the interim period between ACSR invocation and application of the update by the switch, access to SLE will be denied and previously activated CAR features will be inoperable (for example, incoming calls will not be screened).

Depressions of the CAR feature button during an active ACSR session are ignored.

Terminating: No interaction.

9.3.125 ISDN Automatic-Hold/Drop Preference

NOTE: The ISDN Automatic-Hold/Drop Preference feature is not supported on standard BRI (National ISDN).

The ISDN Automatic-Hold/Drop Preference feature automatically determines how to handle a call active on one call appearance when the user shifts to another appearance. Two types of treatment are provided: automatic-drop and automatic-hold.

Originating/Terminating: No interaction.

9.3.126 ISDN Basic Message Service

The ISDN Basic Message Service (BMS) feature provides basic personalized message service for customer groups.

Originating: No interaction.

Terminating: The CAR feature takes precedence over BMS. Calls can be routed to the Message Service System center using SCF, CFV, CFBL, or CFDA if the incoming caller's DN is on the CAR screening list.

Non-accepted CAR calls can be routed to the message service system (MSS) if the user has the forwarding option and chooses to do so.

9.3.127 ISDN Bridging

The ISDN Bridging feature allows the multibutton key system (MBKS) set user to bridge onto a currently active call by pressing the active call appearance button on the MBKS set and going off-hook. This establishes a three-way call. This is different from standard Three-way Calling because the third party initiates the bridge to the active call. Bridging is inhibited if Manual Exclusion is activated at an MBKS set engaged in the active call.

Originating/Terminating: No interaction.

9.3.128 ISDN Customer Station Rearrangement via **MACSTAR®** I and II Software

The ISDN Customer Station Rearrangement via **MACSTAR®** I and II software feature expands the Manual Customer Station Rearrangement (CSR) capabilities to include customer control over the ISDN feature.

Originating: No interaction.

Terminating: See "Customer Station Rearrangement via Remote Memory Access System", Section 9.3.65 .

9.3.129 ISDN Delayed and Abbreviated Ringing

The ISDN Delayed and Abbreviated Ringing (DAR) feature alerts an MBKS set for a predetermined interval before ringing another designated MBKS set.

Originating/Terminating: No interaction.

9.3.130 ISDN Drop

The ISDN Drop feature allows the MBKS set user to drop the last party added to a conference call. For a 2-party call, pressing this button disconnects the MBKS set from the call.

Originating/Terminating: No interaction.

9.3.131 ISDN Electronic Directory Service Autocall (Also Known as Automatic Call Setup)

The ISDN Electronic Directory Service Autocall feature allows ISDN station users able to access the applications processor directly to place a call to the party associated with a query display by pressing the appropriate button.

Originating: No interaction.

Terminating: Calls placed via Autocall are screened by CAR.

9.3.132 ISDN Electronic Directory Service Calling Name Display

The ISDN Electronic Directory Service Calling Name Display (CND) feature gives the calling party's name and telephone number to the called party.

Originating: No interaction.

Terminating: Calling Name Display provides the calling party's name and telephone number to the CAR users if the incoming DN is on the CAR screening list.

Calling name information is not sent to the CAR user if the call is denied or forwarded. For calls not denied or forwarded by CAR, CND data is displayed at the lead port.

9.3.133 ISDN Electronic Directory Service Directory Query Display/Autocall

NOTE: Display interactions apply to Custom ISDN *only*.

The ISDN Electronic Directory Service Directory Query Display (DQD) allows the user to query the electronic directory data base for a name using the ISDN station set. The user can generate an Autocall by pressing the appropriate button.

Originating: Independent of whether CAR is active or inactive, the CAR user can query the directory data base for a name. The CAR user can then generate an Autocall by pressing the appropriate button. If the CAR user is in a DQD session and presses the CAR feature button, the display information associated with CAR is not sent. If the user presses the CAR feature button and then presses the DQD button, the display information associated with the DQD session may overwrite the display information associated with the CAR feature button.

Terminating: No interaction.

9.3.134 ISDN Electronic Directory Service Query Service (Also Known as Application Processor Query Service)

The ISDN Electronic Directory Service Query Service allows a user to query the applications processor (AP) directory using a video display terminal for call and personnel information on a per-customer group basis.

Originating/Terminating: No interaction.

9.3.135 ISDN Hold

The ISDN Hold feature allows the MBKS set user to place a call on hold by pressing the function button. Any MBKS set with a call appearance for call on hold can pick up the call by pressing the call appearance button.

Originating/Terminating: No interaction.

9.3.136 ISDN ICLID Calling Number Delivery

This feature provides calling party data on calls originated from both analog and digital lines on the same 5ESS®-2000 switch for ISDN subscribers and attendants. The ICLID feature is an enhancement to the ISDN intraswitch ICLID feature, which is available only to ISDN users with display station sets.

NOTE: Display interactions apply to Custom ISDN *only*.

Originating: No interaction.

Terminating: No ICLID information is displayed at the CAR station for calls denied by the CAR user. If the CAR user has forwarding treatment, ICLID information will be sent to the remote station.

The ISDN ICLID data is sent to the terminals of ISDN ICLID and CAR customers in the NORMAL display mode. Display data associated with the activation or deactivation of a CAR feature by feature button is sent to the terminals of CAR customers with the display capability in the MISCELLANEOUS display mode. The ISDN ICLID displays have lower precedence than the CAR feature and, therefore, will be overwritten by CAR displays.

9.3.137 ISDN Initiated Priority Calling

The ISDN Initiated Priority Calling (IPC) feature provides the ISDN equivalent of Dial Call Waiting. With this feature, calls can terminate to a priority call appearance.

Originating: No interaction.

Terminating: An incoming call via IPC is first screened against CAR before it alerts the CAR user. For ISDN users, incoming calls can terminate as usual if the calling DN is on the screening list. Also, see "Dial Call Waiting", Section 9.3.71 .

9.3.138 ISDN Manual Exclusion

The ISDN Manual Exclusion feature allows an MBKS set user to inhibit other stations from picking up a call on hold or bridging onto a call that is active at that station.

Originating/Terminating: No interaction.

9.3.139 ISDN Message Service Automatic Call Setup (Also Known as Autocall)

The ISDN Message Service Automatic Call Setup feature allows ISDN clients with the Message Retrieval Display or Direct Access to Message Data Base feature to automatically set up a call to the directory number being displayed

during the retrieval session.

Originating: No interaction.

Terminating: Calls placed via Autocall are screened by CAR.

9.3.140 ISDN Message Service Message Retrieval Display

The ISDN Message Service Message Retrieval Display (MRD) allows ISDN station users to directly retrieve their Message Service Center or Leave Word Calling messages independent of whether CAR is active or inactive.

Originating: Independent of whether CAR is active or not, the CAR user can retrieve his/her Message Service Center or Leave Word Calling messages using MRD. The CAR user can generate an Autocall by pressing the appropriate button. If the CAR user is in an MRD session and presses the CAR feature button, the display information associated with CAR may not display since it is sent in the MISCELLANEOUS display mode while the terminal is in the higher precedence MRD display mode. If the user presses the CAR feature button and then presses the MRD button, the display information associated with the MRD session may overwrite the display information associated with the CAR feature button.

Terminating: No interaction.

9.3.141 ISDN Multiple Call Appearances

The ISDN Multiple Call Appearances feature allows an MBKS set to have more than one DN button assigned to the same DN. Incoming calls for this DN are handled in much the same way as Series Completion. A hunt is made for an idle call appearance of the called DN when a call is made to a DN that has multiple call appearances on an MBKS set.

Originating/Terminating: No interaction.

9.3.142 ISDN Multiple DNs

The ISDN Multiple DNs feature assigns multiple directory numbers to a terminal.

Originating: The CAR feature can be assigned to each DN of an ISDN multiple DN terminal. However, feature button use for CAR only applies to the terminal's primary DN.

Terminating: No interaction.

9.3.143 ISDN Number of Calls on Queue (Attendant)

Number of Calls on Queue can display each ISDN incoming call identification (ICI) type. By repeating the request, the attendant can display all ICI queues.

Originating/Terminating: No interaction.

9.3.144 ISDN Number of Calls on Queue (MLHG)

Originating: If the CAR user is active and the MLHG Queue status is requested, the MLHG Queue status display takes precedence and will overwrite the existing CAR display. The CAR display data will not be sent to the terminal while the Queue status is active. The CAR display data will not appear on the user's terminal while the Queue status is active.

Terminating: No interaction.

9.3.145 ISDN Originating Priority Calling

The ISDN Originating Priority Calling (OPC) feature provides the ISDN equivalent of Call Waiting Originating.

Originating: No interaction.

Terminating: The CAR feature takes precedence over OPC. An incoming call via OPC is first screened against CAR before it alerts the CAR user. See "Call Waiting Originating", Section 9.3.48 .

9.3.146 ISDN Outgoing Called Line Identification

The ISDN Outgoing Called Line Identification (OCLID) feature provides a user originating a call with information about the called party and the facility or destination. Facility and call destination information are provided via the ISDN ICI call types.

NOTE: Display interactions apply to Custom ISDN *only*.

Originating: For a CAR user having the forwarding option, the OCLID interaction can be found in the *SCF ISDN OCLID* feature interaction section.

If a CAR user has OCLID, is on a call, and presses the CAR feature button, the display information associated with CAR will be sent and the OCLID data will be overwritten since OCLID displays are sent in the NORMAL display mode and CAR displays are sent in the MISCELLANEOUS display mode.

Terminating: No interaction.

9.3.147 ISDN Priority Calling Incoming Only

The ISDN Priority Calling Incoming Only (PCIO) feature is the ISDN equivalent of the Call Waiting Incoming Only feature. With this feature, calls outside the business group can terminate to an idle call appearance reserved for incoming calls (calls from outside the terminal group) when all unreserved call appearances are active.

Originating: No interaction.

Terminating: The CAR feature takes precedence over Priority Calling Incoming Only feature. An incoming call via Priority Calling Incoming Only is screened against CAR before it alerts the CAR user.

9.3.148 ISDN Shared Call Appearances of a Directory Number

The ISDN Shared Call Appearances of a Directory Number feature allows several MBKS station sets to share one or more DNs.

Originating: When a DN has shared ISDN call appearances and has CAR assigned to it, only the lead port (primary DN) for the DN is allowed access for activating and deactivating.

Terminating: No interaction.

9.3.149 ISDN Single-Digit Intercom

The ISDN Intercom (ICOM) feature is a form of ISDN station-to-station calling. The ICOM user can originate a call to the ICOM group member by pressing the ICOM buttons.

Originating: No interaction.

Terminating: An ICOM call terminating to a CAR user is not screened against the CAR screening list.

9.3.150 ISDN Time and Date Display

NOTE 1: The ISDN Time and Date Display is not supported on standard BRI (National ISDN).

NOTE 2: Display interactions apply to Custom ISDN *only*.

The ISDN Time and Date Display feature is a subscription feature for ISDN attendants and ISDN station set users. The 5ESS®-2000 switch provides the time and date to the ISDN station set.

Originating: Independent of whether CAR is active or not, the CAR user can obtain the Time and Date display. If the CAR user is in a Time and Date session and presses the CAR feature button, display information associated with CAR will not display since both CAR and Time and Date displays are sent in the MISCELLANEOUS display mode. If the user presses the CAR feature button and then presses the Time and Date button, display information associated with the Time and Date session will overwrite the display information associated with the CAR feature button for Lucent Technologies customer premises equipment. Other CPE may respond differently.

Terminating: No interaction.

9.3.151 ISDN Total Number of Calls Handled Display for ISDN Attendants

Total Number of Calls Handled Display for ISDN Attendants provides supervisors with traffic data information about each attendant in the ISDN attendant group.

Originating/Terminating: No interaction.

9.3.152 Line Time Slot Bridging

Line Time Slot Bridging (LTSB) provides an off-premises extension to a single directory number and bridging of two separate DNs in two separate locations with barge-in capabilities for customers served by the same 5ESS®-2000 switch. The Line Time Slot Bridging feature is only available via a service order.

Originating:

- Single DN for both lines

For lines equipped with Line Time Slot Bridging with one DN, only one CAR list applies to both phones. Only the lead port is allowed to activate, deactivate, or edit the feature.

- Separate DN for each line.

For lines equipped with Line Time Slot Bridging with two DNs, CAR cannot be assigned to either DN.

Terminating:

- Single DN for both lines

The switch alerts each phone (if the incoming DN is on the CAR list) if the user has activated CAR.

- Separate DN for each line.

No interaction.

9.3.153 Loudspeaker Paging

Loudspeaker Paging allows dial access to customer-owned loudspeaker paging equipment.

Originating/Terminating: See "Call Pickup", Section 9.3.40 .

9.3.154 Main Satellite Service

Main Satellite Service allows a customer receiving business group service provided by two or more separate switching machines in the same geographic area to receive the same service available as if all locations were served by a single switch.

Originating: See "Dial Access to Private Facilities", Section 9.3.70 .

Terminating: A call arriving from the main-satellite service environment via tie trunk will not have the calling party's DN available and the call will not be screened at the active CAR station. Appropriate NAT will be applied. Also, see "Dial Access to Private Facilities", Section 9.3.70 .

9.3.155 Make-Busy Key

Make-Busy Key (MBK) allows designated lines to look busy to the central office by means of a key operation.

Originating: No interaction.

Terminating: The CAR feature takes precedence over MBK. The MBK feature allows CAR lines to look busy to the central office by means of a key operation. Any incoming calls will be screened against CAR (if the user has CAR active) before the switch checks MBK.

9.3.156 Message Detail Recording on Customer Premises

Message Detail Recording (MDR) on Customer Premises provides call detail information on public telephone network and private facility calls via a tape unit located on the customer premises.

Originating: No interaction.

Terminating: The CAR feature is compatible with MDR.

9.3.157 Message Service Automatic Call (History) Display

Message Service Automatic Call (History) Display uses the 5ESS[®]-2000 switch call history information with the AP data base to display call information, client status information, and messages to the message service attendant when the message service client calls from his/her station set to receive messages.

Originating/Terminating: No interaction.

9.3.158 Message Service Automatic Control of Message Waiting Indicator

Message Service Automatic Control of Message Waiting Indicator automatically activates the message waiting indicator at the client's station set when a message is recorded in the message data base.

Originating: No interaction.

Terminating: The Message Service System attendant can activate the message waiting indicator at the CAR station set independent of the CAR status.

9.3.159 Message Service Direct Access to Message Data Base

Message Service Direct Access to Message Data Base allows clients to update their status information, leave

messages for one or more clients, and retrieve messages without assistance from the message service attendant.

Originating/Terminating: No interaction.

9.3.160 Message Service Leave Word Calling

Message Service Leave Word Calling (LWC) allows a client to leave a *canned* message for another client of the message service without assistance from a message service attendant.

Originating: No interaction.

Terminating: A leave word calling message can be left for a called station when the caller's call is denied by CAR or forwarded via CAR. The interactions between LWC and CAR forwarding are consistent with the interactions between LWC and CFV forwarding.

9.3.161 Message Service Message Data Base

Message Service Message Data Base stores customer organizational data, client status data, and standard *canned* messages. A message data base is available to the message service attendant on the applications processor.

Originating/Terminating: No interaction.

9.3.162 Message Service Print Message On Demand

Message Service Print Message On Demand provides a printout of messages at a predetermined printer upon request from the Message Services client.

Originating/Terminating: No interaction.

9.3.163 Multifrequency Pulsing

Multifrequency Pulsing provides the capability to transmit alternate current address signals between offices. Each address digit is transmitted as a pulsed pair of frequencies.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to a CAR customer cannot be screened. That is, the original calling party's DN is not available. Appropriate NAT will be applied.

9.3.164 Multiline Hunt Service Circular Hunting

Multiline Hunt Service Circular Hunting allows all lines in a multiline hunt group to be tested for busy, regardless of the point of entry into the group.

Originating: No interaction.

Terminating: When a feature is assigned to the main DN of the group, it applies to the group as a whole. All calls to the main DN are screened using the main DN lists. Such screening is performed before any check on busy/idle status of any of the group terminals. Calls to hunt DNs in the group are also screened using the main DN lists.

If the CAR user has chosen a forwarding option for non-accepted calls, incoming calls will be routed to an alternate DN (if the incoming call's DN is not on the CAR list), regardless of whether the calls were dialed directly to the pilot DN or were dialed directly to the non-pilot DN.

If the individual no-hunt DNs have CAR assigned to them and they are dialed direct, calls will be screened against the individual lists whether or not CAR is active for the main DN lists. Calls are screened before hunting occurs.

9.3.165 Multiline Hunt Service ISDN Attendant (ISAT)

NOTE: Multiline Hunt Service for ISDN Attendant (ISAT) feature origination is not supported on standard BRI (National ISDN).

Multiline Hunt Service for ISDN Attendant (ISAT) is a type multiline hunting arrangement for ISDN attendant positions.

Originating/Terminating: No interaction.

9.3.166 Multiline Hunt Service Multiple Position Hunt

NOTE: Multiline Hunt Service Multiple Position Hunt feature is not supported on standard BRI (National ISDN).

Multiline Hunt Service Multiple Position Hunt provides the ability to distribute calls over a group of console positions, each of which can handle several types of incoming calls received on dedicated terminals.

Originating: The CAR feature cannot be assigned to analog attendants.

Terminating: No interaction.

9.3.167 Multiline Hunt Service Precedence Regular Hunt

Multiline Hunt Service Precedence Regular Hunt starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 9.3.164 .

9.3.168 Multiline Hunt Service Regular Hunting

Multiline Hunt Service Regular Hunting starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 9.3.164 .

9.3.169 Multiline Hunt Service Uniform Call Distribution Hunt

Multiline Hunt Service Uniform Call Distribution Hunt provides an even distribution of incoming calls among the available members of a hunt group.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 9.3.164 .

9.3.170 Multiline Variety Package Service

Multiline Variety Package Service provides a packaged group of services for customers with a small group of lines that are not defined as a business line group.

Originating/Terminating: See the individual features that are contained in the *Multiline Variety Package Service*.

9.3.171 Multiple DNs per Line with Distinctive Ringing (Multiple DNs per Line)

9.3.171.1 General

Multiple DNs per Line (MDNL) with Distinctive Ringing provides multiple DNs per single port [Line Equipment

Number (LEN)]. An originating call from any of the DNs is always associated with the *Master DN*, pointed to by the LEN translator; therefore, any call placed from a DN associated with the LEN will pass the *Master DN* as the calling party number.

Originating: No interaction.

Terminating: The CAR feature can only be assigned to the *Master DN* of an MDNL group. Terminations to the different DNs are distinguished using distinctive ringing. The master screening list is used to screen all calls to the master and associated DNs.

9.3.171.2 MultiPoint Digital Subscriber Line

The MultiPoint Digital Subscriber Line (MPDSL) feature provides support for connecting multiple users and their associated terminals to a single digital subscriber line. Users share the two B-channels for digital voice or data services and the D-channel for signaling and packet data services.

Originating: No interaction.

Terminating: An MPDSL line may be busy when two calls are active on the MPDSL and both B-channels are occupied. This is called B-channel blocking. The CAR screening is done before the switch checks for the busy due to B-channel blocking.

9.3.172 National ISDN Additional Call Offering (Voice and Data)

The National ISDN Additional Call Offering (ACO) feature is based on Bellcore requirements. This feature notifies the Integrated Services Digital Network (ISDN) user via Q.931 signaling procedures that there is a circuit-switched voice (CSV) or circuit-switched data (CSD) call waiting for that user at the serving 5ESS®-2000 switch; the call cannot be delivered due to the unavailability of a B-channel. The user can answer the incoming call by putting an existing call on hold or by disconnecting an existing call. The call reference busy limit (CRBL) subscription parameter limits the number of concurrent originating and terminating calls that the user may have established. Arriving calls beyond this limit are given busy treatment.

Originating/Terminating: The CAR feature is applied before a call is offered via additional call offering.

9.3.173 National ISDN Calling Number Identification Services

The National ISDN Calling Number Identification Services (I-CNIS) feature is based on Bellcore requirements and is an enhancement to the existing Calling Party Number (CPN)/Billing Number (BN) Transmittal in the 5ESS®-2000 Switch Private Network Environment feature.

See "Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment", Section 9.3.50 .

9.3.174 National ISDN Calling Number Identification Services Intra-Group Only Delivery Optioning

The Calling Number Identification Services (CNIS) Intra-Group Only Delivery Optioning (CNIGI) feature allows restriction of the Calling Party Number (CPN) delivery, Redirecting Number (RN) delivery, and Calling Party Subaddress (CgPS) delivery features from members of a terminal group. It also restricts the provisioning of ICLID, CNAM, and EDS displays to intra-group calls. CNIGI does not effect delivery of information to residential parties. Whether the CNIGI restriction applies depends on the settings of the CNIGI option for the office, business group, and individual line/PRI trunk. The CNIGI restriction applies to all members of the terminal group, including National ISDN BRI/PRI, Custom BRI/PRI, and analog lines.

Originating/Terminating: No interaction.

9.3.175 National ISDN Channel/Terminal Configurations and Restrictions

The Channel/Terminal Configurations and Restrictions feature provides channel and terminal configurations and restrictions according to Bellcore requirements. Integrated Services Digital Network (ISDN) customers with a single terminal can be restricted to one B-channel. The ISDN customers with two or more terminals can be restricted to one B-channel via an associated group (AG). Two AGs are permitted per BRI. In an AG, customers are allowed terminals that have circuit-switched voice (CSV), circuit-switched data (CSD), on-demand B-channel (ODB) packet data, permanent packet B-channel (PPB) data, or any combination of the four services.

Originating/Terminating: A user cannot activate/deactivate the CAR features or change the CAR screening lists under B-channel blocked conditions.

9.3.176 National ISDN Interswitch Calling Number Identification Services

ISDN Calling Number Identification Services feature is comprised of originating features and terminating features. The originating features consist of number screening, number privacy, and calling party number/calling party subaddress transfer. The terminating features include calling number delivery. Interswitch Calling Number Identification Services provides the feature capabilities between switches.

Originating/Terminating: The LASS selective features take precedence over CPN/BN optioning. If the calling DN is on a screening list to be blocked, the call is offered to the terminating user, and the CPN/BN optioning feature does not send the calling party information to the terminator.

9.3.177 National ISDN Electronic Key Telephone System

The National ISDN Electronic Key Telephone System feature allows a user served by an National Integrated Services Digital Network (ISDN) terminal to have access to multiple directory number (DNs). Additionally, a DN can be accessed by more than one user (that is, a shared DN). Directory numbers (DNs) may be shared on the same basic rate interface (BRI) and or on different ISDN BRIs.

See "ISDN Shared Call Appearances of a Directory Number", Section 9.3.148 .

9.3.178 National ISDN Hold (Voice and Data)

National ISDN Hold allows a National ISDN station user to hold a call in progress by flashing and then dialing the Call Hold code or operating a function key if one is available.

Originating: See "Call Hold", Section 9.3.39 .

Terminating: No interaction.

9.3.179 National ISDN Three-Way Calling

National ISDN Three-Way Calling allows a customer to add a third party to an existing conversation.

See "Three-Way Calling", Section 9.3.215 .

9.3.180 Night Service

Night Service (NS) routes calls normally directed to the attendant to preselected station lines in the customer group when regular consoles are not attended.

Originating: No interaction.

Terminating: When a call is forwarded via Night Service from an attendant's line to a line with CAR active, the DN

of the original caller is compared with DNs on the CAR screening list. Also, see "ISDN Attendant Night Service", Section 9.3.118 .

9.3.181 Non-Data-Link Attendant Console

NOTE: Non-Data-Link Attendant Consoles are not supported on standard BRI (National ISDN).

Non-Data-Link Attendant Console is a small desk-top position from which the attendant handles calls.

Originating: The CAR feature cannot be assigned to attendants.

Terminating: No interaction.

9.3.182 On-Hook/Off-Hook Queuing for Outgoing Trunks (Also Known as Queuing for Outgoing Trunks)

Queuing for Outgoing Trunks allows on-hook or off-hook queuing for a busy outgoing trunk. With on-hook queuing, the station is notified with a distinctive ring when a trunk is available. With off-hook queuing, the user remains off-hook, and the call is completed when the trunk is available.

Originating: With on-hook queuing, the CAR user station is notified with a distinctive ring when a trunk is available regardless of the CAR status.

Terminating: See "Ringback Queuing", Section 9.3.196 .

9.3.183 Outgoing Call Tracing

Outgoing Call Tracing is used when nuisance calls are found to be coming from one particular line. The terminating DN is put on the trace list and all originating calls from that office are checked against the list. When a call is made to the number on the list, the originating DN is identified.

Originating: No interaction.

Terminating: See "Call Tracing", Section 9.3.41 .

9.3.184 Outward Calling for PBX via ARS

Outward Calling for PBX via ARS allows a PBX to take advantage of Business Group features relating to outgoing private facilities by terminating them at the serving switch via special access lines.

Originating: No interaction.

Terminating: See "Automatic Route Selection (Also Known as Flexible Route Selection)", Section 9.3.22 .

9.3.185 Outward Wide Area Telecommunications Service (OUTWATS)

Outward Wide Area Telecommunications Service (OUTWATS) allows customers to make calls to certain zone(s) or band(s) on a direct dialing basis for a flat monthly charge or a charge based on accumulated usage.

Originating: No interaction.

Terminating: See "Automatic Route Selection (Also Known as Flexible Route Selection)", Section 9.3.22 .

9.3.186 OUTWATS with Simulated Facility Group

The OUTWATS with Simulated Facility Group feature can restrict the number of simultaneous OUTWATS calls by

software rather than by the physical size of a dedicated trunk group.

Originating: No interaction.

Terminating: See "Automatic Route Selection (Also Known as Flexible Route Selection)", Section 9.3.22 .

9.3.187 Power Failure Transfer Attendant

Power Failure Transfer Attendant routes calls destined for the attendant to a preassigned DN during a commercial power failure at the customer premises.

Originating: No interaction.

Terminating: When a call is forwarded via Power Failure Transfer from an attendant's line to a line with CAR active, the DN of the original caller is compared with the DNs on the CAR screening list. Also, see "Night Service", Section 9.3.180 .

9.3.188 Precedence and Preemption Features

NOTE: The Precedence and Preemption feature is not supported on standard BRI (National ISDN).

Precedence and Preemption (PP) is a part of the DSN/AUTOVON network for operating routine and precedence calls used primarily by the military.

Originating: No interaction.

Terminating: A precedence with preemption *priority* call is not screened while a precedence with preemption *routine* call is screened. If a CAR user is active on a call and a precedence with preemption *priority* call is made to this CAR user, the call will not be screened against the CAR list, but will be accepted. A precedence call can preempt an active call. A call that has been denied at the CAR station and forwarded intraswitch to the RTN will have the same precedence level as the original call.

9.3.189 Priority Queuing

Priority Queuing is used to assign a queue priority level that establishes precedence for facilities when immediate access is not obtainable.

Originating/Terminating: See "Basic Queuing", Section 9.3.25 .

9.3.190 Radio Paging Access

Radio Paging Access allows attendants and station users to access radio paging equipment and page individuals carrying pocket radio receivers.

Originating/Terminating: No interaction.

9.3.191 Recall From Subscriber

Recall From Subscriber allows the customer to recall an operator services position system (OSPS) operator for certain classes of operator-assisted calls by flashing the switchhook. The operator recalled is not necessarily the operator who originally assisted on the call.

Originating/Terminating: No interaction.

9.3.192 Recorded Telephone Dictation

Recorded Telephone Dictation (RTD) permits access to and control of customer-owned dictating equipment from a station in the customer group. The station must be equipped for dual tone multifrequency signaling.

Originating/Terminating: No interaction.

9.3.193 Remote Activation of Call Forwarding (Remote Access to Call Forwarding)

Remote Activation of Call Forwarding (RACF) provides the ability to remotely activate/deactivate call forwarding by using dialed codes.

Originating: No interaction.

Terminating: The RACF feature is used with the Call Forwarding Variable feature only. There is no interaction between the CAR and RACF features.

9.3.194 Remote Call Forwarding

Remote Call Forwarding allows all calls to a specified DN to forward to a remote 7- or 10-digit telephone number.

Originating: No interaction.

Terminating: The CAR feature takes precedence over the Remote Call Forwarding (RCF) feature. Also, see "Call Forwarding Variable", Section 9.3.37.

9.3.195 Revertive Pulsing

Revertive Pulsing is the method of interoffice signaling originating with the panel systems and continuing with the No. 1 Crossbar.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to a CAR customer cannot be screened. That is, the original calling party's DN is not available. Appropriate NAT will be applied.

9.3.196 Ringback Queuing

Ringback Queuing allows a station user, encountering a busy network facility, to queue for an idle facility by dialing a function code and going on-hook in a preselected time following the queuing confirmation code. The caller is rung back when the appropriate facility becomes idle.

Originating: With the Ringback Queuing (RBQ) feature, a CAR customer can queue calls on a busy outgoing facility. When the facility becomes available, the customer receives ringback, goes off-hook, and the call is placed without having to redial. After placing an RBQ request, active CAR customers receive ringback even if the DN is not on the CAR screening list.

Terminating: No interaction.

9.3.197 Satellite Attendant Transfer

Satellite Attendant Transfer provides the same service as the Call Transfer Attendant feature to a satellite location having no attendant.

Originating/Terminating: No interaction.

9.3.198 Screen List Editing

Screen List Editing (SLE) is a capability used in conjunction with all LASS selective feature lists.

Originating: The SLE capability is necessary to build and edit the CAR screening list. For analog lines, CAR users are considered busy if they are in an editing session. For ISDN lines, CAR users are considered busy if they are in an editing session and no other call appearance is available.

Terminating: No interaction.

9.3.199 Selective Call Acceptance

Selective Call Acceptance (SCA) allows residential and business users to restrict which incoming voice calls are allowed to terminate.

Originating: The CAR and SCA features are mutually exclusive and cannot be assigned to the same line. However, if SCA is generally available to a line, the CAR feature can be assigned and override the SCA feature.

Terminating: No interaction.

9.3.200 Selective Call Forwarding

Selective Call Forwarding (SCF) allows a customer to preselect which calls will forward based on the telephone number of the calling party.

Originating: No interaction.

Terminating: The CAR feature takes precedence over SCF. The DN of an incoming call is checked against the CAR list before it is checked against the SCF list.

9.3.201 Selective Call Rejection

Selective Call Rejection (SCR) allows a customer to reject calls from telephone numbers which are on the customer's SCR list.

Originating: No interaction.

Terminating: The SCR feature takes precedence over CAR. The DN of an incoming call is checked against the SCR list before it is checked against the CAR list.

9.3.202 Selective Carrier Denial

Selective Carrier Denial (SCD) allows the local office to selectively inhibit certain calls normally handled by a carrier from lines designated as nonpaying subscribers by the particular inter-LATA carrier that will handle the call.

Originating: No interaction.

Terminating: Prior to selectively forwarding a call requiring a carrier from the base station (the station of the CAR user), a check is made for the CAR user's subscribed carrier. Forwarding is prevented and the caller receives standard error treatment if the check reveals that the CAR user has not subscribed to a carrier.

9.3.203 Selective Control of Facilities

Selective Control of Facilities (SCOF) allows the customer, via key control, to busy out private facilities and, thereby, deny all originating access.

Originating/Terminating: No interaction.

9.3.204 Selective Distinctive Alert (Distinctive Alert)

Selective Distinctive Alert (SDA) allows a customer to preselect which calls will have distinctive alerting treatment based on the telephone numbers of the calling parties.

Originating: No interaction.

Terminating: The CAR feature takes precedence over SDA. The DN of an incoming call is checked against the CAR list before it is checked against the SDA list.

9.3.205 Semirestricted Station Originating and Terminating

Semirestricted Originating and Terminating, a type of Terminal Group and Station Restriction, provides the ability to restrict a business group line from originating and/or receiving any calls from outside the group. Outside the group means "dial 9" and DID. Intragroup calls, attendant calls, and calls over private facilities are permitted. Restricted calls are routed to the special group intercept announcement.

Originating: The CAR user having semirestricted originating forwarding NAT can only route unaccepted calls to other numbers of the terminal group or to the attendant of the terminal group.

Terminating: The Semirestricted Station Terminating feature takes precedence over CAR. A CAR user that is semirestricted terminating can only screen calls from other members of the terminal group or from the attendants of the terminal group. In addition, when a semirestricted originating user calls a CAR user (having the forwarding option) in the same terminal group, assuming his/her DN is not on the CAR list, the interaction is the same as that described in "Call Forwarding Variable", Section 9.3.37. That is, when the semirestricted originating user calls a CAR user within the same terminal group, the CAR user, having designated an RTN outside of the terminal group, with the semirestricted user's DN not on the CAR list, the call *will* forward to that RTN.

9.3.206 Series Completion

NOTE: Series Completion is not supported on standard BRI (National ISDN).

Series Completion is a type of hunting in which DNs are grouped into a prearranged ordered list.

Originating: No interaction.

Terminating: The CAR feature takes precedence over the Series Completion feature. It is possible that a customer could have CAR active and, at the same time, have the Series Completion feature active. In this case, Series Completion treatment is applied to a terminating call only if the customer's CAR screening list contains the necessary entries to accept the call. For example, assume a call is routed via Series Completion to another line in the Series Completion group having CAR active. If the calling party is not on the CAR screening list, the call will route to a denial treatment or forward to a remote DN. No further hunting will be attempted even if this is not the last line in the Series Completion group.

9.3.207 Simulated Facility Groups for In and Out Calls

The Simulated Facility Groups for In and Out Calls feature provides the capability to restrict the number of simultaneous DID calls terminating to the group and the number of simultaneous calls originating by the group to direct distance dialing (DDD).

Originating: No interaction.

Terminating: Calls that forward via CAR to an RTN outside a CAR user's IDP or terminal group are subject to the same SFG restrictions that apply to the CAR user's direct dialing of the RTN. Calls going to the CAR user are subject to the same simulated facility group restriction as are regular terminating calls.

9.3.208 Single-Digit Dialing

Single-Digit Dialing permits station users to reach any station of a preselected group or other internal facility by dialing single digit codes.

Originating: See "Intercom Dialing", Section 9.3.101 .

Terminating: The CAR feature takes precedence over Single-Digit Dialing.

9.3.209 Smart Set Interface

Smart Set Interface allows customers to use *smart* station sets. Flash requests and feature function codes are associated with unique keys on the station set.

Originating/Terminating: No interaction.

9.3.210 Special Intercept Announcement

Special Intercept Announcement allows a unique intercept announcement to be provided to each business group.

Originating: No interaction.

Terminating: For the CAR user having interswitch forwarding NAT, it is possible that an interswitch call could route to the special intercept announcement (that is, an RTN was previously entered without validation.)

9.3.211 Speed Calling (Also Known as Abbreviated Dialing)

Speed Calling permits the customer to dial selected numbers using fewer digits than normally required.

Originating: The CAR access code can be entered on a speed calling list.

Terminating: If a caller uses speed calling to a CAR user with an active CAR list, the call will be screened by CAR.

9.3.212 Tandem Call Trace

Tandem Call Trace is used when nuisance calls are found to be incoming from a tandem office. The traced DN is marked for tracing at that office to identify the tandem trunk.

Originating: No interaction.

Terminating: See "Call Tracing", Section 9.3.41 .

9.3.213 Tandem Tie Trunk Dialing

Tandem Tie Trunk is another name for Nonsenderized Tie Trunks (NTT). It uses a switching method whereby the station user directly controls, in stages, the routing of an outgoing tie trunk call through the originating switch as well as any intermediate switches.

Originating/Terminating: See "Tie Trunk Access", Section 9.3.216 .

9.3.214 Terminal Group/Station Restriction

A Terminal Group is a grouping of two or more terminals that provide restriction on screening capabilities of certain features or interactions. Station restriction provides a means to restrict calls based on a terminal being a member of a terminal group.

Originating/Terminating: TGSr for ISDN User Part Trunks interact with CAR. A user may specify members of a multilocation business group as the forward-to party for CAR, even if served by a different switch. The user's originating restriction must not prevent forwarding to multilocation business groups.

9.3.215 Three-Way Calling

Three-Way Calling (TWC) allows a customer to add a third party to an existing conversation.

Originating: A CAR customer can also subscribe to a TWC feature. A CAR customer has the ability to place a call on hold to add a third party onto the established conversation. If the CAR user disconnects with a party on hold, the CAR user will get ringback to restore the connection to the held party. Regardless of active CAR service on a TWC line, ringback will occur.

Terminating: No interaction.

9.3.216 Tie Trunk Access

Tie Trunk Access connects two or more business customer locations. They can terminate in an attendant console for direct access or have dial access.

Originating: No interaction.

Terminating: Calls arriving via tie trunks do not have the calling number available and do not receive NAT.

9.3.217 Time-of-Day

Time-of-Day (TOD) allows a customer to preschedule recent change, thereby, controlling activation and deactivation of certain modular features and changes to feature parameters via dialed codes and key control.

Originating: The TOD feature cannot be used to activate or deactivate CAR.

Terminating: No interaction.

9.3.218 Toll Diversion to Attendant

Toll Diversion to Attendant (TDA) intercepts toll or code calls from restricted business group lines and routes them to the attendant (or other designated line).

Originating: No interaction.

Terminating: A CAR user cannot forward unaccepted calls to a code/toll restricted number.

9.3.219 Tracing of Terminating Calls

Tracing of Terminating Calls allows the identification of calling lines while the call is in progress. When incoming calls are to be traced, the terminating DN is placed on the call tracing list where it remains until manually removed.

Originating: No interaction.

Terminating: See "Call Tracing", Section 9.3.41 .

9.3.220 Traveling Class Mark

Traveling Class Mark (TCM) carries class-of-service information along with the called number through a private network. The TCM provides unique downstream routing and screening information.

Originating/Terminating: No interaction.

9.3.221 Trunk Answer From Any Station

Trunk Answer From Any Station (TAS) activates a common alerting signal on the customer premises when the attendant positions are in night service for calls normally directed to the attendant. These calls can then be answered from any nonrestricted station in the business group by dialing a special answer code.

Originating/Terminating: No interaction.

9.3.222 Trunk Dial Transfer

Trunk Dial Transfer provides the Call Transfer Individual feature to tie trunks.

Originating/Terminating: No interaction.

9.3.223 Trunk Group Busy Lamps

The Trunk Group Busy Lamps feature provides a visual indication on a private facility trunk group basis when the facility group is all in use.

Originating/Terminating: No interaction.

9.3.224 Two-Party ANI/ONI Capability

The Two-Party Automatic Number Identification/Operator Number Identification (ANI/ONI) Capability allows operating companies the choice of giving two-party lines automatic number identification (ANI) treatment or operator number identification (ONI) treatment.

Originating: The CAR feature cannot be assigned on Two-Party ANI/ONI lines.

Terminating: Calls from Two-Party ANI users are screened against the CAR list.

9.3.225 Two-Party Line

Two-Party Line provides basic POTS to two customers sharing the same line.

Originating: The CAR feature cannot be assigned on two-party lines.

Terminating: Calls from two-party lines are screened against the CAR list.

9.3.226 Uniform Numbering

Uniform Numbering provides a customer-specified 7-digit numbering plan that identifies all business group stations interconnected by the facility network. Each customer switch connected by the electronic tandem network (ETN) is identified by a 3-digit code.

Originating: No interaction.

Terminating: Calls received over non-SS7 private facilities (using a uniform numbering dialing plan) do not have the calling party's DN available and are not screened at the active CAR station. Appropriate NAT will be applied.

9.3.227 Unrestricted Originating and Terminating

This is basically the absence of originating and/or terminating restriction in a terminal group.

Originating/Terminating: No interaction.

9.3.228 User-Side Primary Rate Interface Implementation

This feature allows PRI support in public (private trunks providing access to public facilities) and private networks.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to CAR screening and termination treatment.

9.4 RESTRICTION CAPABILITY

9.4.1 General

Customer access to CAR can be denied on a per-line basis using a feature restriction indicator for each customer. In addition, IDP customers with intercom dialing can be restricted access on a group basis by not building an access code for CAR. Also, certain lines in a group can be allowed access to CAR even if the rest of the group is denied access to CAR.

Only voice calls or analog modem calls which look like voice calls are screened by the CAR feature. Integrated services digital network (ISDN) circuit-switched or packet-switched data calls are not screened by the CAR feature. There is only one acceptance list per DN user for CAR.

The Dialing Plan Access Treatment (DPAT) capability (5ESS[®]-2000 switch only) can also be used to restrict individual lines from using particular access codes or ISDN feature buttons.

9.4.2 Analog Users

A maximum of 31 telephone numbers may appear in a user's acceptance list. The service provider has the capability to limit this number for the end-customer, if so desired.

Refer to Table 2-4 , for service groups denied access to the CAR service.

Manual lines, direct connect lines, and denied originating treatment lines are allowed service to CAR; however, the CAR screening list must be built via service order. Also, a service order is required to activate or deactivate CAR for these line types.

Operator calls from no-test trunks and attendant calls with emergency override are not subject to refusal by the CAR feature.

The number of users who may access CAR is limited by the amount of switch memory available for storing lists and by the number of users who may simultaneously access the announcement system or display capability.

9.4.3 ISDN Users

When a DN is shared between ISDN station sets, only the lead station for the DN is allowed access for activating, deactivating, or editing the CAR screening list. An ISDN user at the lead station, on a call appearance for a primary or secondary DN, can press the CAR feature button to turn CAR on or off for the primary DN.

The CAR feature is assigned on a per-DN basis for ISDN users with multiple DNs, as opposed to a per-terminal basis. Incoming line history blocks are assigned on a per-terminal basis. The CAR feature only applies to voice data calls.

An ISDN customer can subscribe to the CAR feature for each DN on the terminal. In this case, the customer can

have CAR assigned to the primary DN with its own acceptance list and CAR assigned to the secondary DNs each with their own acceptance lists. The CAR feature button applies only to the primary DN.

When a user at the lead station of a shared DN dials the CAR access code, the switch does not send announcements and display messages to the non-lead terminals sharing the DN. The switch sends announcements and display messages only to the lead station terminal.

An ISDN application for CAR is restricted because the feature is only applicable to voice data calls. Lucent Technologies does not support ISDN CAR.

9.5 ENGINEERING

9.5.1 Special Planning Considerations

The CAR screening lists are engineered to use memory as efficiently as possible. Screening lists are not allocated based on the office parameter. Instead, the allocation is based on the individual customer's list size which keeps reserved, unused memory to a minimum.

9.5.2 Hardware

No new or modified hardware is required. Existing hardware used is the 13A, 14A, 15A, or 16A announcement system.

9.5.3 Software

Load balancing and distribution by the switch administrator does not apply. Maintenance operations are not affected by the CAR feature.

9.6 IMPLEMENTATION

9.6.1 ODA Implementation

Refer to "LASS Forms and Views", Section 2.4, for ODA forms used in implementing the CAR feature.

9.6.2 Recent Change Procedures

9.6.2.1 Assigning Customer Service

The CAR feature is provided to individual customer lines on a SUBSCRIPTION basis only. The service provider can assign CAR to and remove CAR from individual customer lines. The telephone company can offer CAR for billing on a flat-rate or usage-sensitive basis.

At the time of subscription, the service provider needs to know the type of interface (ISDN or analog) the customer has. For ISDN customers, the service provider determines whether a feature button will be used to access CAR and whether display (Custom ISDN **only**) will be used.

All offices offering the CAR feature are required to have the Screen List Editing (SLE) capability. The Screen List Editing capability is not billed separately from the CAR feature; however, a billing record is created each time a usage-sensitive CAR customer accesses a CAR screening list.

See 235-190-104, *ISDN Feature Descriptions*, for feature button assignment.

9.6.2.1.1 Feature Definition

Feature definition, the modular feature construction process, must be completed before any lines can be assigned

to use the feature. The CAR feature may be defined as part of the software release (preconstructed) or defined by the service provider (customized). The preconstructed features for Computer Access Restriction are listed in Table 9-3.

Table 9-3 LASS Computer Access Restriction BRCS Definitions

MODULAR FEATURE TYPE MFSCA	PRECONSTRUCTED FEATURE NAMES /CARUS /CARFR	WILDCARD FEATURE SYMBOL /SA*

Expansions for these preconstructed features are as follows:

- /CARUS — Computer Access Restriction Usage Sensitive
- /CARFR — Computer Access Restriction Flat Rate.

The Computer Access Restriction definition view is 12.54 (ODA Form Iscarfd; Office record 5979). This view contains attributes that:

- Indicate the constructed feature name (FEATURE). One to eight characters in length with the leading character a slash (/) for the preconstructed feature.
- Allow a remark to be associated with the feature (REMARKS). One to 32 characters defining the feature in narrative form.
- Indicate whether billing is on a usage-sensitive basis or on a flat-rate basis (AMA REC). A value of "N" indicates flat-rate billing; a value of "Y" indicates usage-sensitive billing.

9.6.2.1.2 LASS Office Parameters

The LASS office parameters View 8.21 provides LASS feature office parameters keyed by the office ID. A second screen was added for LASS selective features. The added attributes associated with CAR are as follows:

- **CAR MAX SIZE** — This parameter determines the maximum number of entries on the screening list for CAR. Valid values are 3-31. The default value is 6. This parameter exists for each of the LASS selective features.
- **CAR REJ RTI** — This parameter indicates the office routing index used for the rejection treatment announcement for CAR. Valid values are 0-3617. The default is 0.
- **CAR REJ BILL** — This parameter determines whether to bill for CAR reject treatment. The valid values are Y (Yes) or N (No). The default is N.

A CAR maximum-list-size office parameter with legal values of 3 through 31 is provided to indicate the maximum number of entries a CAR customer can have on the CAR screening list. This parameter is changeable via recent change. Service provider switching office personnel have the capability to build, change, delete, activate, or deactivate screening lists for CAR via a service order at the time the service is provisioned or at a later time. Typically, the service order process is not used to perform these functions. The telephone companies are expected to encourage customers to use SLE and will use a service order only when the customer is having trouble with SLE or for customers with denied origination class of service.

For Custom ISDN customers with display capability, display messages for CAR are sent. Display messages are not sent to customers with non-display CPE.

9.6.2.1.3 Feature Access

9.6.2.1.3.1 General

The CAR feature does not have general available access by the line.

9.6.2.1.3.2 Access Billing Control

For SUBSCR, the service provider can use a service order to subscribe individual lines to a flat-rate or usage-sensitive billed CAR feature. Flat-rate billing does not generate billing records. For usage-sensitive billed customers, billing records are created when a CAR screening list is changed or when the feature status is changed. (See "Billing", Section 9.8.2, for complete information on billing.)

9.6.2.1.4 Feature Assignment

Features are assigned to a line via RC line assignment views. A BRCS Feature Assignment View, Views 1.11, 2.11, 3.11, can be used to assign the CAR feature to a customer line. View 1.11 is keyed by telephone number; View 2.11 is keyed by office equipment number and party; and View 3.11 is keyed by MLHG number and member. Attempts to assign a feature to a line which conflicts or interacts with another feature already assigned to a line are rejected. The CAR feature can be assigned to a BFG and/or cluster.

In addition to the BRCS feature assignment views, the CAR feature can also be assigned via a BRCS Assignment Combined View (1.8, 2.8, 3.8). For ISDN terminals, View 1.11 may be used to assign the CAR feature. Typically, the digital subscriber line (DSL)/BRCS assignment view (23.8) is used to assign the CAR feature to an ISDN DN.

For residential customers, the CAR access code can be established on a per-office basis. For IDP customers with intercom dialing, the CAR access code is assigned on a group basis and may, or may not, be the same code as residential customers.

9.6.2.1.5 Feature Activation

LASS Selective features can be activated and deactivated by a customer-originated recent change (CORC), via RC LASS Selective Feature Screening List View 4.48 and the feature assignment views (listed previously), or feature activation views (1.12, 2.12, and 3.12).

9.6.2.2 Deleting Customer Service

The CAR screening list and forward-to DN are deleted by recent change when removing service from a line with a service order. When the CAR screening list is deactivated, through SLE or a service order, the forward-to DN is saved. When the CAR screening list is deleted through SLE or a service order, the forward-to DN is deleted.

9.6.2.3 Changing Customer Service

For customers having a feature button for CAR, when a service order is used to activate or deactivate the CAR feature, the feature button light will reflect the status after the next CPE restoral (about 15 minutes).

The CAR screening list telephone numbers entered by the customer via the screen list editing capability are validated; however, entries on CAR screening lists created via a service order are not validated.

The service provider can assign, change, or delete a forward-to number for the individual customer line with a service order. Again, the service providers are expected to encourage customers to use SLE and will use a service order only when the customer is having trouble.

The service provider can assign one or more dialable codes for accessing CAR. For ISDN customers, the service provider can assign a single station set CAR feature button for on-hook and off-hook activation of CAR, and on-hook

and off-hook deactivation of CAR.

The CAR service status, screening list, and forward-to DN are moved when reassigning a line (for example, changing a port) with the ISDN ACSR and the CSR capability. The CAR service status, screening list, and forward-to DN are also moved when reassigning a line (for example, changing a port) through a service order. View 4.48 is used to add and delete screening list entries for service order applications.

9.6.3 Assignment Limitations

The service provider sets the maximum number of entries for customer CAR screening lists. The number set must fall between 3 and 31.

The CAR service is available to Multiline Hunt Group subscribers via service order only. For the 5ESS®-2000 switch, CAR can only be assigned to the first member of an MLHG or to individual no-hunt DNs of the MLHG. The CAR feature is allowed for secondary only DNs on a subscription basis only.

The CAR and SCA features are mutually exclusive. Only one of the two can be assigned to a DN.

9.7 SYSTEM OPERATION

The CAR feature is expected to be used only by those end-customers wishing to screen incoming calls to a computer.

The CAR feature is offered on a *SUBSCRIPTION* basis only. A list size parameter for CAR is required to allow the telephone company to control memory resources and to meet the differing list size needs of CAR end-customers.

A set of measurements for CAR allows the service provider to monitor switch resource use resulting from CAR. The billing record for CAR is: Structure Code 1360. However, the service feature field is filled in with the value 53 for CAR allowing the service provider to distinguish CAR end-customers and bill them accordingly.

Successful interswitch operation of CAR requires that the Common Channel Signaling 7 (SS7) or peer-to-peer PRI Integrated Services Digital Network (ISDN) User Part protocol provide the calling party number of all incoming interswitch calls in the initial address message (IAM). The calling party number also includes the DNs uniqueness and the presentation restriction information.

Originating Treatment — For interswitch calls, the originating switch sends the calling party number via the SS7 initial address message in addition to the Q.931 setup message delivered on the PRI or BRI during call setup.

Terminating Treatment — When a SS7 call is received, the CAR user's switch compares the calling DN (the DN contained in the calling number parameter in the IAM) with the DNs stored on the CAR screening list. If the DN does not match any of the DNs on the screening list, the calling party receives a denial announcement (service provider specified) informing the caller that the called party does not wish to receive the call, or the calling party is forwarded to an alternate DN. When the rejected party is connected to an announcement, answer supervision (an office parameter on View 8.21) is sent from the terminating switch to the originating switch. If answer supervision is sent to the originating switch, an AMA record can be made by the originating switch. The line history block associated with the terminal is not updated since alerting is not given to the CAR customer.

The major function of the CAR feature is to screen incoming voice versions of data calls, allowing only calls from telephone numbers on the CAR screening list to complete. At the terminating office, the switch screens whether a DN or extension of the calling party is stored on the CAR screening list. If the incoming DN matches an entry on the CAR screening list, the call completes unless another terminating feature is active that prevents the call from completing.

If the incoming DN for a CAR end-customer does not match any entry on the CAR screening list, the call is routed either to a denial announcement or to an alternate DN depending on the end-customer's choice at the time of

activation. The CAR denial announcement is specified by the service provider. When the DN is not available, the call is not screened but is given NAT. Call processing for a call terminating to an active CAR user is represented in Figure 9-3.

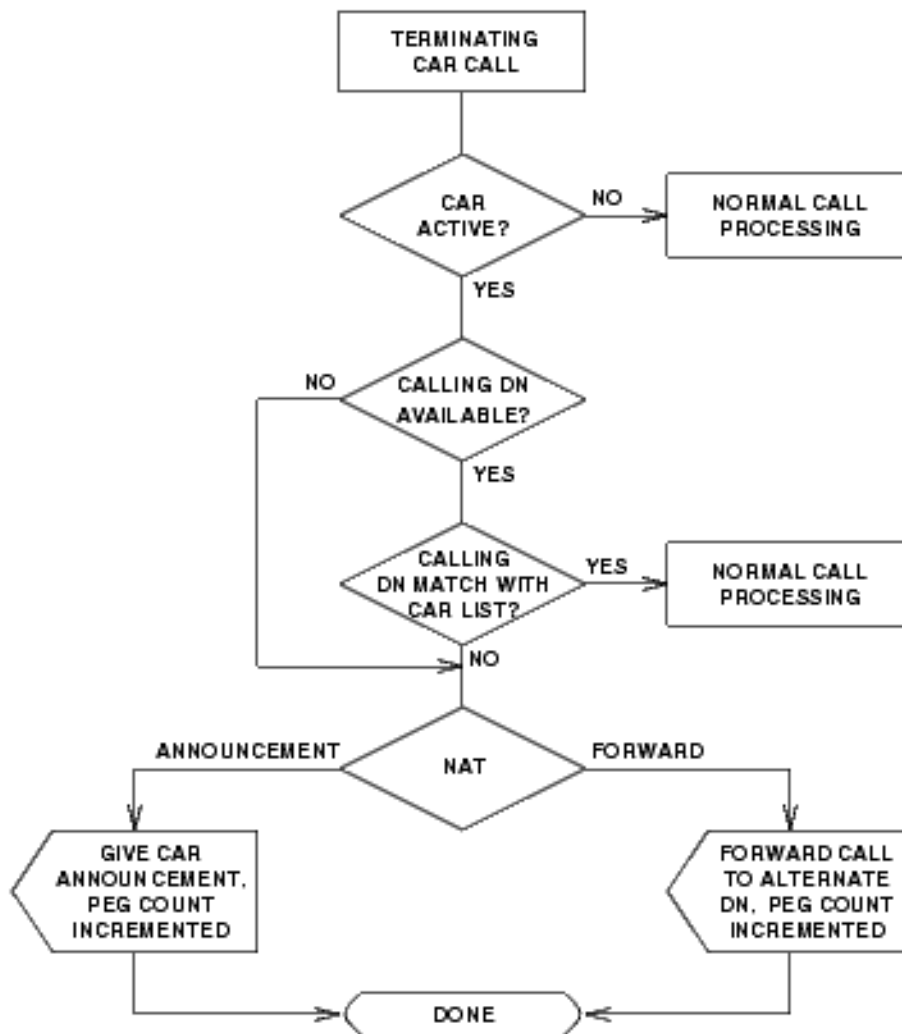


Figure 9-3 CAR Call Processing Terminating Switch

A single office count is incremented each time the CAR screening list is accessed. This count is used to engineer sufficient announcement circuits, tone receiver circuits, and DP receivers on the 5ESS®-2000 switch. Per-office counts of the number of refused calls routed to an announcement or to a forward-to number can be used to measure refused CAR calls.

The service provider must do the following in order to install CAR in an office:

- The service provider must set a CAR maximum-list-size office parameter (with legal values of 3-31) to specify the maximum number of entries a CAR customer can have on the CAR screening list.

Before the service provider increases the value of the parameter, sufficient memory needs to be available for the larger lists. The telephone company should not decrease the CAR office parameter below the number of entries on the largest CAR list in the office.

The switch gives no indication of the number of entries on the largest CAR list or the amount of memory

available.

The CAR feature is offered on a *SUBSCRIPTION* basis only. This means that the CAR feature cannot be made generally available.

- The service provider must assign the CAR access code. Multiple access codes can be assigned to CAR. For ISDN customers desiring to use a feature button for accessing CAR, the service provider has the capability to assign a station set feature button via a service order.
- The service provider must engineer sufficient memory to support the maximum-sized CAR screening lists for the particular office.

9.8 ADMINISTRATION

9.8.1 Measurements

The following traffic counts are taken for CAR on a per-office basis:

- Number of times the CAR access code is dialed and the CAR feature button is pressed. This is a single, new count that will be pegged for 2 different events.
- Number of successful matches while CAR is active.
- Number of calls refused and announcements provided because of CAR.
- Number of calls rerouted to forward-to DNs because of CAR.

All of the traffic counts mentioned previously are new for the 5ESS[®]-2000 switch.

The above counts appear on the 30-minute traffic report in the section for all LASS features (section 76). The ability to turn the reporting of LASS measurements on or off according to the needs of the telephone company is provided.

9.8.2 Billing

The service provider can provide CAR on a subscription basis through a service order. As shown in Table 9-4 , Access Billing Matrix — Computer Access Restriction, the service provider can provide CAR to customers on a per-line basis for usage-sensitive billing or flat-rate billing.

Table 9-4 illustrates the precedence in determining the type of billing (flat rate or usage sensitive) available for the CAR feature. If a particular option does not apply for a specified combination, it is shown as not applicable (NA).

Table 9-4 Access/Billing Matrix — Computer Access Restriction

	FEATURE ACCESS OFFICE OPTION (View 8.18)	GENAVAIL FEATURE BILLING OPTION (View 8.21)	SUBSCR FEATUR E BILLING OPTION (View 12.54)	FEATURE GA ALLOW (View 1.6...View 23.2)	FEATUR E ASSIGN (View 1.11... View 23.8)	SWITCH RESPONS E	BILLIN G ACTION
1	GENAVAIL	NA	NA	NA	NA	NA	NA
2	GENAVAIL	NA	NA	NA	NA	NA	NA
3	GENAVAIL	NA	NA	NA	NA	NA	NA
4	GENAVAIL	NA	NA	NA	NA	NA	NA

5	GENAVAIL	NA	NA	NA	NA	NA	NA
6	GENAVAIL	NA	NA	NA	NA	NA	NA
7	SUBSCR	NA	US	NA	No	Block	—
8	SUBSCR	NA	FR	NA	No	Block	—
9	SUBSCR	NA	US	NA	Yes	Allow	US
1	SUBSCR	NA	FR	NA	Yes	Allow	FR
0							
1	UNAVAIL	NA	NA	NA	NA	Block	—
1							
1	TEMPUNAVAIL	NA	NA	NA	NA	Block	—
2							

Generally Available — The CAR feature is not available via GENAVAIL.

Assigned — The CAR feature is not available via GENAVAIL.

Subscription — For row 7 through row 10 combinations, the feature access office option is set to subscription. The end- customer must be assigned either a preconstructed or customized feature via the applicable RC view (1.11 through 23.8).

Unavailable — The feature access option for initial provisioning is set to UNAVAIL. Access to the features will be blocked until recent change procedures are used to change the options to SUBSCR.

Temporarily Unavailable — The TEMPUNAVAIL option is used to temporarily turn off the feature while maintaining the line history block assignments. Access to the feature will be blocked until recent change procedures are used to change the option back to SUBSCR.

Usage-sensitive billing requires the generation of AMA records. Flat-rate billing requires a service order but does not require the generation of billing records. A combination of billing methods is also supported when a flat rate applies in addition to usage-sensitive billing. These values are assigned per terminal for the incoming feature.

The service provider can mark the line of an individual customer for flat-rate billing via a service order. In this case, the line is assigned a version of the CAR feature which offers the flat-rate billing option (/CARFR). This process converts a POTS line to a BRCS line.

For usage-sensitive billed CAR customers on 5ESS[®]-2000 switch offices that have the AMA Standard Entries feature, an event record using the new Structure Code 1360 is created for each access of the CAR screening list.

In addition, a continuation record, using the same Structure Code, is made daily (3:07 a.m.) for each usage-sensitive customer with a CAR screening list. As long as a CAR screening list exists, whether active or inactive, a continuation record will be made.

The *LASS AMA Record Format for SCA and CAR*, described in "CAR/SCA AMA Structure Code 1360", Section 2.9.3 , shows the fields of the new Structure Code 1360. The service feature field is filled in with a code of 99 for CAR to allow the service provider to distinguish CAR end-customers and bill them accordingly.

The service provider sets an office parameter to indicate whether answer supervision is to be sent for refused CAR calls which terminate to an announcement. When the terminating switch sends answer supervision, the originating switch creates a billing record for the calling party.

For CAR calls which receive the forward-to terminating treatment, the calling party is charged for the first leg of the call and the CAR customer is charged for the forward leg of the call. Routine AMA treatment is used on the forward leg of the call.

10. LASS SELECTIVE CALL REJECTION

10.1 GENERAL

10.1.1 Definition

The Local Area Signaling Services (LASS) Selective Call Rejection (SCR) feature screens terminating calls using a customer specified screening list. Call attempts to the SCR customer from parties specified on the SCR screening list are prevented from terminating to the customer. Instead, these parties are routed to a denial announcement informing the caller that their call is not presently being accepted by the called party. The SCR customer receives no indication of the call attempt. Calls from parties not on the SCR customer's rejection list terminate normally. Figure 10-1 is a pictorial representation of how the SCR feature works.

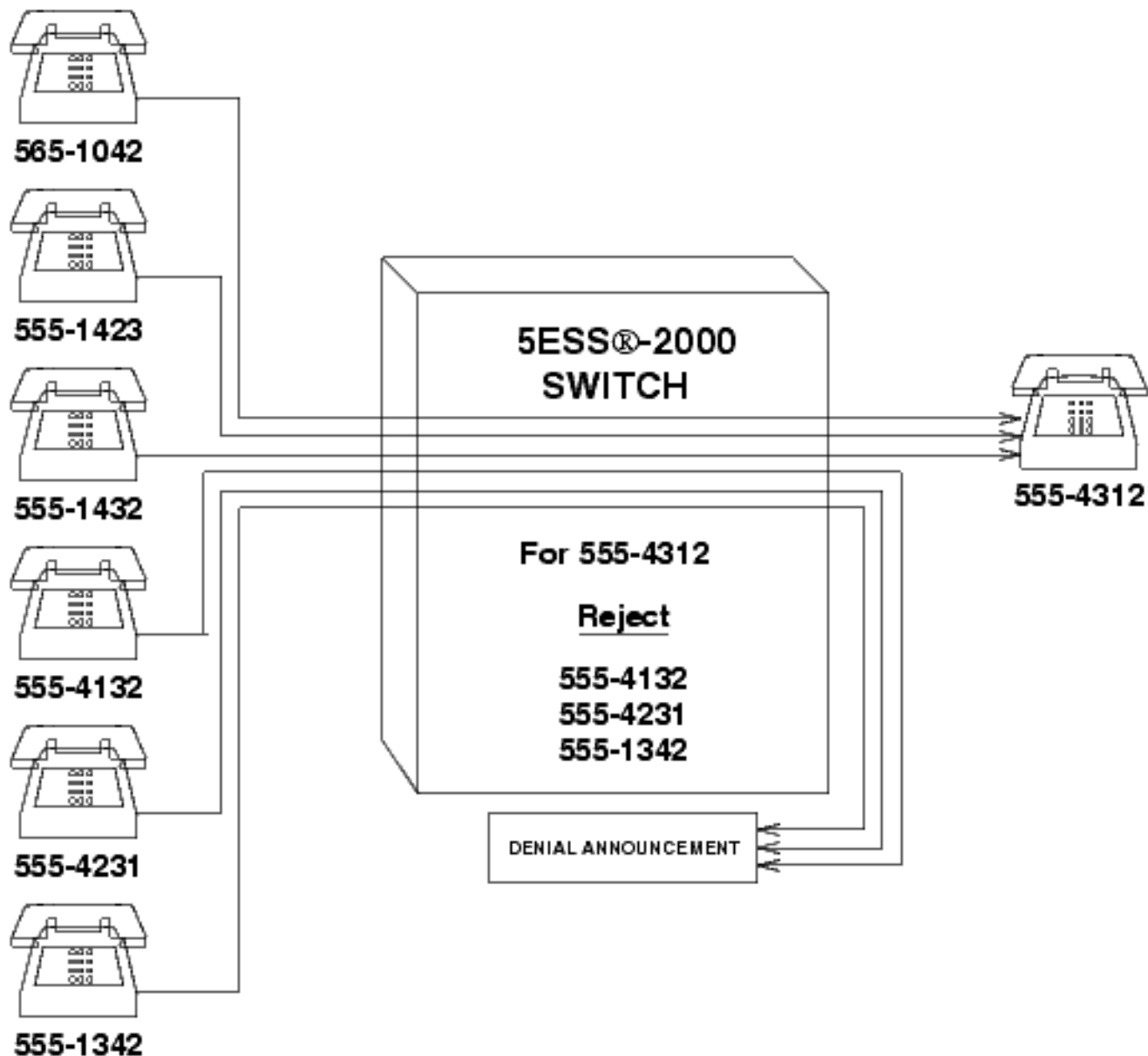


Figure 10-1 Selective Call Rejection

The SCR feature allows business and residential customers to use 7- and 10-digit directory numbers (DNs) as telephone numbers as well as 1- to 7-digit extension numbers if they have extension dialing. These telephone numbers are entered directly (dialed) by the customer or entered as the last call to ring or apply call waiting tone to the SCR customer's station.

An SCR user may have an option of choosing one of two telephone company provided announcements (harsh or gentle) for their rejected calls.

The structure of the list and methods for updating rejection list contents are described in "LASS Screen List Editing", Section 7.

The SCR feature is available for analog and integrated services digital network (ISDN) stations and works intra-office or interoffice using signaling system 7 (SS7) links.

10.1.2 Economic Worth

Many telephone customers have become frustrated over the ever increasing number of unwanted or nuisance calls they receive. These customers want their telephones accessible to the majority of calls placed to them and would not benefit from the narrow selectivity of Selective Call Acceptance. They want to reject a few callers on an occasional basis and for relatively short periods. For them, Selective Call Rejection is what they need and are willing to subscribe to, if affordably priced.

Selective Call Rejection gives the user the ability to control unwanted calls and is user programmable. With SCR, users identify those telephone numbers from which they do not want to accept calls. If an incoming call comes from a specified number, the switch intercepts it with a denial announcement that the called party is not accepting calls from that number. All other incoming calls go through in the usual manner.

Residential customers will view this service as a creative way to avoid calls from unwanted solicitors or from children's friends during study time.

10.1.3 Availability

The SCR feature is available in 5E6 and later software releases.

10.1.4 Feature Application

The SCR feature is provided on a per-DN basis.

10.2 USER PERSPECTIVE

10.2.1 User Profile

Unlike the SCA user who only wants to receive calls from a small group of people and reject all others, the SCR customer wants to receive most calls, while rejecting relatively few. Since the telephone number of the last caller to alert the SCR customer can be placed on the SCR list by the SCR user without knowing the caller's telephone number, SCR is ideal for rejecting unwanted or nuisance calls. Most nuisance callers will soon tire of not being able to reach the SCR customer and will give up trying. Therefore, the nuisance caller's telephone number will not need to remain on the SCR customer's screening list for long. This allows the SCR customer to make more frequent use of the SCR screening list.

10.2.2 Customer Premises Equipment

The SCR feature works with both analog and ISDN (National and Custom) customer premises equipment.

The type of customer premises equipment (CPE) expected to be the most widely used with SCR is an analog

station set. Both dual tone multifrequency (DTMF) and dial pulse (DP) sets are supported.

Other CPE supporting SCR are ISDN types A, B, C, and D terminals with and without display capability, and ISDN types A, B, C, and D terminals with and without an SCR feature button. See 235-900-341, *National ISDN Basic Rate Interface Specification*. Part IV (Basic Call) ISDN terminals are not supported.

10.2.3 User Operation

10.2.3.1 General

To access the SCR feature, a user simply picks up the phone and dials the SCR access code. If the user is not assigned the feature or cannot access the feature, the user receives reorder or a telephone company standard announcement indicating that the feature cannot be accessed. (An announcement is given only if the user's line has no BRCS or LASS features assigned, and error treatment SSDE is assigned on RC View 10.1). If the user has access to the feature, an announcement (and display for Custom ISDN users) indicates this. If the feature is turned off, an announcement (and display for Custom ISDN users) indicates the status of the feature. If the feature is on, the user is informed of the number of entries on the list and their type after the initial announcement.

If the SCR feature is off, an announcement informs the user to dial [3] to turn the feature on. If a user chooses to edit the screening list, the user can add, remove, or review the entries currently on the list through interactive announcements.

Refer to "LASS Screen List Editing", Section 7, for detailed SLE operation and information.

10.2.3.2 Activation

Users having ISDN terminals with feature buttons can activate SCR by using a specified activate/deactivate feature button. A screening list must exist before SCR can be activated by feature button.

The following is an example describing initial user activation of SCR:

- Initially, the SCR user goes off-hook and dials the SCR access code provided by the service provider company.
- Announcements are given instructing the SCR user and outlining the available options.
- After listening to the announcements, the customer dials [3] to activate the SCR feature.
- Currently, there are no telephone numbers on the rejection list. The announcements give the customer the option of adding numbers to the rejection list. The SCR feature will not activate without at least one list entry.
- Pressing the [#] symbol allows an entry to be added to the SCR screening list.
- Announcements instruct the user to enter a telephone number on the list.
- The customer dials a valid telephone number or extension.
- At this point, SCR is active and at least one telephone number is on the rejection list. Although the customer can listen to additional announcements and make other choices, this session is complete and the customer can go on-hook at any time to terminate the session.

The flowchart in Figure 10-2 shows some of the choices the SCR customer can make during the SCR activation/deactivation process.

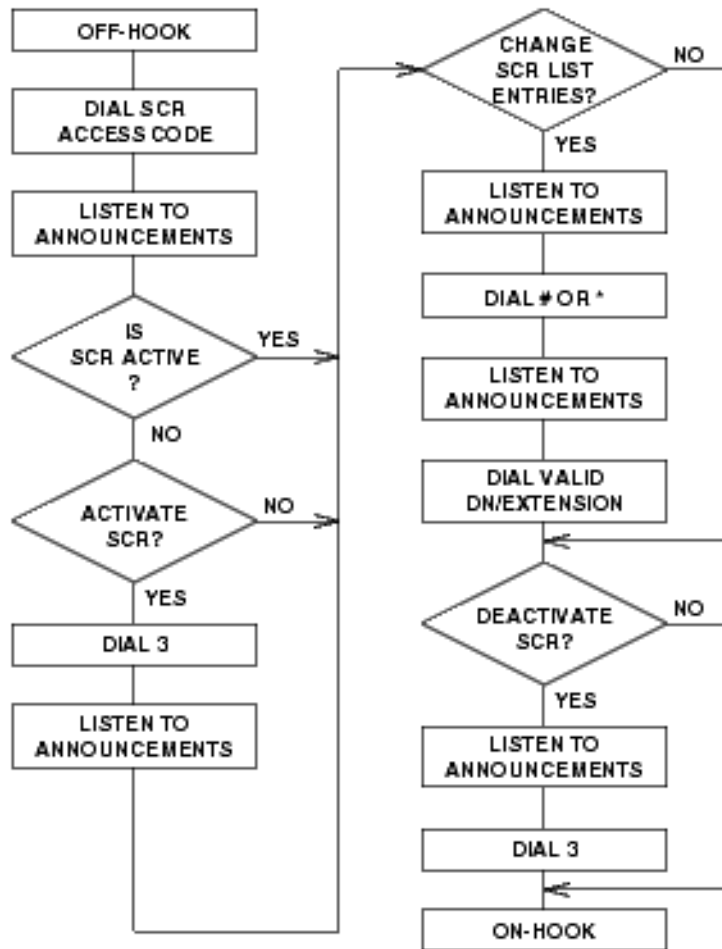


Figure 10-2 SCR End-User Dialing Sequence Flow Diagram

10.2.3.3 Deactivation

Users having ISDN terminals with feature buttons can deactivate SCR by using a specified activate/deactivate feature button.

The following is an example describing user deactivation of SCR:

- Initially, the SCR user goes off-hook and dials the SCR access code provided by the service provider company.
- Announcements are given instructing the SCR user and outlining the available options.
- After listening to the announcements, the customer dials [3] to deactivate the SCR feature.
- At this point, SCR has been deactivated. Although the customer can listen to additional announcements and make other choices, this session is complete and the customer can go on-hook at any time to terminate the session.

10.2.4 Operational Limitations

The SCR feature requires that interswitch calls use SS7 or peer-to-peer primary rate interface (PRI) connectivity in order to provide interswitch calling line information.

Telephone numbers (DNs or extensions) that are not assigned at the user's switch, which are to be added to the SCR list, need to be validated if validation is to be performed.

10.3 INTERACTIONS

10.3.1 General Rules

Unless otherwise noted, feature interactions apply to SCR. The interactions between SCR and other features are described in terms of originating feature interactions and terminating feature interactions. An originating interaction is when the SCR station user is the originating party, while a terminating interaction is when the SCR station user is the terminating party on a call.

For Screen List Editing interactions, refer to "LASS Screen List Editing", Section 7 .

General rules that apply to SCR feature interaction are as follows:

- Incoming calls arriving from signaling system 7 (SS7) trunks or peer-to-peer PRI are screened against the active SCR screening list. If a calling party DN is not received for an incoming call (for example, calls from a private facility), the call is not screened and is accepted.
- All Terminal Group and Station Restriction (TGSR) features have precedence over SCR.
- The SCR screening is done after the switch checks the busy/idle status and is also done before queuing is allowed.
- The SCR feature takes precedence over the Call Forwarding and Call Waiting features.
- If an SCR user initiates a call and encounters a busy line or trunk, and if the user is rung back when the line or trunk becomes idle, ringback is allowed regardless of the SCR status.
- An attendant is not allowed to bypass the SCR station user unless the attendant's DN is not on the active SCR screening list or the attendant has the Attendant Emergency Override feature.
- Display interactions only apply to Custom ISDN since National ISDN SCR does not provide displays to the user.

10.3.2 800 Service [Also Known as Inward Wide Area Telecommunications Service (INWATS)]

The 800 Service feature provides inward service from one or more predetermined areas at a rate based on expected usage.

NOTE: The 800 Service feature is not limited to the 800 NPA if the switch has implemented a toll-free treatment feature that allows additional toll-free Service Access Codes (SAC) such as 888 or 877.

Originating: The SCR feature is allowed on an 800 service line.

Terminating: No interaction.

10.3.3 800 Service Simulated Facilities Group

The 800 Service Simulated Facilities Group feature can restrict the number of simultaneous INWATS calls through software rather than by the physical size of a dedicated trunk group.

Originating: See "800 Service", Section 10.3.2 .

Terminating: No interaction.

10.3.4 900 Service

The 900 Service provides inward service from one or more predetermined areas at a rate based on expected usage.

Originating: The SCR feature is allowed on a 900 service line.

Terminating: No interaction.

10.3.5 Account Codes [Electronic Tandem Switching (ETS) Optional Account Codes]

The Account Codes (ACCT) feature allows the customer to add an account code to an automatic message accounting (AMA) or message detail recording (MDR) record for customer allocation of telecommunication charges.

Originating: The account code, as well as the account use code (access code), can be entered before the SCR access code as is done for the Business and Residence Custom Services (BRCS) features, so that billing can be charged to a different account. In addition, the account code use button is recognized as described for the account use code. In this case, the account code must still be entered by the SCR user.

If the SCR user is off-hook and not involved in a call, the use of a dialed account use code and a dialed account code are allowed before the use of the SCR access code, but not afterwards. If the SCR user is involved in off-hook activation or deactivation via the SCR feature button (and is not involved in a call), dialed account codes/buttons are allowed before the use of the SCR access code, but not afterwards. If the SCR user is on-hook, the use of a feature button for an account use code is not allowed, either before or after the use of an SCR feature button.

Terminating: No interaction.

10.3.6 Add-On/Consultation Hold Incoming Only

Add-On/Consultation Hold Incoming Only is a terminal group variation of the Three-Way Calling feature. It provides three-way calling restricted to incoming direct inward dialed (DID) calls.

Originating/Terminating: See "Three-Way Calling", Section 10.3.214 .

10.3.7 Advanced Services Platform

Advanced Services Platform (ASP) provides a platform of service-independent capabilities on a 5ESS[®]-2000 switch allowing the switch to interact with external network elements. Only the Dialed Number Trigger (DNT) and Shared Interoffice Trunk Trigger ASP subfeatures are available for National ISDN. For further information and for the latest details on LASS features and ASP interactions, Please see the following documents:

235-190-125 Advanced Services Platform Release 0 and 0.1A

235-190-126 Advanced Services Platform Release 0.1B

Originating: No interaction.

Terminating: If available at the terminating switch, ASP calls are identified by the public DN of the originator and are subject to SCR screening and termination treatment.

The SCP is queried before the call is screened by any of the LASS selective features for incoming calls to a DN trigger. The instructions returned from the SCP determine if the call is offered to a LASS selective feature user. Additionally, the SCP is not queried if a user adds a number to the screening list that is a subscribed trigger.

List entries that are DN triggers at the user's switch cannot be added to a screening list because DN triggers are not associated with a physical port. The user's switch does not query the SCP. Attempts to add these entries to a

screening list result in long-term denial. This also applies to list entries which are DN triggers at a remote switch. Normal validation procedures apply because the query for the DN characteristics is still made by the originating switch.

10.3.8 Attendant Call Transfer (Also Known as Call Splitting)

Attendant Call Transfer allows the attendant to flash and dial a code before dialing the third leg of a three-way call.

Originating: No interaction.

Terminating: An attendant can initiate a call transfer to the SCR station as long as the attendant's DN is not on the SCR station user's screening list. The DNs of parties whose calls are transferred by the attendant are not screened. This allows calling parties to bypass SCR screening when attempting to reach an SCR customer by using an attendant as an intermediary. If the attendant's DN is on the SCR user's screening list, the attendant will receive a rejection announcement.

10.3.9 Attendant Camp-On

Attendant Camp-On allows calls the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: No interaction.

Terminating:

- Manual Camp-On

See "Dial Call Waiting", Section 10.3.71 .

- Automatic Camp-On

See "Call Waiting Originating", Section 10.3.48 .

10.3.10 Attendant Conference Six-Way

Attendant Conference Six-Way allows an attendant to initiate a conference call involving up to six parties (including the attendant).

Originating: No interaction.

Terminating: The SCR feature takes precedence over the Attendant Conference feature. A six-way conference call including the SCR user can be established if the attendant's DN is not on the active SCR screening list. If the attendant's DN is on the SCR user's screening list, the attendant will receive a rejection announcement.

10.3.11 Attendant Control of Facilities

NOTE: Attendant Control of Facilities (ACOF) is not supported on standard BRI (National ISDN).

Attendant Control of Facilities (ACOF) permits an attendant to restrict dial access from a station to tie trunks, foreign exchange trunks, and wide area telecommunications service (WATS) by operating a key or dialing a code. When control is activated, calls to these facilities are routed to an attendant for appropriate action.

Originating: The ACOF feature can be used to restrict access to SCR by individualized dialing plan (IDP)

defined dialed codes. It cannot be used to restrict access to SCR by office dialing plan (ODP) defined dialed codes.

Terminating: No interaction.

10.3.12 Attendant Direct Station Selection

NOTE: Attendant Direct Station Selection is not supported on standard BRI (National ISDN).

Attendant Direct Station Selection (ADSS) allows an attendant with a console to place calls to stations in the business group by simply pressing a nonlocking pushbutton key associated with the desired station line.

Originating: No interaction.

Terminating: An incoming call arriving from an attendant is screened by the active screening list.

10.3.13 Attendant Identification of Incoming Calls

NOTE: Attendant Identification of Incoming Calls is not supported on standard BRI (National ISDN).

Attendant Identification of Incoming Calls provides identification, via incoming call indicator lamps on the attendant console, of listed directory number (LDN) calls directed toward different LDNs but served by the same attendant.

Originating/Terminating: No interaction.

10.3.14 Attendant Position

NOTE: Attendant Position is not supported on standard BRI (National ISDN).

Attendant Position allows a customer to designate a particular station within a business customer group as an attendant position.

Originating: The SCR feature cannot be assigned to an attendant position.

Terminating: No interaction.

10.3.15 Attendant Recall From Satellite

Attendant Recall From Satellite gives stations located at remote locations without an attendant, but with the Satellite Attendant Transfer feature, the ability to transfer an incoming call by flashing the switchhook to generate a recall to the main location attendant, who performs the transfer for the remote station.

Originating: No interaction.

Terminating: See "Attendant Call Transfer", Section 10.3.8 .

10.3.16 Authorization Codes (ETS Authorization Codes)

The Authorization Codes (ATH) feature allows the station user to input an assigned code to change the restrictions associated with the originating station to those associated with the assigned authorization code.

Originating: An authorization code sequence can be dialed before the SCR access code is dialed as is done for ACCT. In addition, the ATH code is permitted after the dialed SCR code. The switch prompts the SCR user for the authorization code. Thus, unauthorized use of SCR can be avoided. Authorization code use buttons are also recognized as described for the authorization use codes.

If the SCR user is off-hook and not involved in a call, the use of a dialed authorization use code and a dialed authorization code are allowed either before or after the use of the SCR access code. If the SCR user is involved in off-hook activation or deactivation via the SCR feature button (and is not involved in a call), dialed authorization codes/buttons are allowed either before or after the use of the SCR access code. If the SCR user is on-hook, the use of a feature button for an authorization use code is not allowed, either before or after the use of an SCR feature button.

Terminating: No interaction.

10.3.17 Automatic Alternate Routing

Automatic Alternate Routing (AAR) provides alternate routing capability similar to ARS-Deluxe. The difference being that AAR is used to route calls to stations on the customer's private network.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 10.3.22 .

10.3.18 Automatic Callback

The LASS Automatic Callback (AC) feature enables users to easily return the most recently received call.

Originating: If the SCR user activates SCR before AC delayed processing ringback is given, the SCR user receives ringback even though the DN is on the list (since the SCR user initiates this AC call).

Terminating: Automatic Callback camp-on to a line with SCR active is not affected by SCR if the DN of the AC caller is not on the SCR screening list.

If the DN of the AC caller is on the SCR customer's SCR screening list, AC camp-on to a line with SCR active will not occur. The AC caller will be connected to an SCR announcement.

A party answering AC ringback, as a result of AC camp-on to the line of an SCR customer, is connected to an SCR announcement if SCR is active and the DN of the party answering the AC ringback is on the SCR screening list. This assumes that the DN of the party answering AC ringback is not on the SCR screening list or that SCR is not active on the SCR user's line at the time of AC camp-on to that line.

10.3.19 Automatic Callback-Calling

Automatic Callback-Calling (ACBC) allows the user, after reaching a busy station, to hang up and dial an activation code to activate ACBC. This feature only applies to two stations in the same Business and Residence Custom Services (BRCS)/Centrex group.

Originating: By dialing the ACBC activation code, an SCR user encountering a busy station automatically receives ringback when the station becomes idle. Active ACBC calls (originated by an active SCR line) bypass the SCR feature and ring back the active SCR line when the called station is idle.

Terminating: Automatic Callback-Calling camp-on to a line with SCR active is not affected by SCR if the DN of the ACBC caller is not on the SCR screening list.

If the DN of the ACBC caller is on the SCR customer's SCR screening list, ACBC camp-on to a line with SCR active will not occur. The ACBC caller will be connected to an SCR announcement.

A party answering ACBC ringback, as a result of ACBC camp-on to the line of an SCR customer, is connected to an SCR announcement if SCR is active on the SCR user's line and the DN of the party answering the ACBC ringback is on the SCR screening list. This assumes that the DN of the party answering ACBC ringback is not on the SCR screening list or that SCR is not active on the SCR user's line at the time of ACBC camp-on to that line.

10.3.20 Automatic Intercept System (Also Known as Remote Intercept System)

Automatic Intercept System (AIS) allows Class 5 offices to route calls to nonworking telephone numbers or to telephone numbers placed on trouble intercept to an AIS where they are connected to announcements and/or operators.

Originating: No interaction.

Terminating: Regardless of SCR, AIS rerouting will occur.

10.3.21 Automatic Recall

The LASS Automatic Recall (AR) feature allows users to redial the most recent called party.

Originating: If the SCR user activates the SCR feature before the AR delayed processing ringback is given, the SCR user will receive ringback even though the DN is on the list (since the SCR user initiates this AR call).

Terminating: Automatic Recall camp-on to a line with SCR active is not affected by SCR if the DN of the AR caller is not on the SCR screening list.

If the DN of the AR caller is on the SCR customer's SCR screening list, AR camp-on to a line with SCR active will not occur. The AR caller will be connected to an SCR announcement.

A party answering AR ringback, as a result of AR camp-on to the line of an SCR customer, is connected to an SCR announcement if SCR is active on the SCR user's line and the DN of the party answering the AR ringback is on the SCR screening list. This assumes that the DN of the party answering AR ringback is not on the SCR screening list or that SCR is not active on the SCR user's line at the time of AR camp-on to that line.

10.3.22 Automatic Route Selection (Also Known as Flexible Route Selection)

Automatic Route Selection (ARS) directs outgoing, business group line calls to the customer's most preferred available route.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, calls routed via ARS are subject to SCR screening and terminating treatment. The calling party number is not available for calls routed over non-SS7 private facilities. Such calls will terminate normally.

10.3.23 Automatic Voice Network Interface

NOTE: Automatic Voice Network Interface is not supported on standard BRI (National ISDN).

Automatic Voice Network (AUTOVON) Interface provides an interface with the AUTOVON network, including provisions for prioritizing call handling.

Originating: No interaction.

Terminating: Routine AUTOVON calls to an active SCR line are screened if the DN is delivered through the Defense System Network (DSN). Priority calls are not screened against the SCR screening list and will be accepted by the SCR user. See "Precedence and Preemption", Section 10.3.188, for details.

10.3.24 Basic Emergency Service (911)

NOTE: Basic Emergency Service is not supported on standard BRI (National ISDN).

Basic Emergency Service provides a 3-digit universal telephone number (911) for public use throughout the United States to report an emergency or request emergency assistance.

Originating: Because Public Service Answering Points (PSAPs) are connected to the serving tandem office via dedicated non-SS7 trunks, SCR is not compatible with these PSAPs. The PSAP does not have an SCR screening list associated with it. The SCR user can dial 911 for emergency assistance.

Terminating: Refer to the *Emergency Ringback* interaction in "Emergency Ringback", Section 10.3.84, for ringback interactions.

10.3.25 Basic Queuing (Queuing for Lines)

Basic Queuing provides queuing for lines, call waiting lamps control, and delay announcements.

Originating: No interaction.

Terminating: An incoming caller's DN is screened on the active SCR list before it is put on the queue.

10.3.26 BRCS Compatibility with ISDN

The BRCS Compatibility features ensure that many of the existing BRCS features and services function with supported ISDN station sets so that users experience equivalent, similar, or expanded circuit-switched voice service by subscribing to these ISDN BRCS features and services.

Originating/Terminating: See the individual BRCS features.

10.3.27 BRCS Feature Grouping

The BRCS Feature Grouping provides a logical grouping of features and groups that are used by business customers receiving communications services from a central office switch. This feature works with both analog BRCS and ISDN BRCS features.

Originating: This feature allows the SCR feature to be offered on a business-wide basis as opposed to a per-DN basis. The SCR feature can be placed in a BRCS Feature Group (BFG).

Terminating: No interaction.

10.3.28 Business Group Line

Business Group Line provides capabilities similar to those for individual lines, but is classed as a member of a group of business lines belonging to a single customer.

Originating: The SCR feature can be assigned to business group lines.

Terminating: No interaction.

10.3.29 Busy Line Verification

Busy Line Verification (BLV) allows an operator to complete a connection to a busy line to determine the off-hook/on-hook status of the line or if a conversation exists on the line.

Originating: No interaction.

Terminating: Busy Line Verification to an SCR line is allowed. No screening will be performed regardless of the SCR feature status.

10.3.30 Call by Call Access from a 5ESS[®]-2000 Switch in a Private Network to Interexchange Carrier Services

This feature allows the private network customer to generate, on a per-call basis, a request for services from an interexchange carrier or local exchange carrier.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SCR screening and termination treatment.

10.3.31 Call Forwarding Busy Line

Call Forwarding Busy Line (CFBL) permits calls attempting to terminate to a busy line to be redirected to another customer-specified line.

Originating: No interaction.

Terminating: The SCR feature takes precedence over CFBL. A call to an idle or busy line of an SCR user with SCR and CFBL active will receive SCR treatment if the DN of the caller is on the SCR screening list. If the line is busy with SCR and CFBL active, and the calling DN is not on the SCR list, the call will forward to the CFBL RTN.

10.3.32 Call Forwarding Busy Line Incoming Only

Call Forwarding Busy Line Incoming Only (CFBLIO) ensures that only incoming DID calls forward to the specified business group line.

Originating: No interaction.

Terminating: The CFBLIO feature is only operational for calls originating from outside the terminal group of the station with the CFBLIO feature. Otherwise, the interaction of CFBLIO with SCR is identical to that described in "Call Forwarding Busy Line", Section 10.3.31.

10.3.33 Call Forwarding Don't Answer

Call Forwarding Don't Answer (CFDA) forwards incoming calls to a station to another preselected station within the same customer group, or to the attendant, when the called station is not answered after a customer-specified number of rings.

Originating: No interaction.

Terminating: Calls forwarding to a customer via CFDA are screened on the basis of the originating party's DN at the remote station for both intraswitch calls and interswitch calls. If the calling party's DN is not on the remote station SCR screening list, and the SCR user is busy, only ringing is given (a multiple progression tone is not allowed for intraswitch CFDA calls). If the calling party's DN is on the remote station SCR screening list, a rejection announcement is given to the calling party. If the calling party's DN is not on the SCR list and the called user is idle with SCR and CFDA active, the call will forward to the CFDA RTN after CFDA timing expires. A call to an idle or busy line with SCR and CFDA active from a DN that is on the SCR screening list will be rejected by SCR.

10.3.34 Call Forwarding Don't Answer Incoming Only

Call Forwarding Don't Answer Incoming Only (CFDAIO) ensures that only incoming DID calls to the business group line forward, if not answered, after a customer-specified number of rings.

Originating: No interaction.

Terminating: The CFDAIO feature is only operational for interterminal-group (incoming) calls. Otherwise, the interaction of CFDAIO with SCR is identical to that described in "Call Forwarding Don't Answer", Section 10.3.33 .

10.3.35 Call Forwarding Incoming Only

Call Forwarding Incoming Only (CFIO) forwards calls terminating from outside the group via DID.

Originating: No interaction.

Terminating: The CFIO feature is only operational for interterminal-group calls. Otherwise, the interaction of CFIO with SCR is identical to that described in "Call Forwarding Variable", Section 10.3.37 .

10.3.36 Call Forwarding Over Private Facilities

NOTE: The Call Forwarding Over Private Facilities option is not supported on the standard BRI (National ISDN).

Call Forwarding over Private Facilities (CFPF) is a Call Forwarding Variable (CFV) option allowing business customers to automatically forward voice calls over the outgoing private facilities access (PFA) or automatic route selection (ARS) service selected by the customer.

Originating: No interaction.

Terminating: Incoming calls over private facilities do not have the calling party's DNs available and are not screened at the user's switch. Standard termination treatment is applied to a call routed over private facilities terminating at a line with SCR active.

10.3.37 Call Forwarding Variable

Call Forwarding Variable (CFV) allows a station user to redirect calls intended for that station to another telephone.

Originating: No interaction.

Terminating: The SCR feature takes precedence over CFV. Calls forwarded to a customer with a LASS screening list via CFV (or CFBL) are screened on the basis of the originating party's DN. It is possible for a customer to have SCR active and, at the same time, have one or more of the call forwarding features active. In this case, a terminating call will forward by a forwarding feature only if the base station's SCR screening list does not contain the necessary entries to reject the call.

10.3.38 Call Forwarding In (Within) A Group

Call Forwarding In A Group (CFIAG) restricts DNs of forward-to numbers dialed during activation to intragroup extension numbers.

Originating: No interaction.

Terminating: See "Call Forwarding Variable", Section 10.3.37 .

10.3.39 Call Hold

Call Hold (CHD) allows a station user to *hold* a call in progress by flashing and then dialing the call hold code.

Originating: Calls can be placed on hold by the SCR user regardless of the SCR screen list entries. An ISDN user at the lead station of a primary DN can activate/deactivate SCR by feature button while a call is on hold on any other call appearance.

If an analog SCR user disconnects from a party on hold, the SCR user will receive ringback to restore the connection between the held party and the CHD line. Regardless of active SCR service on a CHD line, ringback will occur.

If a call is placed on hold prior to an analog user becoming active on another call, ringback to the analog user for the held call will occur after the new call has terminated (disconnected).

After placing a call on hold, an ISDN user must select an idle call appearance before dialing the SCR access code. If Manual Exclusion is not active for the call appearance of the ISDN held call, the held call can be picked up on any multibutton telephone key set (MTKS) of a key-system group sharing the call appearance regardless of the SCR assignment to the shared DN.

Terminating: No interaction.

10.3.40 Call Pickup (Also Known as Call Pickup Originating and Regular Call Pickup)

Call Pickup (CPU) allows a station user to answer any call within an associated preset pickup group.

Originating: The SCR user is able to answer a call directed (and alerted) to other stations in the same preset call pickup group, even if the calling party's DN is on the SCR screening list of the party picking up the call.

Terminating: No interaction.

10.3.41 Call Tracing

Call Tracing allows central office personnel to determine the source of annoying or threatening calls or identify lines in emergency or demand situations.

Originating: No interaction.

Terminating: The SCR feature takes precedence over Call Tracing features. If the calling party's DN is on the active SCR list, the called party will not be alerted and no call tracing will be performed. Trace messages are not written for calls that are rejected by SCR. A trace message is only written for calls that terminate at the SCR user's station.

10.3.42 Call Transfer Attendant

Call Transfer Attendant (CTA) allows the called business group station user, while connected to a DID or private network incoming call, to transfer the call to the attendant.

Originating/Terminating: No interaction.

10.3.43 Call Transfer Individual All Calls

Call Transfer Individual All Calls (CTIAC) allows a station user to transfer any established call to another station within or outside the private branch exchange (PBX) or business group without the assistance of the attendant.

Originating: No interaction.

Terminating: The party performing the call transfer (third party) can initiate a call transfer to the SCR station as long as the third party's DN is not on the SCR station user's screening list. The DN of the party being transferred is not screened. This allows calling parties to bypass SCR screening when attempting to reach an SCR customer by using a third party as an intermediary. If the third party's DN is on the SCR user's screening list, that caller will receive rejection treatment.

10.3.44 Call Transfer Individual Incoming Only

Call Transfer Individual Incoming Only (CTIIO) allows a business group station user to transfer an incoming call to another station in the same business group without assistance of the attendant.

Originating: No interaction.

Terminating: The CTIIO feature is only operational for calls arriving from outside the user's terminal group. Otherwise, the interactions between CTIIO and SCR are identical to those described in "Call Transfer Individual All Calls", Section 10.3.43 .

10.3.45 Call Transfer Internal Only

Call Transfer Internal Only (CTIO) allows a business group station user to transfer any established intragroup call to another station in the same customer group without the assistance of an attendant.

Originating: No interaction.

Terminating: See "Call Transfer Individual All Calls", Section 10.3.43 .

10.3.46 Call Transfer Outside

Call Transfer Outside (CTO) allows a station user to add on a dial "9" off-network, common control switching arrangement (CCSA), or WATS facility to an external call. A call using CTO can be transferred to a private facility.

Originating/Terminating: No interaction.

10.3.47 Call Waiting Incoming Only

NOTE: The Call Waiting Incoming Only feature is not supported on the standard BRI (National ISDN).

Call Waiting Incoming Only (CWIO) is a version of Call Waiting Terminating (CWT). It gives an analog station user, engaged in a telephone conversation, an audible alert indicating an incoming DID or private facility call is attempting to terminate. See "ISDN Priority Calling Incoming Only", Section 10.3.147 , for the ISDN version of CWIO.

Originating: No interaction.

Terminating: The SCR feature takes precedence over CWIO. The CWIO feature is operational only for calls arriving from outside the user's terminal group. Otherwise, the interactions between CWIO and SCR are identical to those described in "Call Waiting Terminating", Section 10.3.49 .

10.3.48 Call Waiting Originating

NOTE: The Call Waiting Originating feature is not supported on the standard BRI (National ISDN).

Call Waiting Originating (CWO) allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The CWO feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active. It is automatically invoked any time a busy intragroup station is encountered. The CWO feature is only operational for intraterminal group calls.

Originating: No interaction.

Terminating: The SCR feature takes precedence over CWO. When a business group station invokes a CWO service on a busy analog SCR user of the same intragroup as the calling station, call waiting tone will not be applied to the line of the SCR user (if analog) and priority termination treatment for the call will not be given at the line of the

SCR user (if ISDN) unless the incoming caller's DN is not on the SCR user's active SCA screening list.

A CWO call to the line of an SCR user is connected to a rejection announcement if the DN of the originator is on the SCR screening list. Standard terminating treatment for CWO calls applies if the DN of the caller is not on the SCR screening list.

10.3.49 Call Waiting Terminating

Call Waiting Terminating (CWT) uses a burst tone to inform a busy analog station user that another call is waiting.

Originating: No interaction.

Terminating: The SCR feature takes precedence over CWT. If the analog SCR customer has the Call Waiting feature active, and a call comes in that is on the active SCR screening list, the call is refused and no call waiting (CW) tone results. If the caller's DN is not on the active SCR list and the SCR user's analog line is busy, the SCR user will receive call waiting tone.

10.3.50 Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment

This feature allows the 5ESS®-2000 switch PBX to send the calling party number (CPN)/billing number (BN) of the originator to the public network or to another PBX on a per-trunk group basis for all calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch (whether or not originally obtained from CPN or BN data), a call to the SCR user is subject to SCR screening and termination treatment.

10.3.51 Cancel Call Waiting

Cancel Call Waiting (CCW) allows a customer with Call Waiting to inhibit the application of the call waiting tone for the duration of one call.

Originating/Terminating: No interaction.

10.3.52 Carrier Interconnection

Carrier Interconnection provides an interface between the local exchange, inter-LATA, and interexchange carriers.

Originating: No interaction.

Terminating: Carrier Interconnection does not provide a means of delivering a calling party number for SCR screening.

10.3.53 Centrex Complex

Centrex Complex associates multiple business groups in a single switch with a single common *Complex*. All business groups in the complex share intercom calling privileges, yet may have separate private facility groups or separate dialing plans.

Originating: No interaction.

Terminating: The SCR feature takes precedence over Centrex Complex. A call arriving via the Centrex Complex dialing plan is screened at the active SCR station. A Centrex Complex can have SCR assigned to it.

10.3.54 Code Calling

Code Calling allows attendants and station users to dial an access code and a 2- or 3-digit called party code to activate signaling devices with a coded signal corresponding to the called code.

Originating/Terminating: See "Directed Call Pickup with Barge-in", Section 10.3.76 .

10.3.55 Code Restriction

Code Restriction blocks outgoing calls to customer-specified codes [numbering plan area (NPA), NXX].

Originating/Terminating: No interaction.

10.3.56 Signaling System 7 Network Interconnect

Signaling System 7 Network Interconnect (SS7 NI) provides an out-of-band signaling interface between local exchange carrier and interexchange carrier networks.

Originating: No interaction.

Terminating: Network Interconnect can also provide the calling party DN for calls incoming to the user from outside the LATA. The assigned DN's switch must support this capability. A call incoming via the SS7 network is subject to SCR screening.

10.3.57 Common Control Switching Arrangement Access

Common Control Switching Arrangement (CCSA) Access provides access to the customer's CCSA network.

Originating: No interaction.

Terminating: Calls arriving from CCSA trunks do not have the calling party DN available and cannot be screened at the active SCR station. Normal termination will occur.

10.3.58 Computer Access Restriction

Computer Access Restriction (CAR) allows the customer to restrict access to a computer connected through a modem to the telephone line. The CAR feature, operational only for voice calls, is not operational for ISDN packet-switched or circuit-switched data calls.

Originating: No interaction.

Terminating: The SCR feature takes precedence over CAR. If a customer has both SCR and CAR active, the SCR screening list is checked before the CAR screening list.

10.3.59 Conference Calling Six-Way (Also Known as Station Dial Conference)

Conference Calling Six-Way allows a station user to establish a conference call involving up to five other parties without attendant assistance.

Originating: If the SCR customer has Conference Calling active, the SCR access code will be accepted after all called parties have been placed on hold.

Terminating: An SCR user can be added to a six-way conference call only if the DN of the party dialing the SCR user is not on the user's SCR screening list.

A party dialing the DN of an SCR user, during an attempt to add the SCR user to a conference call, will connect to

the SCR user's rejection announcement if the DN of the calling party is on the SCR screening list.

10.3.60 Critical Interdigit Timing

Critical Interdigit Timing is activated when the digits received provide sufficient information to complete a call, but the possibility of receiving additional valid digits exists.

Originating: Standard interdigit dialing applies to the dialing of the SCR access code.

Terminating: No interaction.

10.3.61 Customer Access Treatment Code Restriction

Customer Access Treatment (CAT) Code Restriction allows the creation of subgroups in a business group to provide additional restriction or access functions.

Originating: The CAT codes can be used to restrict SCR activation/deactivation.

Terminating: No interaction.

10.3.62 Customer-Changeable Speed Calling

Customer-Changeable Speed Calling (CCSC) allows customers to assign their own speed calling codes directly and immediately from their own telephone by dialing a change speed calling list access code, an abbreviated code, and a new telephone number.

Originating: The SCR access code is allowed as a legitimate speed calling list entry. The SCR access code can be assigned to a speed calling feature button.

Terminating: No interaction.

10.3.63 Customer Dialed Account Recording

Customer Dialed Account Recording (CDAR) allows a business group customer to associate a personal account number with a given call and have it recorded on the AMA record. The customer can use this record for allocating charges on both outgoing and incoming calls.

Originating: The same ACCT treatment as described in "Account Codes", Section 10.3.5, applies to CDAR.

Terminating: No interaction.

10.3.64 Customer-Originated Trace

Customer-Originated Trace (COT) lets the terminating party request an automatic trace of the last call received.

Originating: Only calls alerting the SCR user can be traced when the SCR user invokes the Customer Originated Trace feature.

Terminating: No interaction.

10.3.65 Customer Station Rearrangement via Remote Memory Access System

Customer Station Rearrangement (CSR) via remote memory access system (RMAS) allows business customers to make changes affecting their telephone service from an on-premises terminal.

Originating: The CSR user can activate and deactivate SCR. The SCR screening list cannot be edited via CSR.

Terminating: No interaction.

10.3.66 Delayed Announcement for Queued Calls on Hunt Group

Delayed Announcement for Queued Calls on Hunt Group allows a customer-generated automatic announcement for multiline groups with queuing.

Originating: No interaction.

Terminating: The SCR feature takes precedence over the Delayed Announcement for Queued Calls on Hunt Group feature. Calls to a line with SCR active are screened for SCR termination treatment before being queued. Only calls that are allowed to terminate at the station of the SCR user are queued. This feature provides a customer-generated automatic announcement for multiline hunt groups with queuing only for those calls whose DNs are not on the SCR screening list.

10.3.67 Deluxe Automatic Route Selection

Deluxe Automatic Route Selection (DARS) extends the choice of private routes for each NPA/NXX to 16 versus 4 for basic ARS.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 10.3.22 .

10.3.68 Deluxe Queuing

Deluxe Queuing is composed of the following two parts: Priority Queuing and Ringback Queuing.

Originating/Terminating: See "Basic Queuing", Section 10.3.25 .

10.3.69 Dial Access to ISDN Attendant

Dial Access to ISDN Attendant provides dial access from the station to the ISDN attendant within the customer group.

Originating/Terminating: No interaction.

10.3.70 Dial Access to Private Facilities

Dial Access to Private Facilities (DAPF) lets a customer choose to terminate the private facilities at the central office and access those facilities by dialing a unique access code per facility.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SCR customer cannot be screened. That is, the original calling party's DN is not available. Normal termination will apply.

10.3.71 Dial Call Waiting

NOTE: The Dial Call Waiting feature is not supported on standard BRI (National ISDN).

Dial Call Waiting (DCW) allows an originating business group station to invoke call waiting service on selected intragroup calls by dialing an access code followed by the extension number of the station to be call waited. Dial Call Waiting allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The DCW feature also allows a call made to an ISDN station to terminate on an idle call

appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active.

Originating: No interaction.

Terminating: The SCR feature takes precedence over DCW. A DCW call to the line of an SCR user will receive SCR treatment if the DN of the originator is on the SCR screening list. Standard terminating treatment for DCW calls is applicable if the DN of the caller is not on the SCR screening list.

When a business group station invokes a DCW service on an analog SCR user of the same intragroup as the calling station, call waiting tone will not be applied to the line of the SCR user if the line is analog, and priority termination treatment for the call will not be given at the line of the SCR user if the line is ISDN, unless the incoming caller's DN is not on the SCR user's active SCR screening list.

10.3.72 Dial Pulsing

Dial Pulsing provides the capability to transmit and receive direct current address signals between offices.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SCR customer cannot be screened. That is, the original calling party's DN is not available. Normal termination will apply.

10.3.73 Dial Through Attendant

Dial Through Attendant (DTA) allows a station user to complete the dialing on other than station-to-station calls after the attendant selects the private facility on attendant handled calls.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 10.3.22 .

10.3.74 Dial Transfer to Tandem Tie Line

Dial Transfer to Tandem Tie Line makes the Call Transfer feature compatible with tie lines (trunks). After flashing, a station user with normal access to tie lines can dial a call through the tie line and transfer the original call to it.

Originating: No interaction.

Terminating: See "Call Transfer Individual All Calls", Section 10.3.43 .

10.3.75 Direct Connect

Direct Connect automatically places a call to a preselected called number when a station goes off-hook.

Originating: No interaction.

Terminating: A call via Direct Connect is screened at the active SCR station user if the calling party DN is available. The SCR feature can be assigned to a direct connect line, but the screening list must be built and maintained through recent change.

10.3.76 Directed Call Pickup with Barge-In

Directed Call Pickup with Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, barge-in alert tone is provided and a three-way call is established.

Originating: The SCR user is able to answer a call directed (and alerted) to other stations in the same preset call

pickup group, even if the calling party's DN is on the SCR screening list.

Terminating: This feature allows other stations in the same preset call pickup group to pick up a call that alerts (rings) an SCR user.

10.3.77 Directed Call Pickup without Barge-In

Directed Call Pickup without Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, the party dialing the pickup code is routed to reorder rather than permitted to barge-in on the established connection and create a three-way call.

Originating/Terminating: See "Directed Call Pickup with Barge-in", Section 10.3.76 .

10.3.78 Distinctive Ringing

Distinctive Ringing (DR) applies a distinctive ringing or call waiting tone pattern enabling a station user to determine the source of an incoming call.

Originating: No interaction.

Terminating: The SCR feature takes precedence over the Distinctive Ringing feature (excluding DR associated with PP precedence calls). An SCR user with a DR feature active can receive distinctive ringing only for calls that are not rejected by SCR. Calls made with PP precedence are not subject to SCR screening.

10.3.79 Dual Call Coverage (Also Known as Dual Telephone Coverage)

Dual Call Coverage allows calls originating internal to a customer's terminal group to route to a message center other than the one servicing outside calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via Dual Call Coverage is subject to SCR screening and termination treatment. The SCR feature cannot be used for Dual Call Coverage call redirection.

10.3.80 Electronic Tandem Switching Trunk Access (Also Known as Access to ETS Trunks)

Electronic Tandem Switching Trunk Access provides access to a customer's ETS facilities on a distant switch.

Originating: No interaction.

Terminating: Calls arriving via electronic tandem network (ETN) trunks do not have the calling party's DNs available and are not screened at the active SCR station. Standard terminating treatment will apply.

10.3.81 Electronic Tandem Switching on Primary Rate Interface Trunks

The ETS on PRI Trunks feature allows the 5ESS®-2000 switch to provide ETN trunking between a 5ESS®-2000 switch central office node and one or more digital PBX nodes in an ETN.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SCR screening and termination treatment.

10.3.82 Electronic Tandem Network Interworking in the 5ESS®-2000 Switch Private Network

Environment

This feature gives the 5ESS®-2000 switch private network customer, using the Electronic Tandem Switching (ETS) feature, expanded capabilities using the primary rate interface (PRI) to connect multiple private ETN nodes.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SCR screening and termination treatment.

10.3.83 Emergency Access to ISDN Attendant

Emergency Access to ISDN Attendant allows a station user to dial an emergency code to gain immediate access to the attendant.

Originating/Terminating: No interaction.

10.3.84 Emergency Ringback

Emergency Ringback is associated with the basic 911 emergency service used to recall a customer station immediately following disconnect from, and at the request of, an emergency bureau.

Originating: Emergency Ringback takes precedence over SCR. Emergency Ringback calls are not screened for SCR termination treatment.

Terminating: No interaction.

10.3.85 Enhanced Private Switched Communications Service Access

Enhanced Private Switched Communications Services (EPSCS) Access provides the ability to terminate access lines to the EPSCS switch.

Originating: No interaction.

Terminating: Calls arriving from EPSCS trunks do not have the calling party DN available and cannot be screened at the active SCR station. Standard terminating treatment will apply.

10.3.86 Expensive Route Warning Tone

Expensive Route Warning Tone (ERWT) indicates when a more expensive route is about to be used.

Originating/Terminating: No interaction.

10.3.87 Facility Restriction Level

Facility Restriction Level (FRL) defines the calling privileges associated with a line.

Originating/Terminating: No interaction.

10.3.88 Feature Code Definition

The Feature Code Definition is the access code defined by the service provider which allows the SCR user to access the SCR feature.

Originating: The service provider is allowed to change the SCR feature access code.

Terminating: No interaction.

10.3.89 Flexible Night Service (Also Known as Attendant Call Forwarding)

Flexible Night Service (FNS) routes calls normally directed to the attendant group to a different location (night location, also known as a night directory number).

Originating: No interaction.

Terminating: See "ISDN Attendant Night Service", Section 10.3.118 .

10.3.90 Foreign Exchange Line

Foreign Exchange (FX) Line provides line termination in a central office different from the line providing service to the customer.

Originating: No interaction.

Terminating: Calls arriving from FX lines do not have the calling party DN available. These calls cannot be screened at the active SCR station. Standard terminating treatment will apply.

10.3.91 Four- and Eight-Party

Four- and Eight-Party provides POTS for up to four or eight customers sharing the same line.

Originating: The SCR feature cannot be assigned on four- and eight-party lines.

Terminating: No interaction.

10.3.92 Fully Restricted Originating and Terminating

Fully Restricted Originating and Terminating (FROT) provides the ability to deny a station's ability to originate and/or receive calls to or from outside the business group. It also blocks "dial 0" calls to an attendant and calls from an attendant to the station.

Originating: No interaction

Terminating: Fully Restricted Terminating takes precedence over SCR. An SCR user who is fully restricted terminating can only screen calls from other members of the same group. Termination of calls to a fully restricted terminating user from outside the user's terminal group is prevented by the Fully Restricted Terminating feature and these calls will not be screened by SCR.

10.3.93 Home Intercom (Also Known as Home Intercom/Single Line Variety Package)

Home Intercom/Single Line Variety Package (HI/SVP) allows the HI/SVP user to ring all telephone sets (extensions) associated with the line by dialing specified codes from the station.

Originating: An SCR user can use the HI/SVP feature to ring his/her extensions.

Terminating: Since an HI/SVP call is not originated by another caller, the switch will not invoke the SCR service. That is, when a Home Intercom user dials a special code to ring other extensions on the line, the call is not screened and is always accepted.

10.3.94 Hunt Group Transfer for Circuit-Switched Data Calls

This feature allows circuit-switched data (CSD) calls to a CSD multiline hunt group (MLHG) to forward to a second

CSD MLHG.

Originating/Terminating: No interaction.

10.3.95 In-Progress Call Tracing

In-Progress Call Tracing is one type of Call Tracing feature that identifies a call in progress.

Originating: No interaction.

Terminating: See "Call Tracing", Section 10.3.41 .

10.3.96 Individual Calling Line Identification Calling Number Delivery (Analog)

Individual Calling Line Identification (ICLID) Calling Number Delivery transmits data on an incoming call to the terminating station set.

Originating: No interaction.

Terminating: No ICLID information is displayed at the SCR station for calls rejected by the SCR user.

10.3.97 Individual Calling Line Identification Directory Number Privacy

Individual Calling Line Identification (ICLID) Directory Number Privacy (DNP) allows the calling party to prevent delivery of the origination DN to the terminating station set.

Originating: No interaction.

Terminating: Calls from DNs with a privacy restriction preventing display of the calling number are screened for SCR termination treatment in the same manner as calls from DNs without the calling number display restriction.

10.3.98 Individualized Dialing Plan

The Individualized Dialing Plan (IDP) feature allows digits to be interpreted according to the IDP of the customer instead of the office dialing plan (ODP) and/or the standard office abbreviated dialing list.

Originating: In the case of ISDN, no SCR button depressions are allowed during the second dial tone after dialing the escape to POTS access code; such as *9. If the user escapes to POTS, the SCR access code defined in the ODP must be used.

The LASS Dialed Code Restrictions on IDP Users feature affects access to LASS features AC, AR, COT, ICLID CND, PCP, SCA, SCR, CAR, SCF, and SDA. This feature is an optioned feature available on an SM basis via the Secured Feature Upgrade View (View 8.22). The LASS Dialed Code Restrictions on IDP Users feature, controls dial code access to LASS features for IDP users. The default value for this feature is disabled (inactive). When this feature is disabled, IDP users can use the access codes defined in their IDP in addition to the ODP defined dialed access codes to access LASS features. Using an ODP defined dial access code for access to a LASS feature by an IDP user may require the dialing of an IDP defined "escape to POTS access code" (9, or *9) immediately prior to dialing the ODP defined access code. Dialing of an ODP defined access code directly (not preceded by an escape to POTS code) is allowed if the error treatment for the user's IDP has been set to use the office code on RC View 9.10.

When the LASS Dialed Code Restrictions on IDP Users feature is enabled (active), an IDP user cannot use an ODP defined dial access code to access a LASS feature. The ODP defined dial access code cannot be used whether or not the ODP LASS code is preceded by an escape to POTS code and regardless of the error treatment for the user's IDP group. Reorder tone is returned to an IDP user after an ODP access code is dialed to access a LASS feature.

Additionally, with this feature enabled, neither an ODP nor an IDP defined dial access code for a LASS feature will be accepted by the 5ESS[®]-2000 switch at any time after an escape to POTS code has been dialed by an IDP user in a single, off-hook dialing scenario. However, an IDP user can dial an escape to POTS code followed by an automatic route selection (ARS), authorization, or an account code prior to the dialing of an IDP (but not ODP) LASS code. Dialing an ARS, authorization, or account code in conjunction with an IDP LASS dialed access code is allowed regardless of the activation status of the LASS Dialed Code Restrictions on IDP Users feature.

The LASS Dialed Code Restrictions on IDP Users feature requires dialed codes used for access to LASS features to be defined in the IDP. Except for ARS, authorization or account codes, activation of this optioned feature requires that access to non-LASS features allowed to be dialed prior to the LASS access codes must also be defined in the IDP. This allows IDP users to use non-LASS features in conjunction with LASS features.

Terminating: Calls from parties overriding their dialing plan are screened by SCR.

10.3.99 Inspect for ISDN Terminals

NOTE 1: The Inspect for ISDN Terminals feature is not supported on standard BRI (National ISDN).

NOTE 2: Display interactions apply to Custom ISDN *only*.

Inspect for ISDN Terminals retrieves and displays call-related information about any call appearance having a call associated with it. Inspect also displays feature button identification.

Originating: When the Inspect feature is used to inspect the SCR feature button, *Selective call rejection on/off* is displayed.

Terminating: Independent of whether SCR is active or inactive, the SCR user can retrieve call-related information about any call appearance having a call associated with it. If the SCR user is in an Inspect session and presses the SCR feature button, the SCR feature status will not be affected, but the Inspect information associated with SCR feature button will be displayed. If the user presses the SCR feature button and then presses the Inspect button, the display information associated with the Inspect session may overwrite the display information associated with the SCR feature button for Lucent Technologies customer premises equipment. Other CPE may respond differently.

10.3.100 Intercom Calling Restriction

Intercom Calling Restriction counts and limits the number of intercom calls that can be in progress at any one time within a customer group. It also sets a maximum total simultaneous call volume that includes intercom and calls external to the customer group.

Originating/Terminating: No interaction.

10.3.101 Intercom Dialing

Intercom Dialing, in conjunction with the special dialing plan, permits station users in the business group to place calls to each other on a 1- to 7-digit basis.

Originating: No interaction.

Terminating: Calls arriving via intercom dialing are screened against the active SCR screening list.

10.3.102 Intra-LATA Presubscribed inter-LATA Carrier (Intra-LATA PIC)

The Intra-LATA PIC capability allows the Local Exchange Carrier (LEC) to open up certain IntraLATA toll routes which were previously handled exclusively by the LEC, to competition on an equal access basis between the LEC

and Inter-LATA Carriers (ICs).

The Intra-LATA PIC capability allows a subscriber to presubscribe to an Intra-LATA Toll Carrier (PTC) that handles all of his/her Intra-LATA Toll traffic (7 digit or 10 digit calls with or without a "1/0" prefix), if dialed without a 10XXX (or 101XXXX) prefix, but which may or may not be the same as the Presubscribed Inter-LATA Carrier (PIC).

Originating: The ability to add an Intra-LATA Toll number to a screening list of an SLE feature (such as, Selective Call Rejection, Selective Call Forwarding, etc.) will not be affected by whether the INTER LATA SCREEN field on RC/V View 8.21 is set to Y or N. The ability to add an Intra-LATA (Local or Toll) number to a screening list of an SLE feature will not be affected by whether calls made by the SLE feature subscriber are carried by the LEC or an IC.

Terminating: SCR will work properly with incoming Intra-LATA PIC calls provided that the calling number is delivered. However, if the LEC does not transmit the calling party number to the IC or the IC does not transmit the calling party number to the LEC, then SCR will not work properly. Note that the CPN SUBSC option on RC/V View 10.2 can be used to allow/disallow passing of the SS7 Calling Party Number parameter to an IC.

10.3.103 Intermodule Trunking

Intermodule Trunking provides trunking between modules connected to the same base 5ESS[®]-2000 switch.

Originating: No interaction.

Terminating: The SCR feature should work the same way on calls over Inter-Module Trunking as it does on calls over regular interoffice trunks.

10.3.104 Intraswitch/Interswitch Calling Party Number/Billing Number Optioning to Terminating User

This feature allows the terminating PRI or BRI user to request delivery of the calling party number or billing number on an *exclusive* or *preferred* basis on every call for circuit-switched voice/data calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch (whether or not originally obtained from CPN or BN data), a call to the SCR user is subject to SCR screening and termination treatment.

10.3.105 ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants

NOTE: The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature is not supported on standard BRI (National ISDN).

The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature allows a supervisor, or attendant, to display data about an attendant position.

Originating/Terminating: No interaction.

10.3.106 ISDN Attendant Busy Verification of Lines and Trunks

NOTE: The ISDN Attendant Busy Verification of Lines and Trunks feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Busy Verification of Lines and Trunks feature allows an attendant to determine whether a line or trunk within the same customer group is busy or idle.

Originating: No interaction.

Terminating: See "Busy Line Verification", Section 10.3.29 .

10.3.107 ISDN Attendant Call Hold

NOTE: The ISDN Attendant Call Hold feature is not supported on a standard BRI (National ISDN).

The ISDN Attendant Call Hold feature allows the ISDN attendant to hold a call in progress to originate another call, or pick up a call on hold.

Originating/Terminating: No interaction.

10.3.108 ISDN Attendant Call Splitting

The ISDN Attendant Call Splitting feature allows the ISDN attendant to consult privately with the called party without the calling party hearing.

Originating: No interaction.

Terminating: The SCR feature takes precedence over ISDN Attendant Call Splitting. Also, see "Attendant Call Transfer", Section 10.3.8 .

10.3.109 ISDN Attendant Call Transfer

The ISDN Attendant Call Transfer feature is the ISDN version of Attendant Call Transfer.

Originating: No interaction.

Terminating: See "Attendant Call Transfer", Section 10.3.8 .

10.3.110 ISDN Attendant Camp-On

The ISDN Attendant Camp-On feature is the ISDN version of the Attendant Camp-On feature. It allows calls that the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: No interaction.

Terminating: The SCR feature takes precedence over Attendant Camp-On. The attendant's DN cannot be on the SCR screening list if attendant camp-on calls are to be accepted. Also, see "Attendant Camp-on", Section 10.3.9 .

10.3.111 ISDN Attendant Conference Calling

The ISDN Attendant Conference Calling feature allows the attendant to set up conference calls with any combination of extensions or trunks on the internal conference bridge. The maximum number of parties on the conference call is limited to the capacity of the multiport conference circuit.

Originating: No interaction.

Terminating: See "Attendant Conference Six-Way", Section 10.3.10 .

10.3.112 ISDN Attendant Control of Facilities

NOTE: The ISDN Attendant Control of Facilities feature is not supported on a standard BRI (National ISDN).

The ISDN Attendant Control of Facilities feature is the ISDN version of ACOF.

Originating: See "Attendant Control of Facilities", Section 10.3.11 .

Terminating: No interaction.

10.3.113 ISDN Attendant Control of Voice Terminals

NOTE: The ISDN Attendant Control of Voice Terminals feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Control of Voice Terminals (ACVT) feature enables an attendant to impose an originating or terminating restriction (or both) on a DN or group of DNs. The ACVT feature routes calls destined for a line or group of lines to the attendant for handling. It is activated by the attendant or automatically by the switch.

Originating: No interaction.

Terminating: The ACVT feature takes precedence over SCR. This feature routes calls destined for an SCR line to the attendant for handling regardless of the SCR feature status.

10.3.114 ISDN Attendant Direct Station Selection

NOTE: ISDN Attendant Direct Station Selection is not supported on standard BRI (National ISDN).

The ISDN Attendant Direct Station Selection (DSS) feature allows the attendant to display the status of up to 10,000 DNs in 100 groups of 100 contiguous DNs starting at 00.

Originating: No interaction.

Terminating: See "Attendant Direct Station Selection", Section 10.3.12.

10.3.115 ISDN Attendant Emergency Override

NOTE: ISDN Attendant Emergency Override is not supported on standard BRI (National ISDN).

The ISDN Attendant Emergency Override (AEO) feature allows the attendant to complete incoming calls to stations as follows:

- Calls that are busy from setting the make-busy key
- Calls that have a series completion or multiline hunt arrangement
- Calls with Call Forwarding active
- Calls with terminating restrictions.

Originating: No interaction.

Terminating: The AEO feature takes precedence over SCR. That is, when the attendant activates AEO, the call will terminate to the SCR station user regardless of the SCR feature status. Such calls will not undergo SCR screening.

10.3.116 ISDN Attendant Incoming Call Identification

NOTE: ISDN Attendant Incoming Call Identification is not supported on standard BRI (National ISDN).

The ISDN Attendant Incoming Call Identification feature allows an attendant to identify the type of facility over which an incoming call to the attendant was routed.

Originating/Terminating: No interaction.

10.3.117 ISDN Attendant Make-Busy Key

Originating/Terminating: No interaction.

10.3.118 ISDN Attendant Night Service

The ISDN Attendant Night Service feature routes calls directed to the ISDN attendant to a different station.

Originating: No interaction.

Terminating: When a call is forwarded via ISDN Attendant Night Service from an attendant's line to a line with SCR active, the DN of the original caller is compared with DNs on the SCR screening list.

10.3.119 ISDN Attendant Position Busy

NOTE: The ISDN Attendant Position Busy feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Position Busy feature allows the position to be made busy by the attendant. When the attendant position is made busy in a single position arrangement, new calls to the position receive busy treatment. In a multiple position arrangement, new calls are directed to a different console position.

Originating/Terminating: No interaction.

10.3.120 ISDN Attendant Selective Customer Control of Facilities

NOTE: The ISDN Attendant Selective Customer Control of Facilities feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Selective Customer Control of Facilities (ASCCOF) feature allows an attendant to deny access to a trunk or simulated facility group.

Originating/Terminating: No interaction.

10.3.121 ISDN Attendant Through Dialing

The ISDN Attendant Through Dialing feature allows an attendant to access an outgoing facility for a calling party within the group who has restrictions or difficulty in placing an outgoing call.

Originating/Terminating: No interaction.

10.3.122 ISDN Attendant Traffic

NOTE: The ISDN Attendant Traffic feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Traffic feature provides the traffic counts for each attendant console position.

Originating/Terminating: No interaction.

10.3.123 ISDN Attendant Trunk Identification

NOTE: The ISDN Attendant Trunk Identification feature is not supported on standard BRI (National ISDN).

The ISDN Attendant Trunk Identification feature provides a display of the trunk group and member number of the incoming or outgoing trunk in use at the request of the attendant or automatically on incoming trunk calls.

Originating/Terminating: No interaction.

10.3.124 ISDN Automatic Customer Station Rearrangement

The ISDN Automatic Customer Station Rearrangement (ACSR) feature allows users to rearrange their DNs automatically when an ISDN station set is moved.

Originating: Users with the ACSR feature will be able to retain the SCR feature status and associated screening lists when the DN is relocated. Once the ACSR update is applied by the switch, the feature status will be the same as before the move. Screening lists will also be the same.

In the interim period between ACSR invocation and application of the update by the switch, access to SLE will be denied and previously activated SCR features will be inoperable (for example, incoming calls will not be screened).

Depressions of the SCR feature button during an active ACSR session are ignored.

Terminating: No interaction.

10.3.125 ISDN Automatic-Hold/Drop Preference

NOTE: The ISDN Automatic-Hold/Drop Preference feature is not supported on standard BRI (National ISDN).

The ISDN Automatic-Hold/Drop Preference feature automatically determines how to handle a call active on one call appearance when the user shifts to another appearance. Two types of treatment are provided: automatic-drop and automatic-hold.

Originating/Terminating: No interaction.

10.3.126 ISDN Basic Message Service

The ISDN Basic Message Service (BMS) feature provides basic personalized message service for customer groups.

Originating: No interaction.

Terminating: The SCR feature takes precedence over BMS. Calls can be routed to the message service system (MSS) center using SCF, SCA, CFV, CFBL, or CFDA if the incoming caller's DN is not on the SCR screening list.

10.3.127 ISDN Bridging

The ISDN Bridging feature allows the multibutton key system (MBKS) set user to bridge onto a currently active call by pressing the active call appearance button on the MBKS set and going off-hook. This establishes a three-way call. This is different from standard Three-Way Calling because the third party initiates the bridge to the active call. Bridging is inhibited if Manual Exclusion is activated at an MBKS set engaged in the active call.

Originating: No interaction.

Terminating: If a user activates bridging onto an active call, no screening will be done against the SCR screening list.

10.3.128 ISDN Customer Station Rearrangement via **MACSTAR®** I and II Software

The ISDN Customer Station Rearrangement via **MACSTAR®** I and II software feature expands the Manual Customer Station Rearrangement (CSR) capabilities to include customer control over the ISDN feature.

Originating: No interaction.

Terminating: See "Customer Station Rearrangement via Remote Memory Access System", Section 10.3.65 .

10.3.129 ISDN Delayed and Abbreviated Ringing

The ISDN Delayed and Abbreviated Ringing (DAR) feature alerts an MBKS set for a predetermined interval before ringing another designated MBKS set.

Originating: No interaction.

Terminating: The SCR feature takes precedence over the Delayed and Abbreviated Ringing feature. For incoming calls to the shared DNs that are not rejected by SCR, ISDN terminals sharing a DN with DAR will receive delayed and abbreviated ringing.

10.3.130 ISDN Drop

The ISDN Drop feature allows the MBKS set user to drop the last party added to a conference call. For a 2-party call, pressing this button disconnects the MBKS set from the call.

Originating/Terminating: No interaction.

10.3.131 ISDN Electronic Directory Service Autocall (Also Known as Automatic Call Setup)

The ISDN Electronic Directory Service Autocall feature allows ISDN station users able to access the applications processor directly to place a call to the party associated with a query display by pressing the appropriate button.

Originating: No interaction.

Terminating: Calls placed via Autocall are screened by SCR.

10.3.132 ISDN Electronic Directory Service Calling Name Display

The ISDN Electronic Directory Service Calling Name Display (CND) feature gives the calling party's name and telephone number to the called party.

Originating: No interaction.

Terminating: Calling Name Display provides the calling party's name and telephone number to the SCR user if the incoming DN is not on the SCR screening list.

Calling name information is not sent to the SCR user if the call is rejected. For calls not rejected by SCR, CND data is displayed at the lead port.

10.3.133 ISDN Electronic Directory Service Directory Query Display/Autocall

The ISDN Electronic Directory Service Directory Query Display (DQD) allows the user to query the electronic directory data base for a name using the ISDN station set. The user can generate an Autocall by pressing the appropriate button.

NOTE: Display interactions apply to Custom ISDN *only*.

Originating: Independent of whether SCR is active or inactive, the SCR user can query the directory data base for a name. The SCR user can then generate an Autocall by pressing the appropriate button. If the SCR user is in a DQD session and presses the SCR feature button, the display information associated with SCR is not sent. If the user presses the SCR feature button and then presses the DQD button, the display information associated with the DQD session may overwrite the display information associated with the SCR feature button.

Terminating: No interaction.

10.3.134 ISDN Electronic Directory Service Query Service (Also Known as Application Processor Query Service)

The ISDN Electronic Directory Service Query Service allows a user to query the applications processor (AP) directory using a video display terminal for call and personnel information on a per-customer group basis.

Originating/Terminating: No interaction.

10.3.135 ISDN Hold

The ISDN Hold feature allows the MBKS set user to place a call on hold by pressing the function button. Any MBKS set with a call appearance for call on hold can pick up the call by pressing the call appearance button.

Originating/Terminating: No interaction.

10.3.136 ISDN ICLID Calling Number Delivery

NOTE: Display interactions apply to Custom ISDN *only*.

This feature provides calling party data on calls originated from both analog and digital lines on the same 5ESS®-2000 switch for ISDN subscribers and attendants. The ICLID feature is an enhancement to the ISDN intraswitch ICLID feature, which is available only to ISDN users with display station sets.

Originating: No interaction.

Terminating: No ICLID information is displayed at the SCR station for calls rejected by the SCR user.

The ISDN ICLID data is sent to the terminals of ISDN ICLID and SCR customers in the NORMAL display mode. Display data associated with the activation or deactivation of an SCR feature by feature button is sent to the terminals of SCR customers with the display capability in the MISCELLANEOUS display mode. The ISDN ICLID displays have lower precedence than the SCR feature and, therefore, will be overwritten by SCR displays.

10.3.137 ISDN Initiated Priority Calling

The ISDN Initiated Priority Calling (IPC) feature provides the ISDN equivalent of Dial Call Waiting.

Originating: No interaction.

Terminating: An incoming call via IPC is first screened against SCR before it alerts the SCR user. For ISDN users, incoming calls can terminate as usual if the calling DN is not on the screening list. Also, see "Dial Call Waiting", Section 10.3.71 .

10.3.138 ISDN Manual Exclusion

The ISDN Manual Exclusion feature allows an MBKS set user to inhibit other stations from picking up a call on hold or bridging onto a call that is active at that station.

Originating/Terminating: No interaction.

10.3.139 ISDN Message Service Automatic Call Setup (Also Known as Autocall)

The ISDN Message Service Automatic Call Setup feature allows ISDN clients with the Message Retrieval Display or Direct Access to Message Data Base feature to automatically set up a call to the directory number being displayed

during the retrieval session.

Originating: No interaction.

Terminating: Calls placed via Autocall are screened by SCR.

10.3.140 ISDN Message Service Message Retrieval Display

The ISDN Message Service Message Retrieval Display (MRD) allows ISDN station users to directly retrieve their Message Service Center or Leave Word Calling messages independent of whether SCR is active or inactive.

NOTE: Display interactions apply to Custom ISDN *only*.

Originating: Independent of whether SCR is active or not, the SCR user can retrieve his/her Message Service Center or Leave Word Calling messages using MRD. The SCR user can generate an Autocall by pressing the appropriate button. If the SCR user is in an MRD session and presses the SCR feature button, the display information associated with SCR may not display since it is sent in the MISCELLANEOUS display mode while the terminal is in the higher precedence MRD display mode. If the user presses the SCR feature button and then presses the MRD button, the display information associated with the MRD session may overwrite the display information associated with the SCR feature button.

Terminating: No interaction.

10.3.141 ISDN Multiple Call Appearances

The ISDN Multiple Call Appearances (MCA) feature allows an MBKS set to have more than one DN button assigned to the same DN. Incoming calls for this DN are handled in much the same way as Series Completion. A hunt is made for an idle call appearance of the called DN when a call is made to a DN that has multiple call appearances on an MBKS set.

Originating/Terminating: No interaction.

10.3.142 ISDN Multiple DN's

The ISDN Multiple DN's feature assigns multiple directory numbers to a terminal.

Originating: The SCR feature can be assigned to each DN of an ISDN multiple DN terminal. However, feature button use for SCR only applies to the terminal's primary DN.

Terminating: No interaction.

10.3.143 ISDN Number of Calls on Queue (Attendant)

Number of Calls on Queue can display each ISDN incoming call identification (ICI) type. By repeating the request, the attendant can display all ICI queues.

Originating/Terminating: No interaction.

10.3.144 ISDN Number of Calls on Queue (MLHG)

Originating: If the SCR user is active and the MLHG Queue status is requested, the MLHG Queue status display takes precedence and will overwrite the existing SCR display. The SCR display data will not be sent to the terminal while the Queue status is active. The SCR display data will not appear on the user's terminal while the Queue status is active.

Terminating: No interaction.

10.3.145 ISDN Originating Priority Calling

The ISDN Originating Priority Calling (OPC) feature provides the ISDN equivalent of Call Waiting Originating.

Originating: No interaction.

Terminating: The SCR feature takes precedence over OPC. An incoming call via OPC is first screened against SCR before it alerts the SCR user. See "Call Waiting Originating", Section 10.3.48.

10.3.146 ISDN Outgoing Called Line Identification

The ISDN Outgoing Called Line Identification (OCLID) feature provides a user originating a call with information about the called party and the facility or destination. Facility and call destination information are provided via the ISDN ICI call types.

NOTE: Display interactions apply to Custom ISDN *only*.

Originating: If an SCR user has OCLID, is on a call, and presses the SCR feature button, the display information associated with SCR will be sent and the OCLID data will be overwritten since OCLID displays are sent in the NORMAL display mode and SCR displays are sent in the MISCELLANEOUS display mode.

Terminating: No interaction.

10.3.147 ISDN Priority Calling Incoming Only

The ISDN Priority Calling Incoming Only (PCIO) feature is the ISDN equivalent of the Call Waiting Incoming Only feature. With this feature, calls outside the business group can terminate to an idle call appearance reserved for incoming calls (calls from outside the terminal group) when all unreserved call appearances are active.

Originating: No interaction.

Terminating: The SCR feature takes precedence over Priority Calling Incoming Only feature. An incoming call via Priority Calling Incoming Only is screened against SCR before it alerts the SCR user.

10.3.148 ISDN Shared Call Appearances of a Directory Number

The ISDN Shared Call Appearances of a Directory Number feature allows several MBKS station sets to share one or more DNs.

Originating: When a DN has shared ISDN call appearances and has SCR assigned to it, only the lead port (primary DN) for the DN is allowed access for activating and deactivating.

Terminating: No interaction.

10.3.149 ISDN Single-Digit Intercom

The ISDN Intercom (ICOM) feature is a form of ISDN station-to-station calling. The ICOM user can originate a call to the ICOM group member by pressing the ICOM buttons.

Originating: No interaction.

Terminating: An ICOM call terminating to an SCR user is not screened against the SCR screening list.

10.3.150 ISDN Time and Date Display

NOTE: The ISDN Time and Date Display feature is not supported on standard BRI (National ISDN).

The ISDN Time and Date Display feature is a subscription feature for ISDN attendants and ISDN station set users. The 5ESS®-2000 switch provides the time and date to the ISDN station set.

NOTE: Display interactions apply to Custom ISDN *only*.

Originating: Independent of whether SCR is active or not, the SCR user can obtain the Time and Date display. If the SCR user is in a Time and Date session and presses the SCR feature button, display information associated with SCR will not display since both SCR and Time and Date displays are sent in the MISCELLANEOUS display mode. If the user presses the SCR feature button and then presses the Time and Date button, display information associated with the Time and Date session will overwrite the display information associated with the SCR feature button for Lucent Technologies customer premises equipment. Other CPE may respond differently.

Terminating: No interaction.

10.3.151 ISDN Total Number of Calls Handled Display for ISDN Attendants

NOTE: The ISDN Total Number of Calls Handled Display for ISDN Attendants feature is not supported on standard BRI (National ISDN).

Total Number of Calls Handled Display for ISDN Attendants provides supervisors with traffic data information about each attendant in the ISDN attendant group.

Originating/Terminating: No interaction.

10.3.152 Line Time Slot Bridging

Line Time Slot Bridging (LTSB) provides an off-premises extension to a single directory number and bridging of two separate DNs in two separate locations with barge-in capabilities for customers served by the same 5ESS®-2000 switch. The Line Time Slot Bridging feature is only available via a service order.

Originating:

- Single DN for both lines

For lines equipped with Line Time Slot Bridging with one DN, only one SCR list applies to both phones. Only the lead port is allowed to activate, deactivate, or edit the feature.

- Separate DN for each line.

For lines equipped with Line Time Slot Bridging with two DNs, SCR cannot be assigned to either DN.

Terminating:

- Single DN for both lines

The switch alerts each phone (if the incoming DN is not on the SCR list) if the user has activated SCR. The call receives a rejection announcement if the DN is on the list.

- Separate DN for each line.

No interaction.

10.3.153 Loudspeaker Paging

Loudspeaker Paging allows dial access to customer-owned loudspeaker paging equipment.

Originating/Terminating: See "Call Pickup", Section 10.3.40 .

10.3.154 Main Satellite Service

Main Satellite Service allows a customer receiving business group service provided by two or more separate switching machines in the same geographic area to receive the same service available as if all locations were served by a single switch.

Originating: See "Dial Access to Private Facilities", Section 10.3.70 .

Terminating: A call arriving from the main-satellite service environment via tie trunk will not have the calling party's DN available and the call will not be screened at the active SCR station. Standard terminating treatment will apply. Also, see "Dial Access to Private Facilities", Section 10.3.70 .

10.3.155 Make-Busy Key

Make-Busy Key (MBK) allows designated lines to look busy to the central office by means of a key operation.

Originating: No interaction.

Terminating: The SCR feature takes precedence over MBK. The MBK feature allows SCR lines to look busy to the central office by means of a key operation. Any incoming calls will be screened against SCR (if the user has SCR active) before the switch checks MBK.

10.3.156 Message Detail Recording on Customer Premises

Message Detail Recording (MDR) on Customer Premises provides call detail information on public telephone network and private facility calls via a tape unit located on the customer premises.

Originating: No interaction.

Terminating: The SCR feature is compatible with MDR.

10.3.157 Message Service Automatic Call (History) Display

Message Service Automatic Call (History) Display uses the 5ESS[®]-2000 switch call history information with the AP data base to display call information, client status information, and messages to the message service attendant when the message service client calls from his/her station set to receive messages.

Originating/Terminating: No interaction.

10.3.158 Message Service Automatic Control of Message Waiting Indicator

Message Service Automatic Control of Message Waiting Indicator automatically activates the message waiting indicator at the client's station set when a message is recorded in the message data base.

Originating: No interaction.

Terminating: The Message Service System attendant can activate the message waiting indicator at the SCR station set independent of the SCR status.

10.3.159 Message Service Direct Access to Message Data Base

Message Service Direct Access to Message Data Base allows clients to update their status information, leave messages for one or more clients, and retrieve messages without assistance from the message service attendant.

Originating/Terminating: No interaction.

10.3.160 Message Service Leave Word Calling

Message Service Leave Word Calling (LWC) allows a client to leave a *canned* message for another client of the message service without assistance from a message service attendant.

Originating: No interaction.

Terminating: A leave word calling message can be left for a called station when the caller's call is rejected by SCR.

10.3.161 Message Service Message Data Base

Message Service Message Data Base stores customer organizational data, client status data, and standard *canned* messages. A message data base is available to the message service attendant on the applications processor.

Originating/Terminating: No interaction.

10.3.162 Message Service Print Message On Demand

Message Service Print Message On Demand provides a printout of messages at a predetermined printer upon request from the Message Services client.

Originating/Terminating: No interaction.

10.3.163 Multifrequency Pulsing

Multifrequency Pulsing provides the capability to transmit alternate current address signals between offices. Each address digit is transmitted as a pulsed pair of frequencies.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SCR customer cannot be screened. That is, the original calling party's DN is not available. Normal termination will apply.

10.3.164 Multiline Hunt Service Circular Hunting

Multiline Hunt Service Circular Hunting allows all lines in a multiline hunt group to be tested for busy, regardless of the point of entry into the group.

Originating: No interaction.

Terminating: When a feature is assigned to the main DN of the group, it applies to the group as a whole. All calls to the main DN are screened using the main DN lists. Such screening is performed before any check on busy/idle status of any of the group terminals. Calls to hunt DNs in the group are also screened using the main DN lists.

If the individual no-hunt DNs have SCR assigned to them and they are dialed direct, calls will be screened against the individual lists whether or not SCR is active for the main DN list. Calls are screened before hunting occurs.

10.3.165 Multiline Hunt Service ISDN Attendant (ISAT)

NOTE: Multiline Hunt Service for ISDN Attendant (ISAT) feature origination is not supported on standard BRI (National ISDN).

Originating/Terminating: No interaction.

10.3.166 Multiline Hunt Service Multiple Position Hunt

NOTE: Multiline Hunt Service Multiple Position Hunt feature is not supported on standard BRI (National ISDN).

Multiline Hunt Service Multiple Position Hunt provides the ability to distribute calls over a group of console positions, each of which can handle several types of incoming calls received on dedicated terminals.

Originating: The SCR feature cannot be assigned to analog attendants.

Terminating: No interaction.

10.3.167 Multiline Hunt Service Precedence Regular Hunt

Multiline Hunt Service Precedence Regular Hunt starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 10.3.164 .

10.3.168 Multiline Hunt Service Regular Hunting

Multiline Hunt Service Regular Hunting starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 10.3.164 .

10.3.169 Multiline Hunt Service Uniform Call Distribution Hunt

Multiline Hunt Service Uniform Call Distribution Hunt provides an even distribution of incoming calls among the available members of a hunt group.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 10.3.164 .

10.3.170 Multiline Variety Package Service

Multiline Variety Package Service provides a packaged group of services for customers with a small group of lines that are not defined as a business line group.

Originating/Terminating: See the individual features that are contained in the *Multiline Variety Package Service*.

10.3.171 Multiple DNs per Line with Distinctive Ringing (Multiple DNs per Line)

10.3.171.1 General

Multiple DNs per Line (MDNL) with Distinctive Ringing provides multiple DNs per single port [Line Equipment Number (LEN)]. An originating call from any of the DNs is always associated with the *Master DN*, pointed to by the LEN translator; therefore, any call placed from a DN associated with the LEN will pass the *Master DN* as the calling party number.

Originating: No interaction.

Terminating: The SCR feature can only be assigned to the *Master DN* of an MDNL group. Terminations to the different DNs are distinguished using distinctive ringing. The master screening list is used to screen all calls to the master and associated DNs.

10.3.171.2 MultiPoint Digital Subscriber Line

The MultiPoint Digital Subscriber Line (MPDSL) feature provides support for connecting multiple users and their associated terminals to a single digital subscriber line. Users share the two B-channels for digital voice or data services and the D-channel for signaling and packet data services.

Originating: No interaction.

Terminating: An MDSL line may be busy when two calls are active on the MPDSL and both B-channels are occupied. This is called B-channel blocking. SCR takes precedence over MPDSL busy due to B-channel blocking. The SCR screening is done before the switch checks for the busy due to B-channel blocking.

10.3.172 National ISDN Additional Call Offering (Voice and Data)

The National ISDN Additional Call Offering (ACO) feature is based on Bellcore requirements. This feature notifies the Integrated Services Digital Network (ISDN) user via Q.931 signaling procedures that there is a circuit-switched voice (CSV) or circuit-switched data (CSD) call waiting for that user at the serving 5ESS®-2000 switch; the call cannot be delivered due to the unavailability of a B-channel. The user can answer the incoming call by putting an existing call on hold or by disconnecting an existing call. The call reference busy limit (CRBL) subscription parameter limits the number of concurrent originating and terminating calls that the user may have established. Arriving calls beyond this limit are given busy treatment.

Originating/Terminating: The SCR feature is applied before a call is offered via additional call offering.

10.3.173 National ISDN Calling Number Identification Services

The National ISDN Calling Number Identification Services (I-CNIS) feature is based on Bellcore requirements and is an enhancement to the existing Calling Party Number (CPN)/Billing Number (BN) Transmittal in the 5ESS®-2000 Switch Private Network Environment feature.

See "Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment", Section 10.3.50 .

10.3.174 National ISDN Calling Number Identification Services Intra-Group Only Delivery Optioning

The Calling Number Identification Services (CNIS) Intra-Group Only Delivery Optioning (CNIGI) feature allows restriction of the Calling Party Number (CPN) delivery, Redirecting Number (RN) delivery, and Calling Party Subaddress (CgPS) delivery features from members of a terminal group. It also restricts the provisioning of ICLID, CNAM, and EDS displays to intra-group calls. CNIGI does not effect delivery of information to residential parties. Whether the CNIGI restriction applies depends on the settings of the CNIGI option for the office, business group, and individual line/PRI trunk. The CNIGI restriction applies to all members of the terminal group, including National ISDN BRI/PRI, Custom BRI/PRI, and analog lines.

Originating/Terminating: No interaction.

10.3.175 National ISDN Channel/Terminal Configurations and Restrictions

The Channel/Terminal Configurations and Restrictions feature provides channel and terminal configurations and restrictions according to Bellcore requirements. Integrated Services Digital Network (ISDN) customers with a single

terminal can be restricted to one B-channel. The ISDN customers with two or more terminals can be restricted to one B-channel via an associated group (AG). Two AGs are permitted per BRI. In an AG, customers are allowed terminals that have circuit-switched voice (CSV), circuit-switched data (CSD), on-demand B-channel (ODB) packet data, permanent packet B-channel (PPB) data, or any combination of the four services.

Originating/Terminating: A user cannot activate/deactivate the SCR features or change the SCR screening lists under B-channel blocked conditions.

10.3.176 National ISDN Interswitch Calling Number Identification Services

The ISDN Interswitch Calling Number Identification Services feature is comprised of originating features and terminating features. The originating features consist of number screening, number privacy, and calling party number/calling party subaddress transfer. The terminating features include calling number delivery. Interswitch Calling Number Identification Services provide the feature capabilities between switches.

Originating/Terminating: The LASS selective features take precedence over CPN/BN optioning. If the calling DN is on a screening list to be blocked, the call is offered to the terminating user, and the CPN/BN optioning feature does not send the calling party information to the terminator.

10.3.177 National ISDN Electronic Key Telephone System

The National ISDN Electronic Key Telephone Service feature allows a user served by an National Intergrated Services Digital Network (ISDN) terminal to have access to multiple directory number (DNs). Additionally, a DN can be accessed by more than one user (that is, a Shared DN). Directory numbers (DNs) may be shared on the same basic rate interface (BRI) or on different ISDN BRIs.

See "ISDN Shared Call Appearances of a Directory Number", Section 10.3.148 .

10.3.178 National ISDN Hold (Voice and Data)

National ISDN Hold allows a National ISDN station user to hold a call in progress by flashing and then dialing the Call Hold code or operating a function key if one is available.

Originating/Terminating: See "Call Hold", Section 10.3.39 .

10.3.179 National ISDN Three-Way Calling

National ISDN Three-Way Calling allows a customer to add a third party to an existing conversation.

See "Three-Way Calling", Section 10.3.214 .

10.3.180 Night Service

Night Service (NS) routes calls normally directed to the attendant to preselected station lines in the customer group when regular consoles are not attended.

Originating: No interaction.

Terminating: When a call is forwarded via Night Service from an attendant's line to a line with SCR active, the DN of the original caller is compared with DN's on the SCR screening list. Also, see "ISDN Attendant Night Service", Section 10.3.118 .

10.3.181 Non-Data-Link Attendant Console

NOTE: Non-Data-Link Attendant Consoles are not supported on standard BRI (National ISDN).

Non-Data-Link Attendant Console is a small desk-top position from which the attendant handles calls.

Originating: The SCR feature cannot be assigned to attendants.

Terminating: No interaction.

10.3.182 On-Hook/Off-Hook Queuing for Outgoing Trunks (Also Known as Queuing for Outgoing Trunks)

Queuing for Outgoing Trunks allows on-hook or off-hook queuing for a busy outgoing trunk. With on-hook queuing, the station is notified with a distinctive ring when a trunk is available. With off-hook queuing, the user remains off-hook, and the call is completed when the trunk is available.

Originating: With on-hook queuing, the SCR user station is notified with a distinctive ring when a trunk is available regardless of the SCR status.

Terminating: See "Ringback Queuing", Section 10.3.196 .

10.3.183 Outgoing Call Tracing

Outgoing Call Tracing is used when nuisance calls are found to be coming from one particular line. The terminating DN is put on the trace list and all originating calls from that office are checked against the list. When a call is made to the number on the list, the originating DN is identified.

Originating: No interaction.

Terminating: See "Call Tracing", Section 10.3.41 .

10.3.184 Outward Calling for PBX via ARS

Outward Calling for PBX Via ARS allows a PBX to take advantage of Business Group features relating to outgoing private facilities by terminating them at the serving switch via special access lines.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 10.3.22 .

10.3.185 Outward Wide Area Telecommunications Service (OUTWATS)

Outward Wide Area Telecommunications Service (OUTWATS) allows customers to make calls to certain zone(s) or band(s) on a direct dialing basis for a flat monthly charge or a charge based on accumulated usage.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 10.3.22 .

10.3.186 OUTWATS with Simulated Facility Group

The OUTWATS with Simulated Facility Group feature can restrict the number of simultaneous OUTWATS calls by software rather than by the physical size of a dedicated trunk group.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 10.3.22 .

10.3.187 Power Failure Transfer Attendant

Power Failure Transfer Attendant routes calls destined for the attendant to a preassigned DN during a commercial power failure at the customer premises.

Originating: No interaction.

Terminating: When a call is forwarded via Power Failure Transfer from an attendant's line to a line with SCR active, the DN of the original caller is compared with the DNs on the SCR screening list. Also, see "Night Service", Section 10.3.180 .

10.3.188 Precedence and Preemption Features

NOTE: The Precedence and Preemption feature is not supported on standard BRI (National ISDN).

Precedence and Preemption (PP) is a part of the DSN/AUTOVON network for operating routine and precedence calls used primarily by the military.

Originating: No interaction.

Terminating: A precedence with preemption *priority* call is not screened while a precedence with preemption *routine* call is screened. If an SCR user is active on a call and a precedence with preemption *priority* call is made to this SCR user, the call will not be screened against the SCR list, but will be accepted. A precedence call can preempt an active call.

10.3.189 Priority Queuing

Priority Queuing is used to assign a queue priority level that establishes precedence for facilities when immediate access is not obtainable.

Originating/Terminating: See "Basic Queuing", Section 10.3.25 .

10.3.190 Radio Paging Access

Radio Paging Access allows attendants and station users to access radio paging equipment and page individuals carrying pocket radio receivers.

Originating/Terminating: No interaction.

10.3.191 Recall From Subscriber

Recall From Subscriber allows the customer to recall an operator services position system (OSPS) operator for certain classes of operator-assisted calls by flashing the switchhook. The operator recalled is not necessarily the operator who originally assisted on the call.

Originating/Terminating: No interaction.

10.3.192 Recorded Telephone Dictation

Recorded Telephone Dictation (RTD) permits access to and control of customer-owned dictating equipment from a station in the customer group. The station must be equipped for dual tone multifrequency signaling.

Originating/Terminating: No interaction.

10.3.193 Remote Activation of Call Forwarding (Remote Access to Call Forwarding)

Remote Activation of Call Forwarding (RACF) provides the ability to remotely activate/deactivate call forwarding by using dialed codes.

Originating: No interaction.

Terminating: The RACF feature is used with the Call Forwarding Variable feature only. There is no interaction between the SCR and RACF features.

10.3.194 Remote Call Forwarding

Remote Call Forwarding allows all calls to a specified DN to forward to a remote 7- or 10-digit telephone number.

Originating: No interaction.

Terminating: The SCR feature takes precedence over the Remote Call Forwarding (RCF) feature. Also, see "Call Forwarding Variable", Section 10.3.37.

10.3.195 Revertive Pulsing

Revertive Pulsing is the method of interoffice signaling originating with the panel systems and continuing with the No. 1 Crossbar.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SCR customer cannot be screened. That is, the original calling party's DN is not available. Normal termination will apply.

10.3.196 Ringback Queuing

Ringback Queuing allows a station user, encountering a busy network facility, to queue for an idle facility by dialing a function code and going on-hook in a preselected time following the queuing confirmation code. The caller is rung back when the appropriate facility becomes idle.

Originating: With the Ringback Queuing (RBQ) feature, an SCR customer can queue calls on a busy outgoing facility. When the facility becomes available, the customer receives ringback, goes off-hook, and the call is placed without having to redial. After placing an RBQ request, active SCR customers receive ringback even if the DN is on the SCR screening list.

Terminating: No interaction.

10.3.197 Satellite Attendant Transfer

Satellite Attendant Transfer provides the same service as the Call Transfer Attendant feature to a satellite location having no attendant.

Originating/Terminating: No interaction.

10.3.198 Screen List Editing

Screen List Editing (SLE) is a capability used in conjunction with all LASS selective feature lists.

Originating: The SLE capability is necessary to build and edit the SCR screening list. For analog lines, SCR users are considered busy if they are in an editing session. For ISDN lines, SCR users are considered busy if they are in an editing session and no other call appearance is available.

Terminating: No interaction.

10.3.199 Selective Call Acceptance

Selective Call Acceptance (SCA) allows residential and business users to restrict which incoming voice calls are allowed to terminate.

Originating: No interaction.

Terminating: The SCR feature takes precedence over SCA. The DN of an incoming call is checked against the SCR list before it is checked against the SCA list.

10.3.200 Selective Call Forwarding

Selective Call Forwarding (SCF) allows a customer to preselect which calls will forward based on the telephone number of the calling party.

Originating: No interaction.

Terminating: The SCR feature has precedence over SCF. The DN of an incoming call is checked against the SCR list before it is checked against the SCF list.

10.3.201 Selective Call Rejection

Selective Call Rejection (SCR) allows a customer to reject calls from telephone numbers which are on the customer's SCR list.

Originating/Terminating: Not applicable.

10.3.202 Selective Carrier Denial

Selective Carrier Denial (SCD) allows the local office to selectively inhibit certain calls normally handled by a carrier from lines designated as nonpaying subscribers by the particular inter-LATA carrier that will handle the call.

Originating/Terminating: No interaction.

10.3.203 Selective Control of Facilities

Selective Control of Facilities (SCOF) allows the customer, via key control, to busy out private facilities and, thereby, deny all originating access.

Originating/Terminating: No interaction.

10.3.204 Selective Distinctive Alert (Distinctive Alert)

Selective Distinctive Alert (SDA) allows a customer to preselect which calls will have distinctive alerting treatment based on the telephone numbers of the calling parties.

Originating: No interaction.

Terminating: The SCR feature takes precedence over SDA. The DN of an incoming call is checked against the SCR list before it is checked against the SDA list.

10.3.205 Semirestricted Station Originating and Terminating

Semirestricted Originating and Terminating provides the ability to restrict a business group line from originating and/or receiving any calls from outside the group. Outside the group means "dial 9" and DID. Intragroup calls,

attendant calls, and calls over private facilities are permitted. Restricted calls are routed to the special group intercept announcement.

Originating: No interaction.

Terminating: The Semirestricted Station Terminating feature takes precedence over SCR. An SCR user that is semirestricted terminating can only screen calls from other members of the terminal group or from the attendants of the terminal group.

10.3.206 Series Completion

Series Completion is a type of hunting in which DNs are grouped into a prearranged ordered list.

Originating: No interaction.

Terminating: The SCR feature takes precedence over the Series Completion feature. It is possible that a customer could have SCR active and, at the same time, have the Series Completion feature active. In this case, Series Completion treatment is applied to a terminating call only if the customer's SCR screening list does not contain the necessary entries to reject the call. For example, assume a call is routed via Series Completion to another line in the Series Completion group having SCR active. If the calling party is on the SCR screening list, the call will route to a rejection announcement. No further hunting will be attempted even if this is not the last line in the Series Completion group.

10.3.207 Simulated Facility Groups for In and Out Calls

The Simulated Facility Groups for In and Out Calls feature provides the capability to restrict the number of simultaneous DID calls terminating to the group and the number of simultaneous calls originating by the group to direct distance dialing (DDD).

Originating: No interaction.

Terminating: Calls going to the SCR user are subject to the same simulated facility group restriction as are regular terminating calls.

10.3.208 Single-Digit Dialing

Single-Digit Dialing permits station users to reach any station of a preselected group or other internal facility by dialing single digit codes.

Originating: See "Intercom Dialing", Section 10.3.101 .

Terminating: The SCR feature takes precedence over Single-Digit Dialing.

10.3.209 Smart Set Interface

Smart Set Interface allows customers to use *smart* station sets. Flash requests and feature function codes are associated with unique keys on the station set.

Originating/Terminating: No interaction.

10.3.210 Special Intercept Announcement

Special Intercept Announcement allows a unique intercept announcement to be provided to each business group.

Originating/Terminating: No interaction.

10.3.211 Speed Calling (Also Known as Abbreviated Dialing)

Speed Calling permits the customer to dial selected numbers using fewer digits than normally required.

Originating: The SCR access code can be entered on a speed calling list.

Terminating: If a caller uses speed calling to an SCR user with an active SCR list, the call will be screened by SCR.

10.3.212 Tandem Call Trace

Tandem Call Trace is used when nuisance calls are found to be incoming from a tandem office. The traced DN is marked for tracing at that office to identify the tandem trunk.

Originating: No interaction.

Terminating: See "Call Tracing", Section 10.3.41 .

10.3.213 Tandem Tie Trunk Dialing

Tandem Tie Trunk is another name for Nonsenderized Tie Trunks (NTT). It uses a switching method whereby the station user directly controls, in stages, the routing of an outgoing tie trunk call through the originating switch as well as any intermediate switches.

Originating/Terminating: See "Tie Trunk Access", Section 10.3.215 .

10.3.214 Three-Way Calling

Three-Way Calling (TWC) allows a customer to add a third party to an existing conversation.

Originating: An SCR customer can also subscribe to a TWC feature. An SCR customer has the ability to place a call on hold to add a third party onto the established conversation. If the SCR user disconnects with a party on hold, the SCR user will get ringback to restore the connection to the held party. Regardless of active SCR service on a TWC line, ringback will occur.

Terminating: If an attempt is made to add a customer with an active SCR screening list onto a connection via Three-Way Calling, the attempt will be denied unless the calling party (the customer with Three-Way Calling) is not on the SCR screening list.

10.3.215 Tie Trunk Access

Tie Trunk Access connects two or more business customer locations. They can terminate in an attendant console for direct access or have dial access.

Originating: No interaction.

Terminating: Calls arriving via tie trunks do not have the calling number available and are not screened.

10.3.216 Time-of-Day

Time-of-Day (TOD) allows a customer to preschedule recent change, thereby, controlling activation and deactivation of certain modular features and changes to feature parameters via dialed codes and key control.

Originating: The TOD feature cannot be used to activate or deactivate SCR.

Terminating: No interaction.

10.3.217 Toll Diversion to Attendant

Toll Diversion to Attendant (TDA) intercepts toll or code calls from restricted business group lines and routes them to the attendant (or other designated line).

Originating/Terminating: No interaction.

10.3.218 Tracing of Terminating Calls

Tracing of Terminating Calls allows the identification of calling lines while the call is in progress. When incoming calls are to be traced, the terminating DN is placed on the call tracing list where it remains until manually removed.

Originating: No interaction.

Terminating: See "Call Tracing", Section 10.3.41 .

10.3.219 Traveling Class Mark

Traveling Class Mark (TCM) carries class-of-service information along with the called number through a private network. The TCM provides unique downstream routing and screening information.

Originating/Terminating: No interaction.

10.3.220 Trunk Answer from Any Station

Trunk Answer from Any Station (TAS) activates a common alerting signal on the customer premises when the attendant positions are in night service for calls normally directed to the attendant. These calls can then be answered from any nonrestricted station in the business group by dialing a special answer code.

Originating/Terminating: No interaction.

10.3.221 Trunk Dial Transfer

Trunk Dial Transfer provides the Call Transfer Individual feature to tie trunks.

Originating/Terminating: No interaction.

10.3.222 Trunk Group Busy Lamps

The Trunk Group Busy Lamps feature provides a visual indication on a private facility trunk group basis when the facility group is all in use.

Originating/Terminating: No interaction.

10.3.223 Two-Party ANI/ONI Capability

The Two-Party Automatic Number Identification/Operator Number Identification (ANI/ONI) Capability allows operating companies the choice of giving two-party lines automatic number identification (ANI) treatment or operator number identification (ONI) treatment.

Originating: The SCR feature cannot be assigned on Two-Party ANI/ONI lines.

Terminating: Calls from Two-Party ANI users are screened against the SCR list.

10.3.224 Two-Party Line

Two-Party Line provides basic POTS to two customers sharing the same line.

Originating: The SCR feature cannot be assigned on two-party lines.

Terminating: Calls from two-party lines are screened against the SCR list.

10.3.225 Uniform Numbering

Uniform Numbering provides a customer-specified 7-digit numbering plan that identifies all business group stations interconnected by the facility network. Each customer switch connected by the electronic tandem network (ETN) is identified by a 3-digit code.

Originating: No interaction.

Terminating: Calls received over non-SS7 private facilities (using a uniform numbering dialing plan) do not have the calling party's DN available and are not screened at the active SCR station. Standard terminating treatment will apply.

10.3.226 Unrestricted Originating and Terminating

This is basically the absence of originating and/or terminating restriction in a terminal group.

Originating/Terminating: No interaction.

10.3.227 User-Side Primary Rate Interface Implementation

This feature allows PRI support in public (private trunks providing access to public facilities) and private networks.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SCR screening and termination treatment.

10.4 RESTRICTION CAPABILITY

10.4.1 General

Customer access to SCR can be denied on a per-line basis using a feature restriction indicator for each customer. In addition, IDP customers with intercom dialing can be restricted access on a group basis by not building an access code for SCR. However, if the office is generally available (GA) and the end-user escapes to POTS, the end-user can access the office GA feature. Also, certain lines in a group can be allowed access to SCR even if the rest of the group is denied access to SCR.

Only voice calls or analog modem calls which look like voice calls are screened by the SCR feature. Integrated services digital network (ISDN) circuit-switched or packet-switched data calls are not screened by the SCR feature. There is only one rejection list per DN user for SCR.

The Dialing Plan Access Treatment (DPAT) capability (5ESS®-2000 switch only) can also be used to restrict individual lines from using particular access codes or ISDN feature buttons.

10.4.2 Analog Users

A maximum of 31 telephone numbers may appear in a user's rejection list. The service provider has the capability to limit this number for the end-customer, if so desired.

Refer to Table 2-4 for service groups denied access to the SCR service.

Manual lines, direct connect lines, and denied originating treatment lines are allowed service to SCR; however, the SCR screening list must be built via service order. Also, a service order is required to activate or deactivate SCR for these line types.

Operator calls from no-test trunks and attendant calls with emergency override are not subject to refusal by the SCR feature.

The following ringback functions can alert an active SCR line:

- Automatic Callback-Calling (ringback function)
- 911 Service Emergency Ringback
- Call Hold (ringback from held party)
- ETS Ringback Queuing
- Home Intercom/Single Line Variety Package
- LASS Automatic Callback (ringback function)
- LASS Automatic Recall (ringback function)
- Three-Way Calling (ringback from held party).

The number of users who may access SCR is limited by the amount of switch memory available for storing lists and by the number of users who may simultaneously access the announcement system or display capability.

10.4.3 ISDN Users

When a DN is shared between ISDN station sets, only the lead station for the DN is allowed access for activating, deactivating, or editing the SCR screening list. An ISDN user at the lead station, on a call appearance for a primary or secondary DN, can press the SCR feature button to turn SCR on or off for the primary DN.

The SCR feature is assigned on a per-DN basis for ISDN users with multiple DNs, as opposed to a per-terminal basis. Incoming line history blocks are assigned on a per-terminal basis. The SCR feature only applies to voice calls. Data calls are not screened by SCR.

An ISDN customer can subscribe to the SCR feature for each DN on the terminal. In this case, the customer can have SCR assigned to the primary DN with its own rejection list and SCR assigned to the secondary DNs each with their own rejection lists. The SCR feature button applies only to the primary DN.

When a user at the lead station of a shared DN dials the SCR access code, the switch does not send announcements and display messages to the terminals sharing the DN. The switch sends announcements and display messages only to the lead station terminal.

10.5 ENGINEERING

10.5.1 Special Planning Considerations

The SCR screening lists are engineered to use memory as efficiently as possible. Screening lists are not allocated based on the office parameter. Instead, the allocation is based on the individual customer's list size which keeps reserved, unused memory to a minimum.

10.5.2 Hardware

No new or modified hardware is required. Existing hardware used is the 13A, 14A, 15A, or 16A announcement system.

10.5.3 Software

Load balancing and distribution by the switch administrator does not apply. Maintenance operations are not affected by the SCR feature.

To offer intraswitch LASS, the LASS software must reside at that switch.

10.6 IMPLEMENTATION

10.6.1 ODA Implementation

Refer to "LASS Forms and Views", Section 2.4, for ODA forms used in implementing the SCR feature.

10.6.2 Recent Change Procedures

10.6.2.1 Assigning Customer Service

Service providers can provide SCR to individual customer lines on an office-wide (GENAVAIL) basis or on a subscription basis via a service order (SUBSCR). However, MLHG access to LASS always requires a service order. The service provider can assign SCR to and remove SCR from individual customer lines. For both the office-wide and service-order situations, the telephone company can offer SCR for billing on a flat-rate or usage-sensitive basis.

At the time of subscription, the service provider needs to know the type of interface (ISDN or analog) the customer has. For ISDN customers, the service provider determines whether a feature button will be used to access SCR and whether display will be used. Note that SCR displays are **only** sent to Custom ISDN terminals.

All offices offering the SCR feature are required to have the Screen List Editing (SLE) capability. The SLE capability is not billed separately from the SCR feature; however, a billing record is created each time a usage-sensitive SCR customer accesses an SCR screening list.

See 235-190-104, *ISDN Feature Descriptions*, for feature button assignment.

10.6.2.1.1 Feature Definition

Feature definition, the modular feature construction process, must be completed before any lines can be assigned to use the feature. The SCR feature may be defined as part of the software release (preconstructed) or defined by the service provider company (customized). The preconstructed features for Selective Call Rejection are listed in Table 10-1.

Table 10-1 LASS Selective Call Rejection BRCS Definitions

MODULAR FEATURE TYPE	PRECONSTRUCTED FEATURE NAMES	WILDCARD FEATURE SYMBOL
MFSCR	/SCRGA /SCRFRG /SCRFRH /SCRUSH	/SJ*

Expansions for these preconstructed features are as follows:

- /SCRGA — Selective Call Rejection Generally Available

- /SCRFRG — Selective Call Rejection Flat Rate Gentle
- /SCRFRH — Selective Call Rejection Flat Rate Harsh
- /SCRUSH — Selective Call Rejection Usage Sensitive Harsh.

The Selective Call Rejection definition view is 12.57. (ODA Form Isscrfd; Office Record 5977). This view contains attributes that:

- Indicate the constructed feature name (FEATURE). One to eight characters in length with the leading character a slash (/) for the preconstructed feature.
- Allow a remark to be associated with the feature (REMARKS). One to 32 characters defining the feature in narrative form.
- Indicate whether billing is on a usage-sensitive basis or on a flat-rate basis (AMA REC). A value of "N" indicates flat-rate billing; a value of "Y" indicates usage-sensitive billing.
- Indicate whether a gentle or harsh announcement is given to SCR rejected calls (HARSH TRMT). A value of Y indicates harsh treatment; a value of N indicates gentle treatment.

10.6.2.1.2 LASS Office Parameters

The LASS office parameters View 8.21 provides LASS feature office parameters keyed by the office ID. A second screen was added for LASS selective features. The added attributes associated with SCR are as follows:

- **SCR MAX SIZE** — This parameter determines the maximum number of entries on the screening list for SCR. Valid values are 3-31. The default value is 6. This parameter exists for each of the LASS selective features.
- **HARSH RTI** — This parameter defines the office routing index to be used for the "Harsh" announcement for SCR. Valid values are 0-3617. The default value is 0.
- **HARSH BILL** — This parameter determines whether or not to bill for the "Harsh" rejection treatment. Valid entries are Yes (Y), and No (N). The default is N.
- **GENTLE RTI** — This parameter defines the office routing index to be used for the "Soft" announcement for SCR. Valid values are 0-3617. The default value is 0.
- **GENTLE BILL** — This parameter determines whether or not to bill for the "Soft" rejection treatment. Valid entries are Yes (Y), and No (N). The default is N.
- **SCR GA FEAT** — This parameter specifies the preconstructed feature or constructed SCR feature to be used for general availability. Valid entries are up to 8-character feature names. The default is /SCRGA.

An SCR maximum-list-size office parameter with legal values of 3 through 31 is provided to indicate the maximum number of entries an SCR customer can have on the SCR screening list. This parameter is changeable via recent change. Service provider switching office personnel have the capability to build, change, delete, activate, or deactivate screening lists for SCR via a service order at the time the service is provisioned or at a later time. Typically, the service order process is not used to perform these functions. The telephone companies are expected to encourage customers to use SLE and will use a service order only when the customer is having trouble with SLE or for customers with denied origination class of service.

For Custom ISDN customers with display capability, display messages for SCR are sent. Display messages are not

sent to customers with non-display CPE.

10.6.2.1.3 Feature Access

10.6.2.1.3.1 General

The LASS Feature Access View (View 8.18) provides LASS feature access options specification; for example, whether LASS is generally available, requires subscription, or is unavailable on a per-SM basis. The SCR parameter attribute indicates the access options and the default for the SCR feature. Possible values are GENAVAIL, SUBSCR, UNAVAIL, and TEMPUNAVAIL. The default value is UNAVAIL.

10.6.2.1.3.2 Allow Bits

Unlike traditional BRCS feature assignment, SCR can be made generally available (on an office or SM basis; subscription not required), thereby, extending access to SCR for non-BRCS lines and providing ready access to the feature without the need for a service order.

Analog and ISDN line Views 1.1, 1.6, 2.1, and 23.2 are modified for the SCR feature. An attribute, SCR GA ALW, was added to determine whether the LASS SCR feature is allowed generally available (GA) access by the line.

10.6.2.1.4 Access Billing Control

For both SUBSCR and GENAVAIL, the customer line status may be marked with one of the following values:

- (1) A customer line status of SCR GA ALW (default for all non-restricted service classes) indicates that customers in an office with the office access parameter (View 8.18) set to GENAVAIL have GA access to SCR and are billed on a usage-sensitive basis (default). A customer line status of SCR GA ALW in an office with the office access parameter (View 8.18) set to SUBSCR indicates that the customer does not have GA access to SCR. The service provider company can change SCR from a general offering to a subscription offering and from a subscription offering to a general offering by toggling the office access parameter from GENAVAIL to SUBSCR and from SUBSCR to GENAVAIL, respectively. It is not necessary to modify the customer line status of individual customer lines.
- (2) A customer line status of NO SCR GA ALW indicates this customer is denied GA access to SCR. The service provider company uses a service order to mark a customer line NO SCR GA ALW.

For the SUBSCR case, the service provider company can use a service order to subscribe individual lines to a flat-rate or usage-sensitive billed SCR feature. For the GENAVAIL case, the service provider company can use a service order to subscribe individual lines to a flat-rate billing (overriding the default of usage-sensitive billing) or usage-sensitive billing. Flat-rate billing does not generate billing records. For usage-sensitive billed customers, billing records are created when an SCR screening list is changed or when the feature status is changed. (See "Billing", Section 10.8.2, for complete information on billing.)

10.6.2.1.5 Feature Assignment

Features are assigned to a line via RC line assignment views. A BRCS Feature Assignment View, Views 1.11, 2.11, 3.11, can be used to assign the SCR feature to a customer line. View 1.11 is keyed by telephone number; View 2.11 is keyed by office equipment number and party; and View 3.11 is keyed by MLHG number and member. Attempts to assign a feature to a line which conflicts or interacts with another feature already assigned to a line are rejected. The SCR feature can be assigned to a BFG and/or cluster.

In addition to the BRCS feature assignment views, the SCR feature can also be assigned via a BRCS Assignment Combined View (1.8, 2.8, and 3.8). For ISDN terminals, View 1.11 may be used to assign the SCR feature. Typically, the digital subscriber lines (DSL)/BRCS assignment view (23.8) is used to assign the SCR feature to an

ISDN DN.

For residential customers, the SCR access code can be established on a per-office basis. For IDP customers with intercom dialing, the SCR access code is assigned on a group basis and may, or may not, be the same code as residential customers.

10.6.2.1.6 Feature Activation

The LASS Selective features) can be activated and deactivated by a customer originated recent change (CORC) or via RC LASS Selective Feature Screening List View 4.48 and the feature assignment views (listed previously) or feature activation views (1.12, 2.12, and 3.12).

10.6.2.2 Deleting Customer Service

The SCR screening list is deleted by recent change when removing service from a line with a service order.

10.6.2.3 Changing Customer Service

For customers having a feature button for SCR, when a service order is used to activate or deactivate the SCR feature, the feature button light will reflect the status after the next CPE restoral (about 15 minutes).

The SCR screening list telephone numbers entered by the customer via the screen list editing capability are validated; however, entries on SCR screening lists created via a service order are not validated. View 4.48 is used to add and delete screening list entries for service order applications. The service providers are expected to encourage customers to use SLE and will use a service order only when the customer is having trouble.

The service provider can assign one or more dialable codes for accessing SCR. For ISDN customers, the service provider can assign a single station set SCR feature button for on-hook and off-hook activation of SCR, and on-hook and off-hook deactivation of SCR.

The SCR service status and screening list are moved when reassigning a line (for example, changing a port) with the ISDN ACSR and the CSR capability. The SCR service status and screening list are also moved when reassigning a line (for example, changing a port) through a service order.

10.6.3 Assignment Limitations

The service provider sets the maximum number of entries for customer SCR screening lists. The number set must fall between 3 and 31.

The SCR service is available to Multiline Hunt Group subscribers via service order only. For the 5ESS®-2000 switch, SCR can only be assigned to the first member of an MLHG or to individual no-hunt DNs of the MLHG. The SCR feature is allowed for secondary only DNs on a subscription basis only.

10.7 SYSTEM OPERATION

Selective Call Rejection is a voice feature that can be useful to a large segment of the end-customer population.

The SCR feature is offered on a *GENAVAIL* or *SUBSCR* basis. A list size parameter for SCR allows the service provider to control memory resources and to meet the differing list size needs of SCR end-customers.

A set of measurements for SCR allows the service provider to monitor switch resource use resulting from SCR. The billing record for SCR is: Structure Code 1030. However, the service feature field is filled in with the value 53 for SCR allowing the service provider to distinguish SCR end-customers and bill them accordingly.

Successful interswitch operation of SCR requires that the Signaling System 7 (SS7) or peer-to-peer PRI Integrated

Services Digital Network (ISDN) User Part protocol provide the calling party number of all incoming interswitch calls in the initial address message (IAM). The calling party number also includes the DN's uniqueness and the presentation restriction information.

Originating Treatment — For interswitch calls, the originating switch sends the calling party number via the SS7 initial address message in addition to the Q.931 setup message delivered on the PRI or BRI during call setup.

Terminating Treatment — When a SS7 call is received, the SCR user's switch compares the calling DN (the DN contained in the calling number parameter in the IAM) with the DN's stored on the SCR screening list. If the DN matches any one of the DN's on the screening list, the calling party receives a call rejection announcement (service provider specified) informing the calling party that the called party does not wish to receive the call. When the rejected party is connected to an announcement, answer supervision (an office parameter on View 8.21) is sent from the terminating switch to the originating switch. If answer supervision is sent to the originating switch, an AMA record can be made by the originating switch. The line history block associated with the terminal is not updated since alerting is not given to the SCR customer.

If the calling DN is not on the SCR list or is not available, standard terminating treatment is given.

The major function of the SCR feature is to screen terminating voice calls, and to terminate calls from calling parties on the SCR screening list to a rejection announcement. At the terminating office, the switch screens whether the directory number (DN) or extension of the calling party is stored on the SCR screening list. If the incoming DN matches an entry on the SCR screening list, the call is terminated to a rejection announcement. The SCR denial announcement is specified by the service provider.

If the incoming DN for an SCR end-customer does not match any entry on the SCR screening list, the call completes normally unless another terminating feature is active preventing the call from terminating. Call processing for a call terminating to an active SCR user is represented in Figure 10-3 .

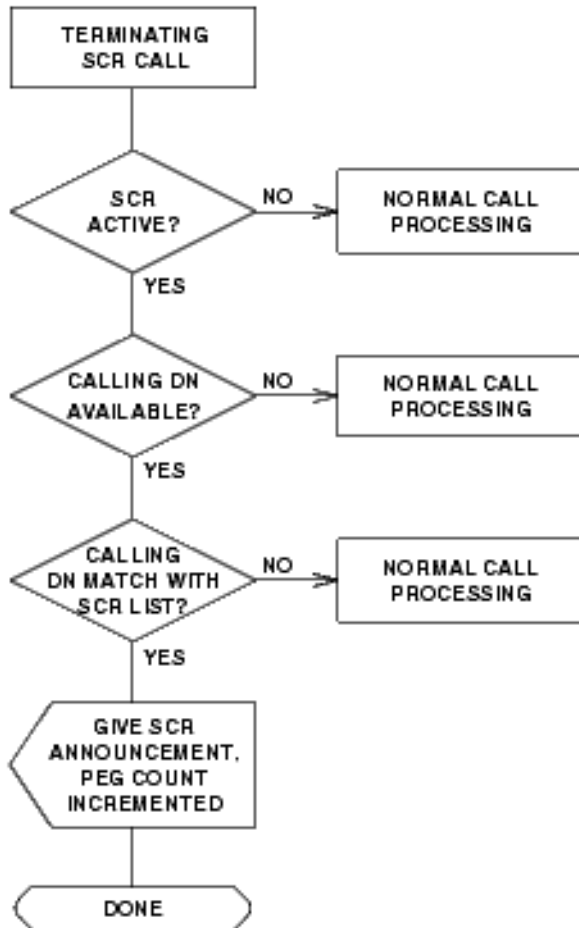


Figure 10-3 SCR Analog/ISDN Call Processing Terminating Switch

A single office count is incremented each time the SCR screening list is accessed. This count is used to engineer sufficient announcement circuits, tone receiver circuits, and DP receivers on the 5ESS®-2000 switch. Per-office counts of the number of refused calls routed to an announcement can be used to measure refused SCR calls.

The following changes are needed to install SCR in an office:

- The service provider must set an SCR maximum-list-size office parameter (with legal values of 3-31) to specify the maximum number of entries an SCR customer can have on the SCR screening list.

Before the service provider increases the value of the parameter, sufficient memory needs to be available for the larger lists. The service provider should not decrease the SCR office parameter below the number of entries on the largest SCR list in the office.

The switch gives no indication of the number of entries on the largest SCR list or the amount of memory available.

- The service provider must assign the SCR access code. Multiple access codes can be assigned to SCR. For ISDN customers desiring to use a feature button for accessing SCR, the service provider has the capability to assign a station set feature button via a service order.
- The service provider must engineer sufficient memory to support the maximum-sized SCR screening list for the particular office.

- The service provider sets an office access parameter indicating whether it will (1) offer SCR to end-customers by subscription through a service order or (2) make SCR available to all lines in the office not restricted by class of service.

The office access parameter has five possible values. The SUBSCR value indicates that the SCR customers must subscribe to the feature to gain access to it and that a service order is necessary. The GENAVAIL value indicates that SCR is generally accessible to all lines/terminals in the office that are not restricted by class of service without the need of a service order to gain access to the feature.

Refer to "LASS Feature Access", Section 2.7.2.3, for additional information about office access parameters.

- When the office access parameter is set to GENAVAIL, an office parameter must be set to indicate the default announcement for SCR customers (harsh or gentle).

10.8 ADMINISTRATION

10.8.1 Measurements

The following new traffic counts are taken for SCR on a per-office basis:

- One count containing the number of times the SCR access code is dialed or the ISDN feature button is pressed.
- A second count containing the number of times the calling DN matches a list entry, thus providing rejection.

The above counts appear on the 30-minute traffic report in the section for all LASS features (section 76). The ability to turn the reporting of the LASS measurements on or off according to the needs of the service provider is provided.

10.8.2 Billing

The service provider can provide SCR on a subscription basis through a service order or on a generally-available basis. In either case, the service provider can assign SCR on a per-line basis to customers for usage-sensitive billing or flat-rate billing as indicated in Table 10-2, Access Billing Matrix — Selective Call Rejection.

Table 10-2 illustrates the precedence in determining the type of billing (flat rate or usage sensitive) available for the SCR feature. If a particular option does not apply for a specified combination, it is shown as not applicable (NA).

Table 10-2 Access/Billing Matrix — Selective Call Rejection

	FEATURE ACCESS OFFICE OPTION (View 8.18)	GENAVAIL BILLING OPTION (View 8.21)	SUBSCR BILLING OPTION (View 12.47)	FEATURE ALLOW (View 1.6...View 23.2)	FEATURE ASSIGN (View 1.11...View 23.8)	SWITCH RESPONSE	BILLING ACTION
1	GENAVAIL	US	NA	No	No	Block	-
2	GENAVAIL	FR	NA	No	No	Block	-
3	GENAVAIL	US	NA	Yes	No	Allow	US
4	GENAVAIL	FR	NA	Yes	No	Allow	FR
5	GENAVAIL	NA	US	Yes	Yes	Allow	US
6	GENAVAIL	NA	FR	Yes	Yes	Allow	FR
7	SUBSCR	NA	US	NA	No	Block	-
8	SUBSCR	NA	FR	NA	No	Block	-
9	SUBSCR	NA	US	Yes	Yes	Allow	US
10	SUBSCR	NA	FR	Yes	Yes	Allow	FR

1	UNAVAIL	NA	NA	NA	NA	Block	-
1							
1	TEMPUNAVAIL	NA	NA	NA	NA	Block	-
2							

Generally Available — For row 1 through row 4 combinations, the feature access office option for SCR on RC View 8.18 and the SCR GA FEAT field on RC View 8.21 are used to determine whether flat-rate (FR) or usage-sensitive (US) recording is done for the end-customer. For these scenarios, the feature is not assigned via service order (column 5) but the feature access office option for SCR is set to GENAVAIL. The feature allow field (column 4) turns the access on or off for the applicable classes of service (default) or denies access to specific lines regardless of the class of service. The SCR GA FEAT field (column 2) specifies the feature name (defaults to /SCRGA), which is defined as either a preconstructed feature or modified with the feature definition, View 12.57.

Assigned — For row 5 and row 6 combinations, the feature access office option is set to GENAVAIL although the feature is assigned to the end-customer via service order (column 5). The assigned feature definition will determine whether usage-sensitive AMA is recorded.

Subscription — For row 7 through row 10 combinations, the feature access office option is set to subscription. The end-customers must be assigned either a preconstructed or customized feature via the applicable RC view (1.11 through 23.8).

Unavailable — The feature access option for initial provisioning is set to UNAVAIL. Access to the features will be blocked until recent change procedures are used to change the options to either GENAVAIL or SUBSCR.

Temporarily Unavailable — The TEMPUNAVAIL option is used to temporarily turn off the feature while maintaining the line history block assignments. Access to the feature will be blocked until recent change procedures are used to change the option back to either GENAVAIL or SUBSCR.

Usage-sensitive billing requires the generation of AMA records. Flat-rate billing requires a service order but does not require the generation of billing records. A combination of billing methods is also supported when a flat rate applies in addition to usage-sensitive billing. These values are assigned per terminal for the incoming feature.

If the service provider chooses to make SCR generally available by setting the office access option to GENAVAIL, then usage-sensitive billing applies by default (View 8.21 — SCR GA FEAT /SCRGA). For both the generally available and the service order situations, the service provider can mark the line of an individual customer for flat-rate billing via a service order.

For usage-sensitive billed SCR customers on 5ESS®-2000 switch offices that have the AMA Standard Entries feature, an event record using structure code 1030 is created for each access of the SCR screening list.

In addition, a continuation record, using the same Structure Code, is made daily (3:07 a.m.) for each usage-sensitive customer with an SCR screening list. As long as an SCR screening list exists, whether active or inactive, a continuation record is made.

The fields within the structure code billing record (1030) are as follows:

- Fields 1 through 6 are standard.
- Field 7, Service Feature, identifies the specific LASS feature event (for example, a value of 72 indicates editing the SCR activation list).
- Fields 8 and 9 together are the full national number of the served subscriber.
- Fields 10, 11, and 12 together form the complete called number in the case of an activation; otherwise, they are filled with zeros.

- Field 13 is the time at which the AMA record is generated.
- Fields 14 through 19 are filled with zeros.

Refer to "LASS Billing", Section 2.9 , for a detailed layout of the structure code.

The service provider sets an office parameter to indicate whether answer supervision is to be sent for rejected SCR calls which terminate to an announcement. When the terminating switch sends answer supervision, the originating switch creates a billing record for the calling party.

11. LASS SELECTIVE CALL FORWARDING

11.1 GENERAL

11.1.1 Definition

The Local Area Signaling Services (LASS) Selective Call Forwarding (SCF) feature allows customers to preselect calls which will forward based on the telephone number of the calling party. Customers can use 7- and 10-digit directory numbers (DNs) as telephone numbers as well as 1- to 7-digit extension numbers if they have extension dialing. These telephone numbers are entered directly (dialed) by the customer or entered as the last call to ring or apply call waiting tone to the SCF customer's station. Figure 11-1 is a pictorial representation of how the SCF feature works.

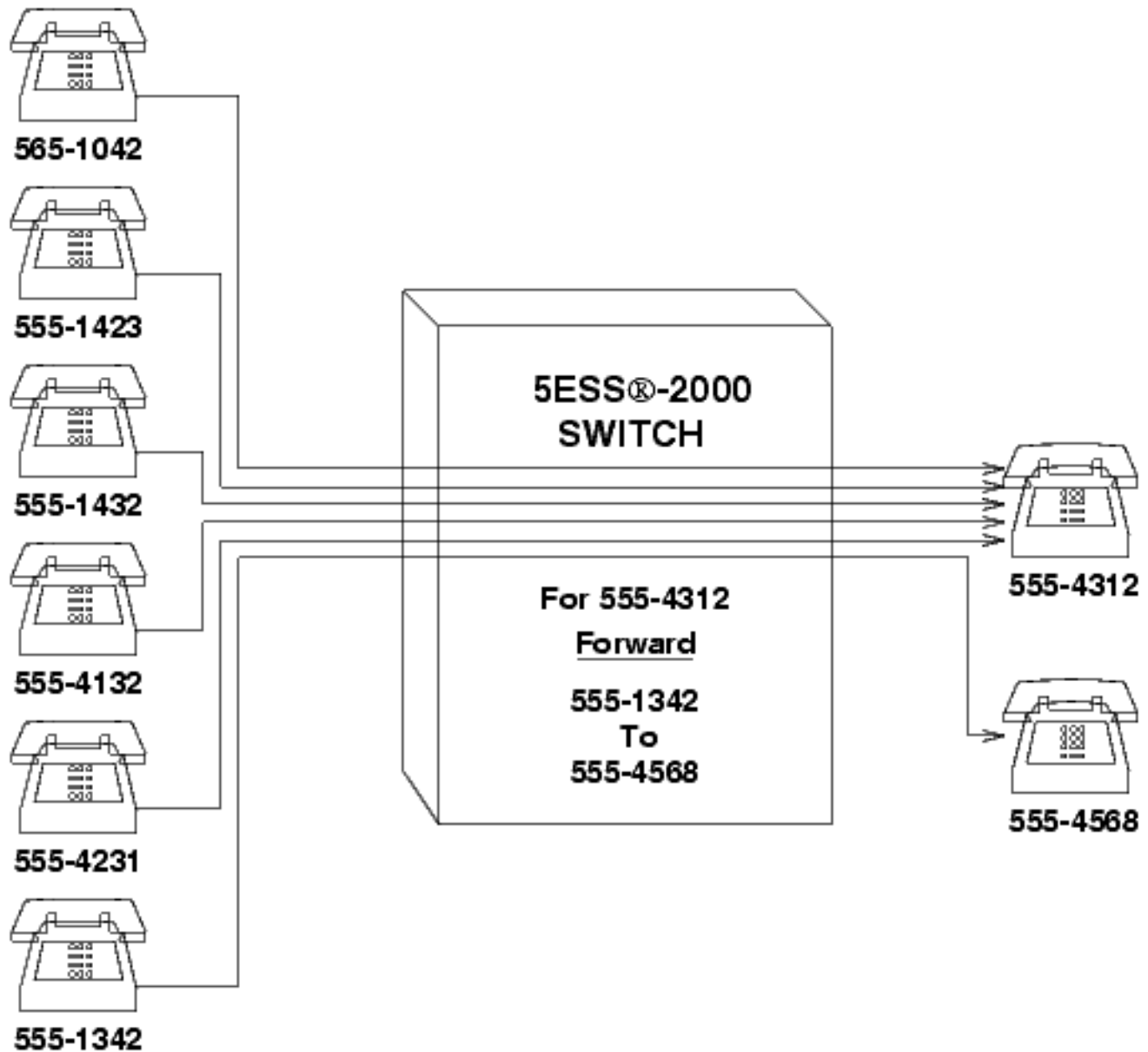


Figure 11-1 Selective Call Forwarding

Customers can create a screening list unique to SCF. The SCF list contains the telephone number of each calling party whose calls will forward. The selection of these numbers is created or changed by the SCF customer using the screen list editing capabilities. For all terminating calls, the telephone number of the calling party is compared to the SCF screening list. If the number of the calling party is on the list, the call forwards. A ping ring indication is normally given to the idle telephone number associated with the SCF user. However, the SCF user can inhibit the ping ring through a service order request. Calls from telephone numbers not on the screening list or not available do not forward but receive regular terminating treatment.

The structure of the list and methods for updating forwarding list contents are described in "LASS Screen List Editing", Section 7.

The SCF feature is available for analog and integrated services digital network (ISDN) stations and works intra-office or interoffice using signaling system 7 (SS7) links.

11.1.2 Economic Worth

Selective Call Forwarding takes the concept of selectivity a big step forward. It lets users make sure their most important calls follow them even when they are away from home. This feature forwards only calls from predesignated directory numbers to the number programmed by the SCF customer. No other calls will forward.

Selective Call Forwarding provides prearranged disaster recovery access for high-priority lines when a computer goes out of service (all others get a busy signal).

11.1.3 Availability

The SCF feature is available in 5E6 and later software releases.

11.1.4 Feature Application

The SCF feature is provided on a per-DN basis.

11.2 USER PERSPECTIVE

11.2.1 User Profile

Emergency workers, families with aged or infirm relatives, business people expecting a special call from the boss or the customer can use Selective Call Forwarding whenever they are away from home, even if it is only down the street.

11.2.2 Customer Premises Equipment

The SCF feature works with both analog and ISDN customer premises equipment.

The type of customer premises equipment (CPE) expected to be the most widely used with SCF is an analog station set. Both dual tone multifrequency (DTMF) and dial pulse (DP) sets are supported.

Other CPE supporting SCF are ISDN types A, B, C, and D terminals with and without display capability, and ISDN types A, B, C, and D terminals with and without an SCF feature button. See 235-900-341, *National ISDN Basic Rate Interface Specification*. Part IV (Basic Call) ISDN terminals are not supported.

11.2.3 User Operation

11.2.3.1 General

To access the SCF feature, a user simply picks up the phone and dials the SCF access code. If the user is not

assigned the feature or cannot access the feature, the user receives reorder or a service provider standard announcement indicating that the feature cannot be accessed. If the user has access to the feature, an announcement (and display for Custom ISDN users) indicates this. If the feature is turned off, an announcement (and display for Custom ISDN users) indicates the status of the feature. If the feature is on, the user is informed of the number of entries on the list and their type after the initial announcement.

If the SCF feature is off, an announcement informs the user to dial [3] to turn the feature on. If a user chooses to edit the screening list, the user can add, remove, or review the entries currently on the list through interactive announcements.

Refer to "LASS Screen List Editing", Section 7, for detailed SLE operation and information.

11.2.3.2 Activation

User activation sequences for the SCF feature are given in Table 11-1 and Figure 11-2. Users having ISDN terminals with feature buttons can activate SCF by using a specified activate/deactivate feature button. A screening list must exist before SCF can be activated by feature button.

The following is a descriptive example taken from Table 11-1, *Initial Activation no stored remote telephone number (RTN) exists*. For explanations of items enclosed in brackets [], refer to the notes at the end of Table 11-1.

- Initially, the SCF user goes off-hook and dials the SCF access code provided by the service provider.
- Announcements are given instructing the SCF user and outlining the available options.
- After listening to the announcements, the customer dials [3] to activate the SCF feature.
- This announcement [+] tells the customer to enter the forwarding number that will receive calls from DN's on the list.
- 555-1234 is an example of a remote telephone number (RTN) a customer might enter at this point [RTN].
- Additional announcements [+] give the user the opportunity to confirm the RTN.
- The RTN is confirmed by entering [1].
- Currently, there are no telephone numbers on the screening list. The announcements give the customer the option of adding numbers to the screening list. The SCF feature will not activate without at least one list entry.
- Pressing the [#] symbol allows an entry to be added to the SCF screening list.
- Announcements instruct the user to enter a telephone number on the list.
- The customer dials a valid telephone number or extension.
- At this point, SCF is active and at least one telephone number is on the forwarding list. Although the customer can listen to additional announcements and make other choices, this session is complete and the customer can go on-hook at any time to terminate the session.

Table 11-1 Analog and ISDN SCF End-User Normal Activation Dialing Sequence

ACTIVATION	GOALS	OPERATIONS a b c d e
Initial Activation: SCF previously inactive and no stored RTN exists	User initially activates SCF and enters RTN	[access code] + [3] + [0] + [RTN] + [1] + [#] + [valid DN/extension]
Regular Activation: SCF previously inactive and stored RTN exists	User activates SCF and keeps current RTN	[access code] + [3] + [1] [access code] + [3] + [0] + [RTN] + [1]

	User activates SCF and changes to new RTN	
Regular Activation: SCF previously active and stored RTN exists	User keeps current RTN and keeps SCF active User changes to new RTN and keeps SCF active	[access code] + [1] [access code] + [0] + [RTN] + [1]
Notes: a. If an attempt is made to activate an empty list, the user is prompted to add a list entry. b. Users can perform any editing in place of dialing [3]. c. RTN refers to a remote telephone number (forward-to DN). d. [] refers to a specific code dialed in the session. e. "+" indicates announcements between the dialing code.		

The flowchart in Figure 11-2 shows some of the choices the SCF customer can make during the SCF activation/deactivation process.

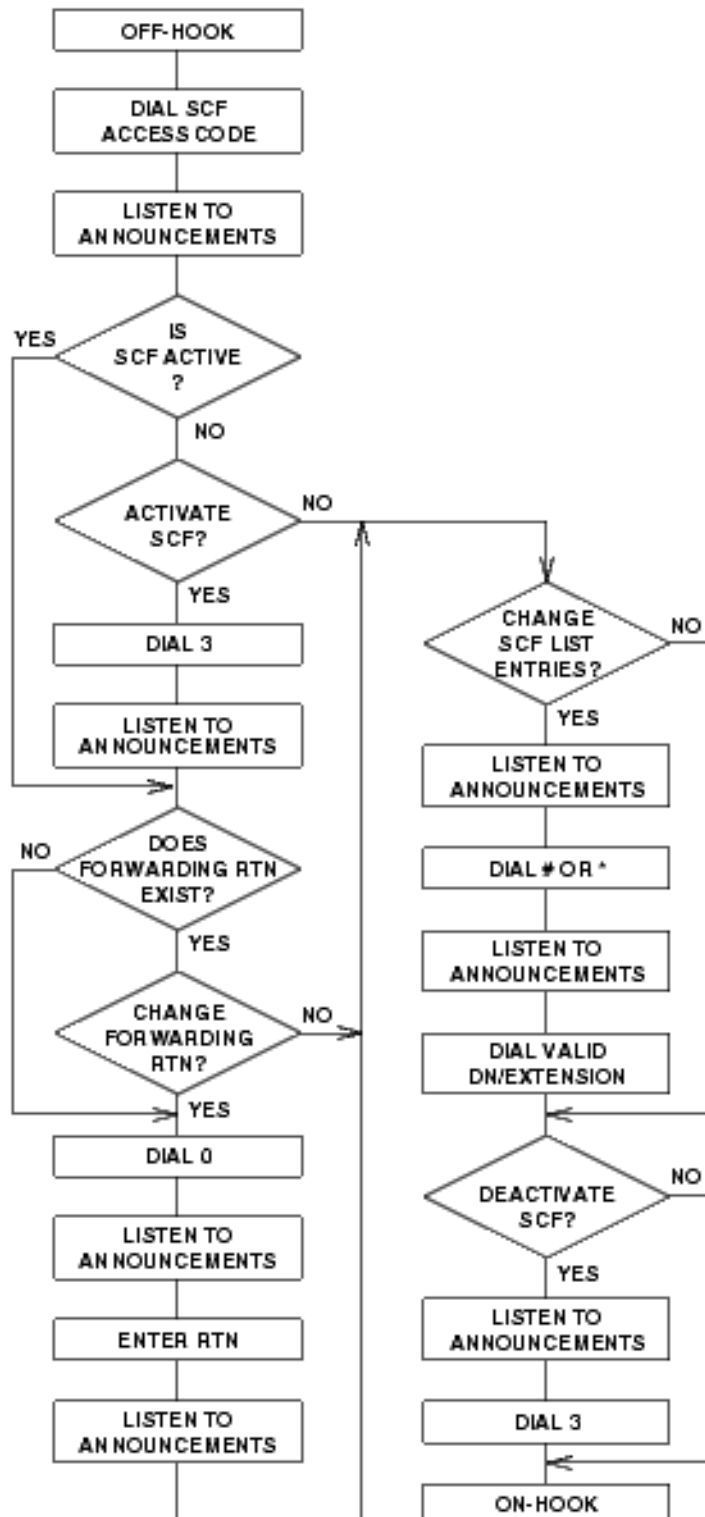


Figure 11-2 SCF End-User Dialing Sequence Flow Diagram

11.2.3.3 Deactivation

User deactivation sequences for the SCF feature are given in Table 11-2 and Figure 11-2. Users having ISDN

terminals with feature buttons can deactivate SCF by using a specified activate/deactivate feature button.

Table 11-2 Analog and ISDN SCF End-User Normal Deactivation Dialing Sequence

DEACTIVATION	GOALS	OPERATIONS a b c d
Regular Deactivation: SCF previously active and stored RTN exists	User keeps current RTN and deactivates SCF User changes to new RTN and deactivates SCF	[access code] + [1] + [3] or [access code] + [3] [access code] + [0] + [RTN] + [1] + [3]
Notes: a. Users can perform any editing in place of dialing [3]. b. RTN refers to a remote telephone number (forward-to DN). c. [] refers to a specific code dialed in the session. d. "+" indicates announcements between the dialing code.		

The following is an example describing user deactivation of SCF:

- Initially, the SCF user goes off-hook and dials the SCF access code provided by the service provider.
- Announcements are given instructing the SCF user and outlining the available options.
- After listening to the announcements, the customer dials [3] to deactivate the SCF feature.
- At this point, SCF has been deactivated. Although the customer can listen to additional announcements and make other choices, this session is complete and the customer can go on-hook at any time to terminate the session.

11.2.4 Operational Limitations

The SCF feature requires that interswitch calls use SS7 or peer-to-peer primary rate interface (PRI) connectivity in order to provide interswitch calling line information.

Telephone numbers (DNs or extensions) that are not assigned at the user's switch, which are to be added to the SCF list, need to be validated if validation is to be performed.

The SCF feature has a default value of 99 for the simultaneous intra-office forwarding limit and a default value of 1 for the simultaneous interoffice forwarding limit. The service provider can change both limits on a per-office basis with values between 1 and 99. The consecutive forwarding limit default is 5 for SCF and can be changed to a maximum of 32.

11.3 INTERACTIONS

11.3.1 General Rules

Unless otherwise noted, feature interactions apply to SCF. The interactions between SCF and other features are described in terms of originating feature interactions and terminating feature interactions. An originating interaction is when the SCF station user is the originating party, while a terminating interaction is when the SCF station user is the terminating party on a call.

For LASS Screen List Editing interactions as well as interactions related to RTN assignment, refer to "LASS Screen List Editing", Section 7.

General rules that apply to SCF feature interaction are as follows:

- Incoming calls arriving from signaling system 7 (SS7) trunks or peer-to-peer PRI are screened against the active SCF screening list. If a calling party DN is not received for an incoming call (for example, calls from a private facility), the call is not screened and is accepted.
- All Terminal Group and Station Restriction (TGSR) features have precedence over SCF.
- The SCF screening is done after the switch checks the busy/idle status and is also done before queuing is allowed.
- The SCF feature takes precedence over the Call Forwarding and Call Waiting features.
- If an SCF user initiates a call and encounters a busy line or trunk, and if the user is rung back when the line or trunk becomes idle, ringback is allowed regardless of the SCF status.
- An attendant is not allowed to bypass the SCF station user unless the attendant's DN is not on the active SCF screening list or the attendant has the Attendant Emergency Override feature.
- Display interactions apply **only** to Custom ISDN terminals since National ISDN SCF does not provide displays.

11.3.2 800 Service [Also Known as Inward Wide Area Telecommunications Service (INWATS)]

The 800 Service feature provides inward service from one or more predetermined areas at a rate based on expected usage.

NOTE: The 800 Service feature is not limited to the 800 NPA if the switch has implemented a toll-free treatment feature that allows additional toll-free Service Access Codes (SAC) such as 888 or 877.

Originating: The SCF feature is allowed on an 800 service line.

Terminating: No interaction.

11.3.3 800 Service Simulated Facilities Group

The 800 Service Simulated Facilities Group feature can restrict the number of simultaneous INWATS calls through software rather than by the physical size of a dedicated trunk group.

Originating: See "800 Service", Section 11.3.2 .

Terminating: No interaction.

11.3.4 900 Service

The 900 Service provides inward service from one or more predetermined areas at a rate based on expected usage.

Originating: The SCF feature is allowed on a 900 service line.

Terminating: No interaction.

11.3.5 Account Codes [Electronic Tandem Switching (ETS) Optional Account Codes]

The Account Codes (ACCT) feature allows the customer to add an account code to an automatic message accounting (AMA) or message detail recording (MDR) record for customer allocation of telecommunication charges.

Originating: The account code, as well as the account use code (access code), can be entered before the SCF access code as is done for the Business and Residence Custom Services (BRCS) features, so that billing can be charged to a different account. In addition, the account code use button is recognized as described for the account use code. In this case, the account code must still be entered by the SCF user.

If the SCF user is off-hook and not involved in a call, the use of a dialed account use code and a dialed account code are allowed before the use of the SCF access code, but not afterwards. If the SCF user is involved in off-hook activation or deactivation via the SCF feature button (and is not involved in a call), dialed account codes/buttons are allowed before the use of the SCF access code, but not afterwards. If the SCF user is on-hook, the use of a feature button for an account use code is not allowed, either before or after the use of an SCF feature button.

Terminating: No interaction.

11.3.6 Add-On/Consultation Hold Incoming Only

Add-On/Consultation Hold Incoming Only is a terminal group variation of the Three-Way Calling feature. It provides three-way calling restricted to incoming direct inward dialed (DID) calls.

Originating/Terminating: See "Three-Way Calling", Section 11.3.215 .

11.3.7 Advanced Services Platform

Advanced Services Platform (ASP) provides a platform of service-independent capabilities on a 5ESS®-2000 switch allowing the switch to interact with external network elements. For further information and for the latest details on LASS features and ASP interactions, Please see the following documents:

235-190-125 Advanced Services Platform Release 0 and 0.1A

235-190-126 Advanced Services Platform Release 0.1B

Originating: No interaction.

Terminating: If available at the terminating switch, ASP calls are identified by the public DN of the originator and are subject to SCF screening and termination treatment.

A DN trigger is not accepted as the forward-to number for SCF if the trigger is provided at the user's switch. The SCF cannot query the SCP to determine the associated routing number. The user receives error treatment for an invalid forward-to-number. The DN triggers provided at other switches are validated as normal by the user's switch. for users at an ASP service switching point (SSP). However, the user switch will not query the other switch to validate the forward-to number, and the other switch will not query the service control point.

The ASP access codes cannot be entered as part of the screening list entry, or forwarding to number. Attempts do so result in long term denial. However, access codes that are part of a speed calling entry (for a forward-to-number only), or are provided on translation by an IDP, are accepted.

When a user enters a forward-to number for SCF, the line is not checked to determine if it is semirestricted or fully restricted with ASP. Calls forwarded to an ASP line which is fully restricted plus ASP receive reorder if the calling party is outside the line's terminal group and the call is not an ASP call. Calls forwarded by SCF to lines that are semirestricted plus ASP are given reorder tone if the calling party is outside the line's terminal group, the call is not an ASP call, and the call was redirected by the Call Transfer or Call Pickup feature.

The SCP is queried before the call is screened by any of the LASS selective features for incoming calls to a DN trigger. The instructions returned from the SCP determine if the call is offered to a LASS selective feature user. Additionally, the SCP is not queried if a user adds a number to the screening list that is a subscribed trigger.

List entries that are DN triggers at the user's switch cannot be added to a screening list because DN triggers are not

associated with a physical port. The user's switch does not query the SCP. Attempts to add these entries to a screening list result in long-term denial. This also applies to list entries which are DN triggers at a remote switch. Normal validation procedures apply because the query for the DN characteristics is still made by the originating switch.

11.3.8 Attendant Call Transfer (Also Known as Call Splitting)

Attendant Call Transfer allows the attendant to flash and dial a code before dialing the third leg of a three-way call.

Originating: No interaction.

Terminating: An attendant can initiate a call transfer to the SCF station as long as the attendant's DN is not on the SCF station user's screening list. The DNs of parties whose calls are transferred by the attendant are not screened. This allows calling parties to bypass SCF screening when attempting to reach an SCF customer by using an attendant as an intermediary.

An attendant dialing the DN of an SCF user during an attempt to transfer a call to the SCF user will connect to the SCF user's selected RTN if the DN of the attendant is on the SCF screening list. The call can be transferred to the party answering at the RTN.

The party receiving a selectively forwarded call can have that call transferred by an attendant. A forward-to user that is an attendant can transfer a selectively forwarded call.

11.3.9 Attendant Camp-On

Attendant Camp-On allows calls the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: No interaction.

Terminating:

- Manual Camp-On

See "Dial Call Waiting", Section 11.3.71 .

- Automatic Camp-On

See "Call Waiting Originating", Section 11.3.48 .

11.3.10 Attendant Conference Six-Way

Attendant Conference Six-Way allows an attendant to initiate a conference call involving up to six parties (including the attendant).

Originating: No interaction.

Terminating: The SCF feature takes precedence over the Attendant Conference feature. A six-way conference call including the SCF user can be established if the attendant's DN is not on the active SCF screening list. If the attendant's DN is on the SCF user's screening list, the attendant will connect to the SCF user's SCF RTN. The party answering at the RTN can be added to the conference call.

11.3.11 Attendant Control of Facilities

Attendant Control of Facilities (ACOF) permits an attendant to restrict dial access from a station to tie trunks, foreign

exchange trunks, and wide area telecommunications service (WATS) by operating a key or dialing a code. When control is activated, calls to these facilities are routed to an attendant for appropriate action.

Originating: The ACOF feature can be used to restrict access to SCF by individualized dialing plan (IDP) defined dialed codes. It cannot be used to restrict access to SCF by office dialing plan (ODP) defined dialed codes.

Terminating: No interaction.

11.3.12 Attendant Direct Station Selection

Attendant Direct Station Selection (ADSS) allows an attendant with a console to place calls to stations in the business group by simply pressing a nonlocking pushbutton key associated with the desired station line.

Originating: No interaction.

Terminating: An incoming call arriving from an attendant is screened by the active screening list.

11.3.13 Attendant Identification of Incoming Calls

Attendant Identification of Incoming Calls provides identification, via incoming call indicator lamps on the attendant console, of listed directory number (LDN) calls directed toward different LDNs but served by the same attendant.

Originating/Terminating: No interaction.

11.3.14 Attendant Position

Attendant Position allows a customer to designate a particular station within a business customer group as an attendant position.

Originating: The SCF feature cannot be assigned to an attendant position.

Terminating: No interaction.

11.3.15 Attendant Recall From Satellite

Attendant Recall From Satellite gives stations located at remote locations without an attendant, but with the Satellite Attendant Transfer feature, the ability to transfer an incoming call by flashing the switchhook to generate a recall to the main location attendant, who performs the transfer for the remote station.

Originating: No interaction.

Terminating: See "Attendant Call Transfer", Section 11.3.8 .

11.3.16 Authorization Codes (ETS Authorization Codes)

The Authorization Codes (ATH) feature allows the station user to input an assigned code to change the restrictions associated with the originating station to those associated with the assigned authorization code.

Originating: An authorization code sequence can be dialed before the SCF access code is dialed as is done for ACCT. In addition, the ATH code is permitted after the dialed SCF code. The switch prompts the SCF user for the authorization code. Thus, unauthorized use of SCF can be avoided. Authorization code use buttons are also recognized as described for the authorization use codes.

If the SCF user is off-hook and not involved in a call, the use of a dialed authorization use code and a dialed authorization code are allowed either before or after the use of the SCF access code. If the SCF user is involved in off-hook activation or deactivation via the SCF feature button (and is not involved in a call), dialed authorization

codes/buttons are allowed either before or after the use of the SCF access code. If the SCF user is on-hook, the use of a feature button for an authorization use code is not allowed, either before or after the use of an SCF feature button.

Terminating: No interaction.

11.3.17 Automatic Alternate Routing

Automatic Alternate Routing (AAR) provides alternate routing capability similar to ARS-Deluxe. The difference being that AAR is used to route calls to stations on the customer's private network.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 11.3.22 .

11.3.18 Automatic Callback

The LASS Automatic Callback (AC) feature enables users to easily return the most recently received call.

Originating: If the SCF user activates SCF before AC delayed processing ringback is given, the SCF user receives ringback even though the DN is on the list (since the SCF user initiates this AC call).

Terminating: Automatic Callback camp-on to a line with SCF active is not affected by SCF if the DN of the AC caller is not on the SCF screening list.

If the DN of the AC caller is on the SCF customer's SCF screening list, AC camp-on to a line with SCF active will not occur. The AC caller will receive call forwarding denial treatment and, if applicable, feature button rejection treatment.

A party answering AC ringback, as a result of AC camp-on to the line of an SCF customer, is connected to the SCF user's SCF RTN if SCF is active and the DN of the party answering the AC ringback is on the SCF screening list. This assumes that the DN of the party answering AC ringback is not on the SCF screening list or that SCF is not active on the SCF user's line at the time of AC camp-on to that line.

11.3.19 Automatic Callback-Calling

Automatic Callback-Calling (ACBC) allows the user, after reaching a busy station, to hang up and dial an activation code to activate ACBC. This feature only applies to two stations in the same Business and Residence Custom Services (BRCS)/Centrex group.

Originating: By dialing the ACBC activation code, an SCF user encountering a busy station automatically receives ringback when the station becomes idle. Active ACBC calls (originated by an active SCF line) bypass the SCF feature and ring back the active SCF line when the called station is idle.

Terminating: Automatic Callback-Calling camp-on to a line with SCF active is not affected by SCF if the DN of the ACBC caller is not on the SCF screening list.

If the DN of the ACBC caller is on the SCF customer's SCF screening list, ACBC camp-on to a line with SCF active will not occur. If the DN of the ACBC caller is on the SCF screening list and the RTN of the SCF user is in the same switch, the ACBC caller will connect to the RTN. If the RTN is served by a different switch than the recalled party, the ACBC attempt will not be allowed and the originator of ACBC will hear reorder.

A party answering ACBC ringback, as a result of ACBC camp-on to the line of an SCF customer, is connected to the SCF customer's SCF RTN if SCF is active on the SCF user's line and the DN of the party answering the ACBC ringback is on the SCF screening list. This assumes that the DN of the party answering ACBC ringback is not on the SCF screening list or that SCF is not active on the SCF user's line at the time of ACBC camp-on to that line.

11.3.20 Automatic Intercept System (Also Known as Remote Intercept System)

Automatic Intercept System (AIS) allows Class 5 offices to route calls to nonworking telephone numbers or to telephone numbers placed on trouble intercept to an AIS where they are connected to announcements and/or operators.

Originating: No interaction.

Terminating: Regardless of SCF, AIS rerouting will occur.

11.3.21 Automatic Recall

The LASS Automatic Recall (AR) feature allows users to redial the most recently called party.

Originating: If the SCF user activates the SCF feature before the AR delayed processing ringback is given, the SCF user will receive ringback even though the DN is on the list (since the SCF user initiates this AR call).

Terminating: Automatic Recall camp-on to a line with SCF active is not affected by SCF if the DN of the AR caller is not on the SCF screening list.

If the DN of the AR caller is on the SCF customer's SCF screening list, AR camp-on to a line with SCF active will not occur. The AR caller will receive call forwarding denial treatment and, if applicable, feature button rejection treatment.

A party answering AR ringback, as a result of AR camp-on to the line of an SCF customer, is connected to the SCF user's SCF RTN if SCF is active and the DN of the party answering the AR ringback is on the SCF screening list. This assumes that the DN of the party answering AR ringback is not on the SCF screening list or that SCF is not active on the SCF user's line at the time of AR camp-on to that line.

11.3.22 Automatic Route Selection (Also Known as Flexible Route Selection)

Automatic Route Selection (ARS) directs outgoing, business group line calls to the customer's most preferred available route.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, calls routed via ARS are subject to SCF screening and terminating treatment. The calling party number is not available for calls routed over non-SS7 private facilities. Such calls will terminate normally.

11.3.23 Automatic Voice Network Interface

Automatic Voice Network (AUTOVON) Interface provides an interface with the AUTOVON network, including provisions for prioritizing call handling.

Originating: No interaction.

Terminating: Routine AUTOVON calls to an active SCF line are screened if the DN is delivered through the Defense System Network (DSN). Priority calls are not screened against the SCF screening list and will be accepted by the SCF user. See "Precedence and Preemption", Section 11.3.188, for details.

11.3.24 Basic Emergency Service (911)

Basic Emergency Service provides a 3-digit universal telephone number (911) for public use throughout the United States to report an emergency or request emergency assistance.

Originating: Because Public Service Answering Points (PSAPs) are connected to the serving tandem office via dedicated non-SS7 trunks, SCF is not compatible with these PSAPs. The PSAP does not have an SCF screening list associated with it. The SCF user can dial 911 for emergency assistance.

Terminating: Refer to "Emergency Ringback", Section 11.3.84, for ringback interactions.

11.3.25 Basic Queuing (Queuing for Lines)

Basic Queuing provides queuing for lines, call waiting lamps control, and delay announcements.

Originating: No interaction.

Terminating: An incoming caller's DN is screened on the active SCF list before it is put on the queue. Calls that are not selectively forwarded can be queued.

11.3.26 BRCS Compatibility with ISDN

The BRCS Compatibility features ensure that many of the existing BRCS features and services function with supported ISDN station sets so that users experience equivalent, similar, or expanded circuit-switched voice service by subscribing to these ISDN BRCS features and services.

Originating/Terminating: See the individual BRCS features.

11.3.27 BRCS Feature Grouping

The BRCS Feature Grouping provides a logical grouping of features and groups that are used by business customers receiving communications services from a central office switch. This feature works with both analog BRCS and ISDN BRCS features.

Originating: This feature allows the SCF feature to be offered on a business-wide basis as opposed to a per-DN basis. The SCF feature can be placed in a BRCS Feature Group (BFG).

Terminating: No interaction.

11.3.28 Business Group Line

Business Group Line provides capabilities similar to those for individual lines, but is classed as a member of a group of business lines belonging to a single customer.

Originating: The SCF feature can be assigned to business group lines.

Terminating: No interaction.

11.3.29 Busy Line Verification

Busy Line Verification (BLV) allows an operator to complete a connection to a busy line to determine the off-hook/on-hook status of the line or if a conversation exists on the line.

Originating: No interaction.

Terminating: Busy Line Verification to an SCF line is allowed. No screening will be performed regardless of the SCF feature status.

11.3.30 Call by Call Access from a 5ESS®-2000 Switch in a Private Network to Interexchange

Carrier Services

This feature allows the private network customer to generate, on a per-call basis, a request for services from an interexchange carrier or local exchange carrier.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SCF screening and termination treatment.

11.3.31 Call Forwarding Busy Line

Call Forwarding Busy Line (CFBL) permits calls attempting to terminate to a busy line to be redirected to another customer-specified line.

Originating: No interaction.

Terminating: The SCF feature takes precedence over CFBL. A call to an idle or busy line of an SCF user with SCF and CFBL active will receive SCF forward to the SCF user's SCF RTN if the DN of the caller is on the SCF screening list. If the line is busy with SCF and CFBL active, and the calling DN is not on the SCF list, the call will forward to the CFBL RTN.

11.3.32 Call Forwarding Busy Line Incoming Only

Call Forwarding Busy Line Incoming Only (CFBLIO) ensures that only incoming DID calls forward to the specified business group line.

Originating: No interaction.

Terminating: The CFBLIO feature is only operational for calls originating from outside the terminal group of the station with the CFBLIO feature. Otherwise, the interaction of CFBLIO with SCF is identical to that described in "Call Forwarding Busy Line", Section 11.3.31 .

11.3.33 Call Forwarding Do Not Answer

Call Forwarding Do Not Answer (CFDA) forwards incoming calls to a station to another preselected station within the same customer group, or to the attendant, when the called station is not answered after a customer-specified number of rings.

Originating: No interaction.

Terminating: Calls forwarding to a customer via CFDA *are screened* on the basis of the originating party's DN at the remote station for both intraswitch calls and interswitch calls. If the calling party's DN is not on the remote station SCF screening list, and the SCF user is busy, only ringing is given (a multiple progression tone is not allowed for intraswitch CFDA calls). If the calling party's DN is on the remote station SCF screening list, the caller will connect to the SCF user's SCF RTN. If the calling party's DN is not on the SCF list and the called user is idle with SCF and CFDA active, the call will forward to the CFDA RTN after CFDA timing expires. A call to an idle or busy line with SCF and CFDA active from a DN that is on the SCF screening list will forward via SCF to the SCF RTN.

11.3.34 Call Forwarding Do Not Answer Incoming Only

Call Forwarding Do Not Answer Incoming Only (CFDAIO) ensures that only incoming DID calls to the business group line forward, if not answered, after a customer-specified number of rings.

Originating: No interaction.

Terminating: The CFDAIO feature is only operational for interterminal-group (incoming) calls. Otherwise, the interaction of CFDAIO with SCF is identical to that described in "Call Forwarding Do Not Answer", Section 11.3.33 .

11.3.35 Call Forwarding Incoming Only

Call Forwarding Incoming Only (CFIO) forwards calls terminating from outside the group via DID.

Originating: No interaction.

Terminating: The CFIO feature is only operational for interterminal-group calls. Otherwise, the interaction of CFIO with SCF is identical to that described in "Call Forwarding Variable", Section 11.3.37 .

11.3.36 Call Forwarding Over Private Facilities

Call Forwarding over Private Facilities (CFPF) is a Call Forwarding Variable (CFV) option allowing business customers to automatically forward voice calls over the outgoing private facilities access (PFA) or automatic route selection (ARS) service selected by the customer.

Originating: No interaction.

Terminating: Incoming calls over private facilities do not have the calling party's DN's available and are not screened at the user's switch. Standard termination treatment is applied to a call routed over private facilities terminating at a line with SCF active.

11.3.37 Call Forwarding Variable

Call Forwarding Variable (CFV) allows a station user to redirect calls intended for that station to another telephone.

Originating: No interaction.

Terminating: The SCF feature takes precedence over CFV. Calls forwarded to a customer with a LASS screening list via CFV (or CFBL) are screened on the basis of the originating party's DN. It is possible for a customer to have SCF active and, at the same time, have one or more of the call forwarding features active. In this case, a terminating call will forward by a feature other than SCF only if the base station's SCF screening list does not contain the necessary entries to forward the call.

11.3.38 Call Forwarding In (Within) A Group

Call Forwarding In A Group (CFIAG) restricts DN's of forward-to numbers dialed during activation to intragroup extension numbers.

Originating: No interaction.

Terminating: See "Call Forwarding Variable", Section 11.3.37 .

11.3.39 Call Hold

Call Hold (CHD) allows a station user to *hold* a call in progress by flashing and then dialing the call hold code.

Originating: Calls can be placed on hold by the SCF user regardless of the SCF screen list entries. An ISDN user at the lead station of a primary DN can activate/deactivate SCF by feature button while a call is on hold on any other call appearance.

If an analog SCF user disconnects from a party on hold, the SCF user will receive ringback to restore the connection between the held party and the CHD line. Regardless of active SCF service on a CHD line, ringback will occur.

If a call is placed on hold prior to an analog user becoming active on another call, ringback to the analog user for the held call will occur after the new call has terminated (disconnected).

After placing a call on hold, an ISDN user must select an idle call appearance before dialing the SCF access code. If Manual Exclusion is not active for the call appearance of the ISDN held call, the held call can be picked up on any multibutton telephone key set (MTKS) of a key-system group sharing the call appearance regardless of the SCF assignment to the shared DN. A call forwarded via SCF can be placed on hold.

Terminating: No interaction.

11.3.40 Call Pickup (Also Known as Call Pickup Originating and Regular Call Pickup)

Call Pickup (CPU) allows a station user to answer any call within an associated preset pickup group.

Originating: The SCF user is able to answer a call directed (and alerted) to other stations in the same preset call pickup group, even if the calling party's DN is on the SCF screening list of the party picking up the call. A call forwarded via SCF can be picked up.

Terminating: No interaction.

11.3.41 Call Tracing

Call Tracing allows central office personnel to determine the source of annoying or threatening calls or identify lines in emergency or demand situations.

Originating: No interaction.

Terminating: The SCF feature takes precedence over Call Tracing features. If the calling party's DN is on the active SCF list, the called party will not be alerted and no call tracing will be performed. Trace messages are not written for calls that are forwarded by SCF. A trace message is only written for calls that terminate at the SCF user's station.

11.3.42 Call Transfer Attendant

Call Transfer Attendant (CTA) allows the called business group station user, while connected to a DID or private network incoming call, to transfer the call to the attendant.

Originating/Terminating: No interaction.

11.3.43 Call Transfer Individual All Calls

Call Transfer Individual All Calls (CTIAC) allows a station user to transfer any established call to another station within or outside the private branch exchange (PBX) or business group without the assistance of the attendant.

Originating: No interaction.

Terminating: The party performing the call transfer (third party) can initiate a call transfer to the SCF station as long as the third party's DN is not on the SCF station user's screening list. The DN of the party being transferred is not screened. This allows calling parties to bypass SCF screening when attempting to reach an SCF customer by using a third party as an intermediary.

If the third party's DN is on the SCF user's screening list, the third party will connect to the user's SCF RTN during an attempt to transfer a call to the SCF user. The call can be transferred to the party answering at the RTN.

11.3.44 Call Transfer Individual Incoming Only

Call Transfer Individual Incoming Only (CTIIO) allows a business group station user to transfer an incoming call to

another station in the same business group without assistance of the attendant.

Originating: No interaction.

Terminating: The CTIIO feature is only operational for calls arriving from outside the user's terminal group. Otherwise, the interactions between CTIIO and SCF are identical to those described in "Call Transfer Individual All Calls", Section 11.3.43 .

11.3.45 Call Transfer Internal Only

Call Transfer Internal Only (CTIO) allows a business group station user to transfer any established intragroup call to another station in the same customer group without the assistance of an attendant.

Originating: No interaction.

Terminating: See "Call Transfer Individual All Calls", Section 11.3.43 .

11.3.46 Call Transfer Outside

Call Transfer Outside (CTO) allows a station user to add on a dial "9" off-network, common control switching arrangement (CCSA), or WATS facility to an external call. A call using CTO can be transferred to a private facility.

Originating/Terminating: No interaction.

11.3.47 Call Waiting Incoming Only

Call Waiting Incoming Only (CWIO) is a version of Call Waiting Terminating (CWT). It gives an analog station user, engaged in a telephone conversation, an audible alert indicating an incoming DID or private facility call is attempting to terminate. See "ISDN Priority Calling Incoming Only", Section 11.3.147 , for the ISDN version of CWIO.

Originating: No interaction.

Terminating: The SCF feature takes precedence over CWIO. The CWIO feature is operational only for calls arriving from outside the user's terminal group. Otherwise, the interactions between CWIO and SCF are identical to those described in "Call Waiting Terminating", Section 11.3.49 .

11.3.48 Call Waiting Originating

Call Waiting Originating (CWO) allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The CWO feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active. It is automatically invoked any time a busy intragroup station is encountered. The CWO feature is only operational for intraterminal group calls.

Originating: No interaction.

Terminating: The SCF feature takes precedence over CWO for busy line terminations. A CWO call is a type of ISDN *priority* call. An ISDN line is *busy* for a priority call termination when all unreserved call appearances (CAs) are active and all CAs reserved for termination of calls of the originating call type are also active. An ISDN line is also busy if all unreserved CAs are active and no CAs are reserved for termination of calls of the originating call type.

A CWO call to a busy analog or ISDN line will forward to the SCF user's SCF RTN if the DN of the caller is on the SCF screening list. The CWO call will forward if the RTN is located intraswitch. The RTN station will receive a CWO call waiting tone if busy and located within the same terminal group as the base station. Standard terminating treatment for CWO calls applies if the DN of the caller is not on the SCF screening list.

The CWO feature takes precedence over SCF for idle line terminations only if Distinctive Ringing Call Waiting Originating (/DRCWO) is assigned and active on the terminating line. The SCF feature takes precedence over CWO for idle line terminations if /DRCWO is not assigned or active on the terminating line. An ISDN line is *idle* for a CWO call termination if an unreserved CA is inactive, or if a CA reserved for CWO or DCW call terminations is inactive.

A CWO call to an idle ISDN or analog line that does not have /DRCWO assigned or active will forward by an active SCF feature if the calling number matches an SCF screening list entry. The CWO call will forward if the SCF RTN is located intraswitch. The RTN station will receive a CWO call waiting tone if busy and located within the same terminal group as the base station.

A CWO call to an idle ISDN or analog line that has /DRCWO active will not forward by SCF. The SCF user is alerted to the call with a DRCWO ringing pattern regardless of the active status of SCF or of SCF screening list entries. If SDA is active and the calling number matches an SDA screening list entry, the SDA ringing pattern will replace the DRCWO ringing pattern. The CWO call will terminate on an inactive unreserved CA of an ISDN line regardless of the status of reserved CAs. If all unreserved CAs are active, the call will terminate on a CA reserved for CWO or DCW call terminations since a reserved CA of this type must be inactive for the ISDN line to be *idle* for a CWO call.

11.3.49 Call Waiting Terminating

Call Waiting Terminating (CWT) uses a burst tone to inform a busy analog station user that another call is waiting.

Originating: No interaction.

Terminating: The SCF feature takes precedence over CWT. If the analog SCF customer has the Call Waiting feature active, and a call comes in that is on the active SCF screening list, the call is forwarded to the SCF RTN and no call waiting (CW) tone results. If the caller's DN is not on the active SCF list and the SCF user's analog line is busy, the SCF user will receive call waiting tone.

11.3.50 Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment

This feature allows the 5ESS®-2000 switch PBX to send the calling party number (CPN)/billing number (BN) of the originator to the public network or to another PBX on a per-trunk group basis for all calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch (whether or not originally obtained from CPN or BN data), a call to the SCF user is subject to SCF screening and termination treatment. The CPN/BN information will forward if the call forwards due to SCF.

11.3.51 Cancel Call Waiting

Cancel Call Waiting (CCW) allows a customer with Call Waiting to inhibit the application of the call waiting tone for the duration of one call.

Originating/Terminating: No interaction.

11.3.52 Carrier Interconnection

Carrier Interconnection provides an interface between the local exchange, inter-LATA, and interexchange carriers.

Originating: No interaction.

Terminating: If a call forwards via SCF, the automatic number identification of the SCF user is provided to the carrier for billing purposes. Carrier Interconnection does not provide a means of delivering a calling party number for

SCF screening.

11.3.53 Centrex Complex

Centrex Complex associates multiple business groups in a single switch with a single common *Complex*. All business groups in the complex share intercom calling privileges, yet may have separate private facility groups or separate dialing plans.

Originating: No interaction.

Terminating: The SCF feature takes precedence over Centrex Complex. A call arriving via the Centrex Complex dialing plan is screened at the active SCF station. A Centrex Complex can have SCF assigned to it.

11.3.54 Code Calling

Code Calling allows attendants and station users to dial an access code and a 2- or 3-digit called party code to activate signaling devices with a coded signal corresponding to the called code.

Originating/Terminating: See "Directed Call Pickup with Barge-in", Section 11.3.76 .

11.3.55 Code Restriction

Code Restriction blocks outgoing calls to customer-specified codes [numbering plan area (NPA), NXX].

Originating/Terminating: No interaction.

11.3.56 Signaling System 7 Network Interconnect

Signaling System 7 Network Interconnect (SS7 NI) provides an out-of-band signaling interface between local exchange carrier and interexchange carrier networks.

Originating: No interaction.

Terminating: Network Interconnect can also provide the calling party DN for calls incoming to the user from outside the LATA. The assigned DN's switch must support this capability. A call incoming via the SS7 network is subject to SCF screening.

11.3.57 Common Control Switching Arrangement Access

Common Control Switching Arrangement (CCSA) Access provides access to the customer's CCSA network.

Originating: No interaction.

Terminating: Calls arriving from CCSA trunks do not have the calling party DN available and cannot be screened at the active SCF station. Normal termination will occur.

11.3.58 Computer Access Restriction

Computer Access Restriction (CAR) allows the customer to restrict access to a computer connected through a modem to the telephone line. The CAR feature, operational only for voice calls, is not operational for ISDN packet-switched or circuit-switched data calls.

Originating: No interaction.

Terminating: The CAR feature takes precedence over SCF. If a customer has both SCF and CAR active, the CAR screening list is checked before the SCF screening list.

11.3.59 Conference Calling Six-Way (Also Known as Station Dial Conference)

Conference Calling Six-Way allows a station user to establish a conference call involving up to five other parties without attendant assistance.

Originating: If the SCF customer has Conference Calling active, the SCF access code will be accepted after all called parties have been placed on hold.

Terminating: An SCF user can be added to a six-way conference call only if the DN of the party dialing the SCF user is not on the user's SCF screening list.

A party dialing the DN of an SCF user, during an attempt to add the SCF user to a conference call, will connect to the SCF user's SCF RTN if the DN of the calling party is on the SCF screening list.

11.3.60 Critical Interdigit Timing

Critical Interdigit Timing is activated when the digits received provide sufficient information to complete a call, but the possibility of receiving additional valid digits exists.

Originating: Standard interdigit dialing applies to the dialing of the SCF access code.

Terminating: No interaction.

11.3.61 Customer Access Treatment Code Restriction

Customer Access Treatment (CAT) Code Restriction allows the creation of subgroups in a business group to provide additional restriction or access functions.

Originating: The CAT codes can be used to restrict SCF activation/deactivation.

Terminating: No interaction.

11.3.62 Customer-Changeable Speed Calling

Customer-Changeable Speed Calling (CCSC) allows customers to assign their own speed calling codes directly and immediately from their own telephone by dialing a change speed calling list access code, an abbreviated code, and a new telephone number.

Originating: The SCF access code is allowed as a legitimate speed calling list entry. The SCF access code can be assigned to a speed calling feature button.

Terminating: No interaction.

11.3.63 Customer Dialed Account Recording

Customer Dialed Account Recording (CDAR) allows a business group customer to associate a personal account number with a given call and have it recorded on the AMA record. The customer can use this record for allocating charges on both outgoing and incoming calls.

Originating: The same ACCT treatment as described in "Account Codes", Section 11.3.5, applies to CDAR.

Terminating: No interaction.

11.3.64 Customer-Originated Trace

Customer-Originated Trace (COT) lets the terminating party request an automatic trace of the last call received.

Originating: Only calls alerting the SCF user can be traced when the SCF user invokes the Customer Originated Trace feature. A Customer Originated Trace can be performed at the forwarded station.

Terminating: No interaction.

11.3.65 Customer Station Rearrangement via Remote Memory Access System

Customer Station Rearrangement (CSR) via remote memory access system (RMAS) allows business customers to make changes affecting their telephone service from an on-premises terminal.

Originating: The CSR user can activate and deactivate SCF. The SCF screening list cannot be edited via CSR.

Terminating: No interaction.

11.3.66 Delayed Announcement for Queued Calls on Hunt Group

Delayed Announcement for Queued Calls on Hunt Group allows a customer-generated automatic announcement for multiline groups with queuing.

Originating: No interaction.

Terminating: The SCF feature takes precedence over the Delayed Announcement for Queued Calls on Hunt Group feature. Calls to a line with SCF active are screened for SCF termination treatment before being queued. Only calls that are allowed to terminate at the station of the SCF user are queued. This feature provides a customer-generated automatic announcement for multiline hunt groups with queuing only for those calls whose DN's are not on the SCF screening list.

11.3.67 Deluxe Automatic Route Selection

Deluxe Automatic Route Selection (DARS) extends the choice of private routes for each NPA/NXX to 16 versus 4 for basic ARS.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 11.3.22 .

11.3.68 Deluxe Queuing

Deluxe Queuing is composed of the following two parts: Priority Queuing and Ringback Queuing.

Originating/Terminating: See "Basic Queuing", Section 11.3.25 .

11.3.69 Dial Access to ISDN Attendant

Dial Access to ISDN Attendant provides dial access from the station to the ISDN attendant within the customer group.

Originating/Terminating: No interaction.

11.3.70 Dial Access to Private Facilities

Dial Access to Private Facilities (DAPF) lets a customer choose to terminate the private facilities at the central office and access those facilities by dialing a unique access code per facility.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SCF customer cannot be screened. That is, the original calling party's DN is not available. Normal termination will apply.

11.3.71 Dial Call Waiting

Dial Call Waiting (DCW) allows an originating business group station to invoke call waiting service on selected intragroup calls by dialing an access code followed by the extension number of the station to be call waited. Dial Call Waiting allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The DCW feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active.

Originating: No interaction.

Terminating: The DCW feature takes precedence over SCF for idle line terminations (ISDN or analog) if Distinctive Ringing Dial Call Waiting (/DRDCW) is assigned and active on the terminating line. The SCF feature takes precedence over DCW for idle line terminations if /DRDCW is not assigned or active on the terminating line. The DCW feature takes precedence over SCF for busy line terminations to analog lines. The SCF feature takes precedence over DCW for busy line terminations to ISDN lines.

Note: A DCW call is a type of ISDN *priority* call. An ISDN line is *busy* for a priority call termination when all unreserved call appearances (CAs) are active and all CAs reserved for termination of calls of the originating call type are also active. An ISDN line is also busy if all unreserved CAs are active and no CAs are reserved for termination of calls of the originating call type.

The DCW feature has no application for terminations to ISDN *busy* lines. Therefore, a DCW originated call to a busy ISDN line will forward by an active SCF feature if the calling number matches an SCF screening list entry. An SCF user on a busy analog line not involved in an SLE session will receive call waiting tone for a DCW call regardless of SCF screening list entries.

An ISDN line is *idle* for a DCW call termination if an unreserved CA is inactive or if a CA reserved for DCW or CWO call terminations is inactive. A DCW call to an idle ISDN or analog line that does not have /DRDCW assigned or active will forward by an active SCF feature if the calling number matches an SCF screening list entry.

A DCW call to an idle ISDN or analog line that has /DRDCW active will not forward by SCF. The SCF user is alerted to the call with a DRDCW ringing pattern regardless of the active status of SCF or of SCF screening list entries. The DCW call will terminate on an inactive unreserved CA of an ISDN line regardless of the status of reserved CAs. If all unreserved CAs are active, the call will terminate on a CA reserved for DCW or CWO call terminations since a reserved CA of this type must be inactive for the ISDN line to be *idle* for a DCW call.

11.3.72 Dial Pulsing

Dial Pulsing provides the capability to transmit and receive direct current address signals between offices.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SCF customer cannot be screened. That is, the original calling party's DN is not available. Normal termination will apply.

11.3.73 Dial Through Attendant

Dial Through Attendant (DTA) allows a station user to complete the dialing on other than station-to-station calls after the attendant selects the private facility on attendant handled calls.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 11.3.22 .

11.3.74 Dial Transfer to Tandem Tie Line

Dial Transfer to Tandem Tie Line makes the Call Transfer feature compatible with tie lines (trunks). After flashing, a station user with normal access to tie lines can dial a call through the tie line and transfer the original call to it.

Originating: No interaction.

Terminating: See "Call Transfer Individual All Calls", Section 11.3.43 .

11.3.75 Direct Connect

Direct Connect automatically places a call to a preselected called number when a station goes off-hook.

Originating: No interaction.

Terminating: A call via Direct Connect is screened at the active SCF station user if the calling party DN is available. The SCF feature can be assigned to a direct connect line, but the screening list must be built and maintained through recent change.

11.3.76 Directed Call Pickup with Barge-In

Directed Call Pickup with Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, barge-in alert tone is provided and a three-way call is established.

Originating: The SCF user is able to answer a call directed (and alerted) to other stations in the same preset call pickup group, even if the calling party's DN is on the SCF screening list.

Terminating: This feature allows other stations in the same preset call pickup group to pick up a call that alerts (rings) an SCF user.

11.3.77 Directed Call Pickup without Barge-In

Directed Call Pickup without Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, the party dialing the pickup code is routed to reorder rather than permitted to barge-in on the established connection and create a three-way call.

Originating/Terminating: See "Directed Call Pickup with Barge-in", Section 11.3.76 .

11.3.78 Distinctive Ringing

Distinctive Ringing (DR) applies a distinctive ringing or call waiting tone pattern enabling a station user to determine the source of an incoming call.

Originating: No interaction.

Terminating: An SCF user with a DR feature active can receive distinctive ringing only for calls that are not forwarded by SCF. Excluding DR associated with Precedence and Preemption (PP) calls, SCF takes precedence over all DR features for busy line call terminations. Calls made with PP precedence are not subject to SCF screening.

The SCF feature takes precedence over all DR features for idle line call terminations except for the following cases:

- Distinctive Ringing Call Waiting Originating (DRCWO) coupled with CWO has precedence over SCF for idle line (analog or ISDN) call terminations. A CWO call to an SCF user with SCF and DRCWO active on an idle line will not forward via SCF. The SCF user is alerted with a DRCWO distinctive ringing pattern. If SDA is also active and the calling DN matches an SDA screening list entry, the SDA ringing pattern will replace the DRCWO ringing pattern.
- Distinctive Ringing Dial Call Waiting (DRDCW) coupled with DCW takes precedence over SCF for idle line (analog or ISDN) call terminations. A DCW call to an SCF user with SCF and DRDCW active on an idle line will not forward via SCF. The SCF user is alerted with a DRDCW distinctive ringing pattern. If SDA is also active and the calling DN matches an SDA screening list entry, the SDA ringing pattern will replace the DRDCW ringing pattern.
- A DR feature associated with a PP precedence call has precedence over SCF.

11.3.79 Dual Call Coverage (Also Known as Dual Telephone Coverage)

Dual Call Coverage allows calls originating internal to a customer's terminal group to route to a message center other than the one servicing outside calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via Dual Call Coverage is subject to SCF screening and termination treatment. The SCF feature cannot be used for Dual Call Coverage call redirection.

11.3.80 Electronic Tandem Switching Trunk Access (Also Known as Access to ETS Trunks)

Electronic Tandem Switching Trunk Access provides access to a customer's ETS facilities on a distant switch.

Originating: No interaction.

Terminating: Calls arriving via electronic tandem network (ETN) trunks do not have the calling party's DNs available and are not screened at the active SCF station. Standard terminating treatment will apply.

11.3.81 Electronic Tandem Switching on Primary Rate Interface Trunks

The ETS on PRI Trunks feature allows the 5ESS®-2000 switch to provide ETN trunking between a 5ESS®-2000 switch central office node and one or more digital PBX nodes in an ETN.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SCF screening and termination treatment.

11.3.82 Electronic Tandem Network Interworking in the 5ESS®-2000 Switch Private Network Environment

This feature gives the 5ESS®-2000 switch private network customer, currently using the Electronic Tandem Switching (ETS) feature, expanded capabilities using the primary rate interface (PRI) to connect multiple private ETN nodes.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject

to SCF screening and termination treatment.

11.3.83 Emergency Access to ISDN Attendant

Emergency Access to ISDN Attendant allows a station user to dial an emergency code to gain immediate access to the attendant.

Originating/Terminating: No interaction.

11.3.84 Emergency Ringback

Emergency Ringback is associated with the basic 911 emergency service used to recall a customer station immediately following disconnect from, and at the request of, an emergency bureau.

Originating: Emergency Ringback takes precedence over SCF. Emergency Ringback calls are not screened for SCF termination treatment.

Terminating: No interaction.

11.3.85 Enhanced Private Switched Communications Service Access

Enhanced Private Switched Communications Services (EPSCS) Access provides the ability to terminate access lines to the EPSCS switch.

Originating: No interaction.

Terminating: Calls arriving from EPSCS trunks do not have the calling party DN available and cannot be screened at the active SCF station. Standard terminating treatment will apply.

11.3.86 Expensive Route Warning Tone

Expensive Route Warning Tone (ERWT) indicates when a more expensive route is about to be used.

Originating/Terminating: No interaction.

11.3.87 Facility Restriction Level

Facility Restriction Level (FRL) defines the calling privileges associated with a line.

Originating/Terminating: No interaction.

11.3.88 Feature Code Definition

The Feature Code Definition is the access code defined by the service provider which allows the SCF user to access the SCF feature.

Originating: The service provider is allowed to change the SCF feature access code.

Terminating: No interaction.

11.3.89 Flexible Night Service (Also Known as Attendant Call Forwarding)

Flexible Night Service (FNS) routes calls normally directed to the attendant group to a different location (night location, also known as a night directory number).

Originating: No interaction.

Terminating: See "ISDN Attendant Night Service", Section 11.3.118 .

11.3.90 Foreign Exchange Line

Foreign Exchange (FX) Line provides line termination in a central office different from the line providing service to the customer.

Originating: No interaction.

Terminating: Calls arriving from FX lines do not have the calling party DN available. These calls cannot be screened at the active SCF station. Standard terminating treatment will apply.

11.3.91 Four- and Eight-Party

Four- and Eight-Party provides POTS for up to four or eight customers sharing the same line.

Originating: The SCF feature cannot be assigned on four- and eight-party lines.

Terminating: No interaction.

11.3.92 Fully Restricted Originating and Terminating

Fully Restricted Originating and Terminating (FROT) provides the ability to deny a station's ability to originate and/or receive calls to or from outside the business group. It also blocks "dial 0" calls to an attendant and calls from an attendant to the station.

Originating: No interaction

Terminating: Fully Restricted Terminating takes precedence over SCF. An SCF user who is fully restricted terminating can only screen calls from other members of the same group. Termination of calls to a fully restricted terminating user from outside the user's terminal group is prevented by the Fully Restricted Terminating feature and these calls will not be screened by SCF.

11.3.93 Home Intercom (Also Known as Home Intercom/Single Line Variety Package)

Home Intercom/Single Line Variety Package (HI/SVP) allows the HI/SVP user to ring all telephone sets (extensions) associated with the line by dialing specified codes from the station.

Originating: An SCF user can use the HI/SVP feature to ring his/her extensions.

Terminating: Since an HI/SVP call is not originated by another caller, the switch will not invoke the SCF service. That is, when a Home Intercom user dials a special code to ring other extensions on the line, the call is not screened and is always accepted.

11.3.94 Hunt Group Transfer for Circuit-Switched Data Calls

This feature allows circuit-switched data (CSD) calls to a CSD multiline hunt group (MLHG) to forward to a second CSD MLHG.

Originating/Terminating: No interaction.

11.3.95 In-Progress Call Tracing

In-Progress Call Tracing is one type of Call Tracing feature that identifies a call in progress.

Originating: No interaction.

Terminating: See "Call Tracing", Section 11.3.41 .

11.3.96 Individual Calling Line Identification Calling Number Delivery (Analog)

Individual Calling Line Identification (ICLID) Calling Number Delivery transmits data on an incoming call to the terminating station set.

Originating: No interaction.

Terminating: No ICLID information is displayed at the SCF station for calls forwarded by the SCF user. If the number is forwarded, the original calling number DN will be displayed at the terminating station.

11.3.97 Individual Calling Line Identification Directory Number Privacy

Individual Calling Line Identification (ICLID) Directory Number Privacy (DNP) allows the calling party to prevent delivery of the origination DN to the terminating station set.

Originating: No interaction.

Terminating: Calls from DNs with a privacy restriction preventing display of the calling number are screened for SCF termination treatment in the same manner as calls from DNs without the calling number display restriction. If the number is forwarded, the original calling number DN will be displayed at the terminating station.

11.3.98 Individualized Dialing Plan

The Individualized Dialing Plan (IDP) feature allows digits to be interpreted according to the IDP of the customer instead of the office dialing plan (ODP) and/or the standard office abbreviated dialing list.

Originating: In the case of ISDN, no SCF button depressions are allowed during the second dial tone after dialing the escape to POTS access code, such as *9. If the user escapes to POTS, the SCF access code defined in the ODP must be used.

The LASS Dialed Code Restrictions on IDP Users feature affects access to LASS features AC, AR, COT, ICLID CND, PCP, SCA, SCR, CAR, SCF, and SDA. This feature is an optioned feature available on an SM basis via the Secured Feature Upgrade View (View 8.22). The LASS Dialed Code Restrictions on IDP Users feature, controls dial code access to LASS features for IDP users. The default value for this feature is disabled (inactive). When this feature is disabled, IDP users can use the access codes defined in their IDP in addition to the ODP defined dialed access codes to access LASS features. Using an ODP defined dial access code for access to a LASS feature by an IDP user may require the dialing of an IDP defined "escape to POTS access code" (9, or *9) immediately prior to dialing the ODP defined access code. Dialing of an ODP defined access code directly (not preceded by an escape to POTS code) is allowed if the error treatment for the user's IDP has been set to use the office code on RC View 9.10.

When the LASS Dialed Code Restrictions on IDP Users feature is enabled (active), an IDP user cannot use an ODP defined dial access code to access a LASS feature. The ODP defined dial access code cannot be used whether or not the ODP LASS code is preceded by an escape to POTS code and regardless of the error treatment for the user's IDP group. Reorder tone is returned to an IDP user after an ODP access code is dialed to access a LASS feature.

Additionally, with this feature enabled, neither an ODP nor an IDP defined dial access code for a LASS feature will be accepted by the 5ESS®-2000 switch at any time after an escape to POTS code has been dialed by an IDP user in a single, off-hook dialing scenario. However, an IDP user can dial an escape to POTS code followed by an automatic route selection (ARS), authorization, or an account code prior to the dialing of an IDP (but not ODP) LASS

code. Dialing an ARS, authorization, or account code in conjunction with an IDP LASS dialed access code is allowed regardless of the activation status of the LASS Dialed Code Restrictions on IDP Users feature.

The LASS Dialed Code Restrictions on IDP Users feature requires dialed codes used for access to LASS features to be defined in the IDP. Except for ARS, authorization, or account codes, activation of this optioned feature requires that access to non-LASS features allowed to be dialed prior to the LASS access codes must also be defined in the IDP. This allows IDP users to use non-LASS features in conjunction with LASS features.

Terminating: Calls from parties overriding their dialing plan are screened by SCF.

11.3.99 Inspect for ISDN Terminals

Inspect for ISDN Terminals retrieves and displays call-related information about any call appearance having a call associated with it. Inspect also displays feature button identification.

Originating: When the Inspect feature is used to inspect the SCF feature button, *Selective call forwarding on/off* is displayed.

Terminating: Independent of whether SCF is active or inactive, the SCF user can retrieve call-related information about any call appearance having a call associated with it. If the SCF user is in an Inspect session and presses the SCF feature button, the SCF feature status will not be affected, but the Inspect information associated with SCF feature button will be displayed. If the user presses the SCF feature button and then presses the Inspect button, the display information associated with the Inspect session may overwrite the display information associated with the SCF feature button for Lucent Technologies customer premises equipment. Other CPE may respond differently.

11.3.100 Intercom Calling Restriction

Intercom Calling Restriction counts and limits the number of intercom calls that can be in progress at any one time within a customer group. It also sets a maximum total simultaneous call volume that includes intercom and calls external to the customer group.

Originating: No interaction.

Terminating: When a call from a party using Intercom Dialing forwards via SCF to a DN in the same intercom group, only one simulated facilities group (SFG) member is seized for the call.

11.3.101 Intercom Dialing

Intercom Dialing, in conjunction with the special dialing plan, permits station users in the business group to place calls to each other on a 1- to 7-digit basis.

Originating: No interaction.

Terminating: Calls arriving via intercom dialing are screened against the active SCF screening list.

11.3.102 Intra-LATA Presubscribed Inter-LATA Carrier (Intra-LATA PIC)

The Intra-LATA PIC capability allows the Local Exchange Carrier (LEC) to open up certain Intra-LATA toll routes which were previously handled exclusively by the LEC, to competition on an equal access basis between the LEC and Inter-LATA Carriers (ICs).

The Intra-LATA PIC capability allows a subscriber to presubscribe to an Intra-LATA Toll Carrier (PTC) that handles all of his/her Intra-LATA Toll traffic (7 digit or 10 digit calls with or without a "1/0" prefix), if dialed without a 10XXX (or 101XXXX) prefix, but which may or may not be the same as the Presubscribed Inter-LATA Carrier (PIC).

Originating: The ability to add an Intra-LATA Toll number to a screening list of an SLE feature (such as, Selective Call Rejection, Selective Call Forwarding, etc.) will not be affected by whether the INTER LATA SCREEN field on RC/V View 8.21 is set to Y or N. The ability to add an Intra-LATA (Local or Toll) number to a screening list of an SLE feature will not be affected by whether calls made by the SLE feature subscriber are carried by the LEC or an IC.

Terminating: SCF will work properly with incoming Intra-LATA PIC calls provided that the calling number is delivered. However, if the LEC does not transmit the calling party number to the IC or the IC does not transmit the calling party number to the LEC, then SCF will not work properly. Note that the CPN SUBSC option on RC/V View 10.2 can be used to allow/disallow passing of the SS7 Calling Party Number parameter to an IC.

11.3.103 Intermodule Trunking

Intermodule Trunking provides trunking between modules connected to the same base 5ESS®-2000 switch.

Originating: No interaction.

Terminating: The SCF feature should work the same way on calls over Intermodule Trunking as it does on calls over regular interoffice trunks.

11.3.104 Intraswitch/Interswitch Calling Party Number/Billing Number Optioning to Terminating User

This feature allows the terminating PRI or BRI user to request delivery of the calling party number or billing number on an *exclusive* or *preferred* basis on every call for circuit-switched voice/data calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch (whether or not originally obtained from CPN or BN data), a call to the SCF user is subject to SCF screening and termination treatment.

11.3.105 ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants

The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature allows a supervisor, or attendant, to display data about an attendant position.

Originating/Terminating: No interaction.

11.3.106 ISDN Attendant Busy Verification of Lines and Trunks

The ISDN Attendant Busy Verification of Lines and Trunks feature allows an attendant to determine whether a line or trunk within the same customer group is busy or idle.

Originating: No interaction.

Terminating: See "Busy Line Verification", Section 11.3.29 .

11.3.107 ISDN Attendant Call Hold

The ISDN Attendant Call Hold feature allows the ISDN attendant to hold a call in progress to originate another call, or pick up a call on hold.

Originating: No interaction.

Terminating: Selectively forwarded calls can be placed on hold by an attendant.

11.3.108 ISDN Attendant Call Splitting

The ISDN Attendant Call Splitting feature allows the ISDN attendant to consult privately with the called party without the calling party hearing.

Originating: No interaction.

Terminating: The SCF feature takes precedence over ISDN Attendant Call Splitting. Also, see "Attendant Call Transfer", Section 11.3.8 .

11.3.109 ISDN Attendant Call Transfer

The ISDN Attendant Call Transfer feature is the ISDN version of Attendant Call Transfer.

Originating: No interaction.

Terminating: See "Attendant Call Transfer", Section 11.3.8 .

11.3.110 ISDN Attendant Camp-On

The ISDN Attendant Camp-On feature is the ISDN version of the Attendant Camp-On feature. It allows calls that the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: No interaction.

Terminating: The SCF feature takes precedence over Attendant Camp-On. The attendant's DN cannot be on the SCF screening list if attendant camp-on calls are to be accepted. Also, see "Attendant Camp-on", Section 11.3.9 .

11.3.111 ISDN Attendant Conference Calling

The ISDN Attendant Conference Calling feature allows the attendant to set up conference calls with any combination of extensions or trunks on the internal conference bridge. The maximum number of parties on the conference call is limited to the capacity of the multiport conference circuit.

Originating: No interaction.

Terminating: See "Attendant Conference Six-Way", Section 11.3.10 .

11.3.112 ISDN Attendant Control of Facilities

The ISDN Attendant Control of Facilities feature is the ISDN version of ACOF.

Originating: See "Attendant Control of Facilities", Section 11.3.11 .

Terminating: No interaction.

11.3.113 ISDN Attendant Control of Voice Terminals

The ISDN Attendant Control of Voice Terminals (ACVT) feature enables an attendant to impose an originating or terminating restriction (or both) on a DN or group of DNs. The ACVT feature routes calls destined for a line or group of lines to the attendant for handling. It is activated by the attendant or automatically by the switch.

Originating: No interaction.

Terminating: The ACVT feature takes precedence over SCF. This feature routes calls destined for an SCF line to the attendant for handling regardless of the SCF feature status.

11.3.114 ISDN Attendant Direct Station Selection

The ISDN Attendant Direct Station Selection (DSS) feature allows the attendant to display the status of up to 10,000 DNs in 100 groups of 100 contiguous DNs starting at 00.

Originating: No interaction.

Terminating: See "Attendant Direct Station Selection", Section 11.3.12 .

11.3.115 ISDN Attendant Emergency Override

The ISDN Attendant Emergency Override (AEO) feature allows the attendant to complete incoming calls to stations as follows:

- Calls that are busy from setting the make-busy key
- Calls that have a series completion or multiline hunt arrangement
- Calls with Call Forwarding active
- Calls with terminating restrictions.

Originating: No interaction.

Terminating: The AEO feature takes precedence over SCF. That is, when the attendant activates AEO, the call will terminate to the SCF station user regardless of the SCF feature status. Such calls will not undergo SCF screening.

11.3.116 ISDN Attendant Incoming Call Identification

The ISDN Attendant Incoming Call Identification feature allows an attendant to identify the type of facility over which an incoming call to the attendant was routed.

Originating/Terminating: No interaction.

11.3.117 ISDN Attendant Make-Busy Key

Originating/Terminating: No interaction.

11.3.118 ISDN Attendant Night Service

The ISDN Attendant Night Service feature routes calls directed to the ISDN attendant to a different station.

Originating: No interaction.

Terminating: When a call is forwarded via ISDN Attendant Night Service from an attendant's line to a line with SCF active, the DN of the original caller is compared with DNs on the SCF screening list.

11.3.119 ISDN Attendant Position Busy

The ISDN Attendant Position Busy feature allows the position to be made busy by the attendant. When the attendant position is made busy in a single position arrangement, new calls to the position receive busy treatment. In a multiple position arrangement, new calls are directed to a different console position.

Originating/Terminating: No interaction.

11.3.120 ISDN Attendant Selective Customer Control of Facilities

The ISDN Attendant Selective Customer Control of Facilities (ASCCOF) feature allows an attendant to deny access to a trunk or simulated facility group.

Originating/Terminating: No interaction.

11.3.121 ISDN Attendant Through Dialing

The ISDN Attendant Through Dialing feature allows an attendant to access an outgoing facility for a calling party within the group who has restrictions or difficulty in placing an outgoing call.

Originating/Terminating: No interaction.

11.3.122 ISDN Attendant Traffic

The ISDN Attendant Traffic feature provides the traffic counts for each attendant console position.

Originating/Terminating: No interaction.

11.3.123 ISDN Attendant Trunk Identification

The ISDN Attendant Trunk Identification feature provides a display of the trunk group and member number of the incoming or outgoing trunk in use at the request of the attendant or automatically on incoming trunk calls.

Originating/Terminating: No interaction.

11.3.124 ISDN Automatic Customer Station Rearrangement

The ISDN Automatic Customer Station Rearrangement (ACSR) feature allows users to rearrange their DN's automatically when an ISDN station set is moved.

Originating: Users with the ACSR feature will be able to retain the SCF feature status and associated screening lists when the DN is relocated. Once the ACSR update is applied by the switch, the feature status will be the same as before the move. Screening lists will also be the same.

In the interim period between ACSR invocation and application of the update by the switch, access to SLE will be denied and previously activated SCF features will be inoperable (for example, incoming calls will not be screened).

Depressions of the SCF feature button during an active ACSR session are ignored.

Terminating: No interaction.

11.3.125 ISDN Automatic-Hold/Drop Preference

The ISDN Automatic-Hold/Drop Preference feature automatically determines how to handle a call active on one call appearance when the user shifts to another appearance. Two types of treatment are provided: automatic-drop and automatic-hold.

Originating/Terminating: No interaction.

11.3.126 ISDN Basic Message Service

The ISDN Basic Message Service (BMS) feature

Originating: No interaction.

Terminating: The SCF feature takes precedence over BMS. Calls can be routed to the Message Service System center using CFV, CFBL, or CFDA if the incoming caller's DN is not on the SCF screening list. The call can be routed to the message service system (MSS) center via SCF if the DN of the caller is on the SCF screening list.

11.3.127 ISDN Bridging

The ISDN Bridging feature allows the multibutton key system (MBKS) set user to bridge onto a currently active call by pressing the active call appearance button on the MBKS set and going off-hook. This establishes a three-way call. This is different from standard Three-Way Calling because the third party initiates the bridge to the active call. Bridging is inhibited if Manual Exclusion is activated at an MBKS set engaged in the active call.

Originating: No interaction.

Terminating: If a user activates bridging onto an active call, no screening will be done against the SCF screening list.

11.3.128 ISDN Customer Station Rearrangement via *MACSTAR*® I and II Software

The ISDN Customer Station Rearrangement via *MACSTAR*® I and II software feature expands the Manual Customer Station Rearrangement (CSR) capabilities to include customer control over the ISDN feature.

Originating: No interaction.

Terminating: See "Customer Station Rearrangement via Remote Memory Access System", Section 11.3.65.

11.3.129 ISDN Delayed and Abbreviated Ringing

The ISDN Delayed and Abbreviated Ringing (DAR) feature alerts an MBKS set for a predetermined interval before ringing another designated MBKS set.

Originating: No interaction.

Terminating: The SCF feature takes precedence over the Delayed and Abbreviated Ringing feature. For incoming calls to the shared DNs that are not forwarded by SCF, ISDN terminals sharing a DN with DAR will receive delayed and abbreviated ringing.

11.3.130 ISDN Drop

The ISDN Drop feature allows the MBKS set user to drop the last party added to a conference call. For a 2-party call, pressing this button disconnects the MBKS set from the call.

Originating/Terminating: No interaction.

11.3.131 ISDN Electronic Directory Service Autocall (Also Known as Automatic Call Setup)

The ISDN Electronic Directory Service Autocall feature allows ISDN station users able to access the applications processor directly to place a call to the party associated with a query display by pressing the appropriate button.

Originating: No interaction.

Terminating: Calls placed via Autocall are screened by SCF.

11.3.132 ISDN Electronic Directory Service Calling Name Display

The ISDN Electronic Directory Service Calling Name Display (CND) feature gives the calling party's name and telephone number to the called party.

Originating: No interaction.

Terminating: Calling Name Display provides the calling party's name and telephone number to the SCF user if the incoming DN is not on the SCF screening list.

Calling name information is not sent to the SCF user if the call is forwarded. For calls not forwarded by SCF, CND data is displayed at the lead port.

11.3.133 ISDN Electronic Directory Service Directory Query Display/Autocall

The ISDN Electronic Directory Service Directory Query Display (DQD) allows the user to query the electronic directory data base for a name using the ISDN station set. The user can generate an autocall by pressing the appropriate button.

Originating: Independent of whether SCF is active or inactive, the SCF user can query the directory data base for a name. The SCF user can then generate an autocall by pressing the appropriate button. If the SCF user is in a DQD session and presses the SCF feature button, the display information associated with SCF is not sent. If the user presses the SCF feature button and then presses the DQD button, the display information associated with the DQD session may overwrite the display information associated with the SCF feature button.

Terminating: No interaction.

11.3.134 ISDN Electronic Directory Service Query Service (Also Known as Application Processor Query Service)

The ISDN Electronic Directory Service Query Service allows a user to query the applications processor (AP) directory using a video display terminal for call and personnel information on a per-customer group basis.

Originating/Terminating: No interaction.

11.3.135 ISDN Hold

The ISDN Hold feature allows the MBKS set user to place a call on hold by pressing the function button. Any MBKS set with a call appearance for call on hold can pick up the call by pressing the call appearance button.

Originating/Terminating: No interaction.

11.3.136 ISDN ICLID Calling Number Delivery

NOTE: Display interactions apply to Custom ISDN *only*.

This feature provides calling party data on calls originated from both analog and digital lines on the same 5ESS®-2000 switch for ISDN subscribers and attendants. The ICLID feature is an enhancement to the ISDN intraswitch ICLID feature, which is available only to ISDN users with display station sets.

Originating: No interaction.

Terminating: No ICLID information is displayed at the SCF station for calls forwarded by the SCF user.

If the calling party DN is available to the terminating switch, a call not forwarded via SCF is sent for display to the terminal of the ISDN ICLID customer.

For intraswitch routing, the original calling party DN, the original called party DN, and the reason for forwarding (ICI)

associated with the original called party is sent for display to the terminal of an ICLID customer receiving an incoming call forwarded via SCF. The ICI is CFA.

If any routing (forwarded or not) has been interswitch, only the original calling party DN, if available to the terminating switch, is sent for display to the terminal of an ICLID and SCF customer receiving an incoming call.

The ISDN ICLID data is sent to the terminals of ISDN ICLID and SCF customers in the NORMAL display mode. Display data associated with the activation or deactivation of an SCF feature by feature button is sent to the terminals of SCF customers with the display capability in the MISCELLANEOUS display mode. The ISDN ICLID displays have lower precedence than the SCF feature and, therefore, will be overwritten by SCF displays.

11.3.137 ISDN Initiated Priority Calling

The ISDN Initiated Priority Calling (IPC) feature provides the ISDN equivalent of Dial Call Waiting.

Originating: No interaction.

Terminating: An incoming call via IPC is first screened against SCF before it alerts the SCF user. For ISDN users, incoming calls can terminate as usual if the calling DN is not on the screening list. Also, see "Dial Call Waiting", Section 11.3.71 .

11.3.138 ISDN Manual Exclusion

The ISDN Manual Exclusion feature allows an MBKS set user to inhibit other stations from picking up a call on hold or bridging onto a call that is active at that station.

Originating/Terminating: No interaction.

11.3.139 ISDN Message Service Automatic Call Setup (Also Known as Autocall)

The ISDN Message Service Automatic Call Setup feature allows ISDN clients with the Message Retrieval Display or Direct Access to Message Data Base feature to automatically set up a call to the directory number being displayed during the retrieval session.

Originating: No interaction.

Terminating: Calls placed via Autocall are screened by SCF.

11.3.140 ISDN Message Service Message Retrieval Display

The ISDN Message Service Message Retrieval Display (MRD) allows ISDN station users to directly retrieve their Message Service Center or Leave Word Calling messages independent of whether SCF is active or inactive.

NOTE: Display interactions apply to Custom ISDN *only*.

Originating: Independent of whether SCF is active or not, the SCF user can retrieve his/her Message Service Center or Leave Word Calling messages using MRD. The SCF user can generate an Autocall by pressing the appropriate button. If the SCF user is in an MRD session and presses the SCF feature button, the display information associated with SCF may not display since it is sent in the MISCELLANEOUS display mode while the terminal is in the higher precedence MRD display mode. If the user presses the SCF feature button and then presses the MRD button, the display information associated with the MRD session may overwrite the display information associated with the SCF feature button.

Terminating: No interaction.

11.3.141 ISDN Multiple Call Appearances

The ISDN Multiple Call Appearances (MCA) feature allows an MBKS set to have more than one DN button assigned to the same DN. Incoming calls for this DN are handled in much the same way as Series Completion. A hunt is made for an idle call appearance of the called DN when a call is made to a DN that has multiple call appearances on an MBKS set.

Originating/Terminating: No interaction.

11.3.142 ISDN Multiple DNs

The ISDN Multiple DNs feature assigns multiple directory numbers to a terminal.

Originating: The SCF feature can be assigned to each DN of an ISDN multiple DN terminal. However, feature button use for SCF only applies to the terminal's primary DN.

Terminating: No interaction.

11.3.143 ISDN Number of Calls on Queue (Attendant)

Number of Calls on Queue can display each ISDN incoming call identification (ICI) type. By repeating the request, the attendant can display all ICI queues.

Originating/Terminating: No interaction.

11.3.144 ISDN Number of Calls on Queue (MLHG)

Originating: If the SCF user is active and the MLHG Queue status is requested, the MLHG Queue status display takes precedence and will overwrite the existing SCF display. The SCF display data will not be sent to the terminal while the Queue status is active. The SCF display data will not appear on the user's terminal while the Queue status is active.

Terminating: No interaction.

11.3.145 ISDN Originating Priority Calling

The ISDN Originating Priority Calling (OPC) feature provides the ISDN equivalent of Call Waiting Originating.

Originating: No interaction.

Terminating: The SCF feature takes precedence over OPC. An incoming call via OPC is first screened against SCF before it alerts the SCF user. See "Call Waiting Originating", Section 11.3.48.

11.3.146 ISDN Outgoing Called Line Identification

The ISDN Outgoing Called Line Identification (OCLID) feature provides a user originating a call with information about the called party and the facility or destination. Facility and call destination information are provided via the ISDN ICI call types.

NOTE: Display interactions apply to Custom ISDN *only*.

Originating: If an SCF user has OCLID, is on a call, and presses the SCF feature button, the display information associated with SCF will be sent and the OCLID data will be overwritten since OCLID displays are sent in the NORMAL display mode and SCF displays are sent in the MISCELLANEOUS display mode.

Terminating: No interaction.

11.3.147 ISDN Priority Calling Incoming Only

The ISDN Priority Calling Incoming Only (PCIO) feature is the ISDN equivalent of the Call Waiting Incoming Only feature. With this feature, calls outside the business group can terminate to an idle call appearance reserved for incoming calls (calls from outside the terminal group) when all unreserved call appearances are active.

Originating: No interaction.

Terminating: The SCF feature takes precedence over Priority Calling Incoming Only feature. An incoming call via Priority Calling Incoming Only is screened against SCF before it alerts the SCF user. If the incoming DN is on the SCF screening list, the call will forward to the SCF RTN.

11.3.148 ISDN Shared Call Appearances of a Directory Number

The ISDN Shared Call Appearances of a Directory Number feature allows several MBKS station sets to share one or more DNs.

Originating: When a DN has shared ISDN call appearances and has SCF assigned to it, only the lead port (primary DN) for the DN is allowed access for activating and deactivating.

Terminating: No interaction.

11.3.149 ISDN Single-Digit Intercom

The ISDN Intercom (ICOM) feature is a form of ISDN station-to-station calling. The ICOM user can originate a call to the ICOM group member by pressing the ICOM buttons.

Originating: No interaction.

Terminating: An ICOM call terminating to an SCF user is not screened against the SCF screening list.

11.3.150 ISDN Time and Date Display

The ISDN Time and Date Display feature is a subscription feature for ISDN attendants and ISDN station set users. The 5ESS[®]-2000 switch provides the time and date to the ISDN station set.

Originating: Independent of whether SCF is active or not, the SCF user can obtain the Time and Date display. If the SCF user is in a Time and Date session and presses the SCF feature button, display information associated with SCF will not display since both SCF and Time and Date displays are sent in the MISCELLANEOUS display mode. If the user presses the SCF feature button and then presses the Time and Date button, display information associated with the Time and Date session will overwrite the display information associated with the SCF feature button for Lucent Technologies customer premises equipment. Other CPE may respond differently.

Terminating: No interaction.

11.3.151 ISDN Total Number of Calls Handled Display for ISDN Attendants

Total Number of Calls Handled Display for ISDN Attendants provides supervisors with traffic data information about each attendant in the ISDN attendant group.

Originating/Terminating: No interaction.

11.3.152 Line Time Slot Bridging

Line Time Slot Bridging (LTSB) provides an off-premises extension to a single directory number and bridging of two separate DNs in two separate locations with barge-in capabilities for customers served by the same 5ESS®-2000 switch. The Line Time Slot Bridging feature is only available via a service order.

Originating:

- Single DN for both lines

For lines equipped with Line Time Slot Bridging with one DN, only one SCF list applies to both phones. Only the lead port is allowed to activate, deactivate, or edit the feature.

- Separate DN for each line.

For lines equipped with Line Time Slot Bridging with two DNs, SCF cannot be assigned to either DN.

Terminating:

- Single DN for both lines

The switch alerts each phone (if the incoming DN is not on the SCF list) if the user has activated SCF. When applicable, ping ring for calls forwarded via SCF are applied at each terminal.

- Separate DN for each line.

No interaction.

11.3.153 Loudspeaker Paging

Loudspeaker Paging allows dial access to customer-owned loudspeaker paging equipment.

Originating/Terminating: See "Call Pickup", Section 11.3.40 .

11.3.154 Main Satellite Service

Main Satellite Service allows a customer receiving business group service provided by two or more separate switching machines in the same geographic area to receive the same service available as if all locations were served by a single switch.

Originating: See "Dial Access to Private Facilities", Section 11.3.70 .

Terminating: A call arriving from the main-satellite service environment via tie trunk will not have the calling party's DN available and the call will not be screened at the active SCF station. Standard terminating treatment will apply. Also, see "Dial Access to Private Facilities", Section 11.3.70 .

11.3.155 Make-Busy Key

Make-Busy Key (MBK) allows designated lines to look busy to the central office by means of a key operation.

Originating: No interaction.

Terminating: The SCF feature takes precedence over MBK. The MBK feature allows SCF lines to look busy to the central office by means of a key operation. Any incoming calls will be screened against SCF (if the user has SCF active) before the switch checks MBK.

11.3.156 Message Detail Recording on Customer Premises

Message Detail Recording (MDR) on Customer Premises provides call detail information on public telephone network and private facility calls via a tape unit located on the customer premises.

Originating: No interaction.

Terminating: The SCF feature is compatible with MDR.

11.3.157 Message Service Automatic Call (History) Display

Message Service Automatic Call (History) Display uses the 5ESS®-2000 switch call history information with the AP data base to display call information, client status information, and messages to the message service attendant when the message service client calls from his/her station set to receive messages.

Originating/Terminating: No interaction.

11.3.158 Message Service Automatic Control of Message Waiting Indicator

Message Service Automatic Control of Message Waiting Indicator automatically activates the message waiting indicator at the client's station set when a message is recorded in the message data base.

Originating: No interaction.

Terminating: The Message Service System attendant can activate the message waiting indicator at the SCF station set independent of the SCF status.

11.3.159 Message Service Direct Access to Message Data Base

Message Service Direct Access to Message Data Base allows clients to update their status information, leave messages for one or more clients, and retrieve messages without assistance from the message service attendant.

Originating/Terminating: No interaction.

11.3.160 Message Service Leave Word Calling

Message Service Leave Word Calling (LWC) allows a client to leave a *canned* message for another client of the message service without assistance from a message service attendant.

Originating: No interaction.

Terminating: A leave word calling message can be left for a called station when the caller's call is forwarded by SCF.

11.3.161 Message Service Message Data Base

Message Service Message Data Base stores customer organizational data, client status data, and standard *canned* messages. A message data base is available to the message service attendant on the applications processor.

Originating/Terminating: No interaction.

11.3.162 Message Service Print Message On Demand

Message Service Print Message On Demand provides a printout of messages at a predetermined printer upon request from the Message Services client.

Originating/Terminating: No interaction.

11.3.163 Multifrequency Pulsing

Multifrequency Pulsing provides the capability to transmit alternate current address signals between offices. Each address digit is transmitted as a pulsed pair of frequencies.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SCF customer cannot be screened. That is, the original calling party's DN is not available. Normal termination will apply.

11.3.164 Multiline Hunt Service Circular Hunting

Multiline Hunt Service Circular Hunting allows all lines in a multiline hunt group to be tested for busy, regardless of the point of entry into the group.

Originating: No interaction.

Terminating: When a feature is assigned to the main DN of the group, it applies to the group as a whole. All calls to the main DN are screened using the main DN lists. Such screening is performed before any check on busy/idle status of any of the group terminals. Calls to hunt DNs in the group are also screened using the main DN lists.

If the individual no-hunt DNs have SCF assigned to them and they are dialed direct, calls will be screened against the individual lists whether or not SCF is active for the main DN list. Calls are screened before hunting occurs.

11.3.165 Multiline Hunt Service ISDN Attendant (ISAT)

Originating/Terminating: No interaction.

11.3.166 Multiline Hunt Service Multiple Position Hunt

Multiline Hunt Service Multiple Position Hunt provides the ability to distribute calls over a group of console positions, each of which can handle several types of incoming calls received on dedicated terminals.

Originating: The SCF feature cannot be assigned to analog attendants.

Terminating: No interaction.

11.3.167 Multiline Hunt Service Precedence Regular Hunt

Multiline Hunt Service Precedence Regular Hunt starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 11.3.164 .

11.3.168 Multiline Hunt Service Regular Hunting

Multiline Hunt Service Regular Hunting starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 11.3.164 .

11.3.169 Multiline Hunt Service Uniform Call Distribution Hunt

Multiline Hunt Service Uniform Call Distribution Hunt provides an even distribution of incoming calls among the available members of a hunt group.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 11.3.164 .

11.3.170 Multiline Variety Package Service

Multiline Variety Package Service provides a packaged group of services for customers with a small group of lines that are not defined as a business line group.

Originating/Terminating: See the individual features that are contained in the *Multiline Variety Package Service*.

11.3.171 Multiple DNs per Line with Distinctive Ringing (Multiple DNs per Line)

11.3.171.1 General

Multiple DNs per Line (MDNL) with Distinctive Ringing provides multiple DNs per single port [Line Equipment Number (LEN)]. An originating call from any of the DNs is always associated with the *Master DN*, pointed to by the LEN translator; therefore, any call placed from a DN associated with the LEN will pass the *Master DN* as the calling party number.

Originating: No interaction.

Terminating: The SCF feature can only be assigned to the *Master DN* of an MDNL group. Terminations to the different DNs are distinguished using distinctive ringing. The master screening list is used to screen all calls to the master and associated DNs.

11.3.171.2 MultiPoint Digital Subscriber Line

The MultiPoint Digital Subscriber Line (MPDSL) feature provides support for connecting multiple users and their associated terminals to a single digital subscriber line. Users share the two B-channels for digital voice or data services and the D-channel for signaling and packet data services.

Originating: No interaction.

Terminating: An MDSL line may be busy when two calls are active on the MPDSL and both B-channels are occupied. This is called B-channel blocking. SCF takes precedence over MPDSL busy due to B-channel blocking. The SCF screening is done before the switch checks for the busy due to B-channel blocking.

11.3.172 National ISDN Additional Call Offering (Voice and Data)

The National ISDN Additional Call Offering (ACO) feature is based on Bellcore requirements. This feature notifies the Integrated Services Digital Network (ISDN) user via Q.931 signaling procedures that there is a circuit-switched voice (CSV) or circuit-switched data (CSD) call waiting for that user at the serving 5ESS®-2000 switch; the call cannot be delivered due to the unavailability of a B-channel. The user can answer the incoming call by putting an existing call on hold or by disconnecting an existing call. The call reference busy limit (CRBL) subscription parameter limits the number of concurrent originating and terminating calls that the user may have established. Arriving calls beyond this limit are given busy treatment.

Originating/Terminating: The SCF feature is applied before a call is offered via ACO.

11.3.173 National ISDN Calling Number Identification Services

The National ISDN Calling Number Identification Services (I-CNIS) feature is based on Bellcore requirements and is an enhancement to the existing Calling Party Number (CPN)/Billing Number (BN) Transmittal in the 5ESS®-2000

Switch Private Network Environment feature.

Originating/Terminating: See "Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment", Section 11.3.50 .

11.3.174 National ISDN Calling Number Identification Services Intra-Group Only Delivery Optioning

The Calling Number Identification Services (CNIS) Intra-Group Only Delivery Optioning (CNIGI) feature allows restriction of the Calling Party Number (CPN) delivery, Redirecting Number (RN) delivery, and Calling Party Subaddress (CgPS) delivery features from members of a terminal group. It also restricts the provisioning of ICLID, CNAM, and EDS displays to intra-group calls. CNIGI does not effect delivery of information to residential parties. Whether the CNIGI restriction applies depends on the settings of the CNIGI option for the office, business group, and individual line/PRI trunk. The CNIGI restriction applies to all members of the terminal group, including National ISDN BRI/PRI, Custom BRI/PRI, and analog lines.

Originating/Terminating: No interaction.

11.3.175 National ISDN Channel/Terminal Configurations and Restrictions

The Channel/Terminal Configurations and Restrictions feature provides channel and terminal configurations and restrictions according to Bellcore requirements. Integrated Services Digital Network (ISDN) customers with a single terminal can be restricted to one B-channel. The ISDN customers with two or more terminals can be restricted to one B-channel via an associated group (AG). Two AGs are permitted per BRI. In an AG, customers are allowed terminals that have circuit-switched voice (CSV), circuit-switched data (CSD), on-demand B-channel (ODB) packet data, permanent packet B-channel (PPB) data, or any combination of the four services.

Originating/Terminating: Because these actions require an available B-channel, a user cannot activate/deactivate the SCF feature or change the SCF screening list under B-channel blocked conditions.

11.3.176 National ISDN Electronic Key Telephone Service

The National ISDN Electronic Key Telephone Service feature allows a user served by a National Integrated Services Digital Network (ISDN) terminal to have access to multiple directory number (DNs). Additionally, a DN can be accessed by more than one user (that is, a Shared DN). Directory numbers (DNs) may be shared on the same basic rate interface (BRI) and or on different ISDN BRIs.

Originating/Terminating: See "ISDN Shared Call Appearances of a Directory Number", Section 11.3.148 .

11.3.177 National ISDN Hold (Voice and Data)

National ISDN Hold allows a National ISDN station user to hold a call in progress by flashing and then dialing the Call Hold code or operating a function key if one is available.

Originating: An ISDN COT Two-Level Activation session cannot be put on hold. If a user on Custom BRI tries to put a Two-Level Activation on hold, he/she receives a visual indication of rejection. When a National ISDN COT user tries to put a Two-Level Activation session on hold, the user will not see any indication of rejection.

Terminating: No interaction.

11.3.178 National ISDN Interswitch Calling Number Identification Services

The ISDN Interswitch Calling Number Identification Services feature is comprised of originating features and terminating features. The originating features consist of number screening, number privacy, and calling party number/calling party subaddress transfer. The terminating features include calling number delivery. Interswitch

Calling Number Identification Services provides the feature capabilities between switches.

Originating/Terminating: See "Intrastwitch/Interstwitch Calling Party Number/Billing Number Optioning to Terminating User", Section 11.3.104 .

11.3.179 National ISDN Three-Way Calling

National ISDN Three-Way Calling allows a customer to add a third party to an existing conversation.

Originating/Terminating: See "Three-Way Calling", Section 11.3.215 .

11.3.180 Night Service

Night Service (NS) routes calls normally directed to the attendant to preselected station lines in the customer group when regular consoles are not attended.

Originating: No interaction.

Terminating: When a call is forwarded via Night Service from an attendant's line to a line with SCF active, the DN of the original caller is compared with DNs on the SCF screening list. Also, see "ISDN Attendant Night Service", Section 11.3.118 .

11.3.181 Non-Data-Link Attendant Console

Non-Data-Link Attendant Console is a small desk-top position from which the attendant handles calls.

Originating: The SCF feature cannot be assigned to attendants.

Terminating: No interaction.

11.3.182 On-Hook/Off-Hook Queuing for Outgoing Trunks (Also Known as Queuing for Outgoing Trunks)

Queuing for Outgoing Trunks allows on-hook or off-hook queuing for a busy outgoing trunk. With on-hook queuing, the station is notified with a distinctive ring when a trunk is available. With off-hook queuing, the user remains off-hook, and the call is completed when the trunk is available.

Originating: With on-hook queuing, the SCF user station is notified with a distinctive ring when a trunk is available regardless of the SCF status.

Terminating: See "Ringback Queuing", Section 11.3.196 .

11.3.183 Outgoing Call Tracing

Outgoing Call Tracing is used when nuisance calls are found to be coming from one particular line. The terminating DN is put on the trace list and all originating calls from that office are checked against the list. When a call is made to the number on the list, the originating DN is identified.

Originating: No interaction.

Terminating: See "Call Tracing", Section 11.3.41 .

11.3.184 Outward Calling for PBX via ARS

Outward Calling for PBX Via ARS allows a PBX to take advantage of Business Group features relating to outgoing private facilities by terminating them at the serving switch via special access lines.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 11.3.22 .

11.3.185 Outward Wide Area Telecommunications Service (OUTWATS)

Outward Wide Area Telecommunications Service (OUTWATS) allows customers to make calls to certain zone(s) or band(s) on a direct dialing basis for a flat monthly charge or a charge based on accumulated usage.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 11.3.22 .

11.3.186 OUTWATS with Simulated Facility Group

The OUTWATS with Simulated Facility Group feature can restrict the number of simultaneous OUTWATS calls by software rather than by the physical size of a dedicated trunk group.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 11.3.22 .

11.3.187 Power Failure Transfer Attendant

Power Failure Transfer Attendant routes calls destined for the attendant to a preassigned DN during a commercial power failure at the customer premises.

Originating: No interaction.

Terminating: When a call is forwarded via Power Failure Transfer from an attendant's line to a line with SCF active, the DN of the original caller is compared with the DNs on the SCF screening list. Also, see "Night Service", Section 11.3.180 .

11.3.188 Precedence and Preemption Features

Precedence and Preemption (PP) is a part of the DSN/AUTOVON network for operating routine and precedence calls used primarily by the military.

Originating: No interaction.

Terminating: A precedence with preemption *priority* call is not screened while a precedence with preemption *routine* call is screened. If an SCF user is active on a call and a precedence with preemption *priority* call is made to this SCF user, the call will not be screened against the SCF list and will be accepted. A precedence call can preempt an active call.

A PP call terminating at a busy analog line of an SCF user can preempt an active call of lower preemption precedence. When preemption occurs, all parties engaged in the active call receive preemption tone prior to being disconnected. After going on-hook following a *preemption disconnect*, an analog SCF user is alerted to the preempting call.

A PP call terminating at a busy ISDN line of an SCF user may terminate at an idle call appearance reserved for PP call terminations. If all call appearances (reserved and unreserved) are busy, a PP call can preempt an active call of lower preemption precedence on an ISDN line. Subsequent interactions are identical to those of preemption on an analog line.

A selectively forwarded call can be preempted by a higher precedence call. The precedence of the forwarded call is the precedence associated with the caller.

11.3.189 Priority Queuing

Priority Queuing is used to assign a queue priority level that establishes precedence for facilities when immediate access is not obtainable.

Originating/Terminating: See "Basic Queuing", Section 11.3.25 .

11.3.190 Radio Paging Access

Radio Paging Access allows attendants and station users to access radio paging equipment and page individuals carrying pocket radio receivers.

Originating/Terminating: No interaction.

11.3.191 Recall From Subscriber

Recall From Subscriber allows the customer to recall an operator services position system (OSPS) operator for certain classes of operator-assisted calls by flashing the switchhook. The operator recalled is not necessarily the operator who originally assisted on the call.

Originating/Terminating: No interaction.

11.3.192 Recorded Telephone Dictation

Recorded Telephone Dictation (RTD) permits access to and control of customer-owned dictating equipment from a station in the customer group. The station must be equipped for dual tone multifrequency signaling.

Originating/Terminating: No interaction.

11.3.193 Remote Activation of Call Forwarding (Remote Access to Call Forwarding)

Remote Activation of Call Forwarding (RACF) provides the ability to remotely activate/deactivate call forwarding by using dialed codes.

Originating: No interaction.

Terminating: The RACF feature is used with the Call Forwarding Variable feature only. There is no interaction between the SCF and RACF features.

11.3.194 Remote Call Forwarding

Remote Call Forwarding allows all calls to a specified DN to forward to a remote 7- or 10-digit telephone number.

Originating: No interaction.

Terminating: The SCF feature takes precedence over the Remote Call Forwarding (RCF) feature. Also, see "Call Forwarding Variable", Section 11.3.37 .

11.3.195 Revertive Pulsing

Revertive Pulsing is the method of interoffice signaling originating with the panel systems and continuing with the No. 1 Crossbar.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SCF customer cannot be screened. That is, the original calling party's DN is not available. Normal termination will apply.

11.3.196 Ringback Queuing

Ringback Queuing allows a station user, encountering a busy network facility, to queue for an idle facility by dialing a function code and going on-hook in a preselected time following the queuing confirmation code. The caller is rung back when the appropriate facility becomes idle.

Originating: With the Ringback Queuing (RBQ) feature, an SCF customer can queue calls on a busy outgoing facility. When the facility becomes available, the customer receives ringback, goes off-hook, and the call is placed without having to redial. After placing an RBQ request, active SCF customers receive ringback even if the DN is on the SCF screening list.

Terminating: No interaction.

11.3.197 Satellite Attendant Transfer

Satellite Attendant Transfer provides the same service as the Call Transfer Attendant feature to a satellite location having no attendant.

Originating/Terminating: No interaction.

11.3.198 Screen List Editing

Screen List Editing (SLE) is a capability used in conjunction with all LASS selective feature lists.

Originating: The SLE capability is necessary to build and edit the SCF screening list. For analog lines, SCF users are considered busy if they are in an editing session. For ISDN lines, SCF users are considered busy if they are in an editing session and no other call appearance is available.

Terminating: No interaction.

11.3.199 Selective Call Acceptance

Selective Call Acceptance (SCA) allows residential and business users to restrict which incoming voice calls are allowed to terminate.

Originating: No interaction.

Terminating: The SCA feature takes precedence over SCF. The DN of an incoming call is checked against the SCA list before it is checked against the SCF list.

11.3.200 Selective Call Forwarding

Selective Call Forwarding (SCF) allows a customer to preselect which calls will forward based on the telephone number of the calling party.

Originating/Terminating: Calls may be forwarded interswitch using SS7.

11.3.201 Selective Call Rejection

Selective Call Rejection (SCR) allows a customer to reject calls from telephone numbers which are on the

customer's SCR list.

Originating: No interaction.

Terminating: The SCR feature takes precedence over SCF. The DN of an incoming call is checked against the SCR list before it is checked against the SCF list.

11.3.202 Selective Carrier Denial

Selective Carrier Denial (SCD) allows the local office to selectively inhibit certain calls normally handled by a carrier from lines designated as nonpaying subscribers by the particular inter-LATA carrier that will handle the call.

Originating: No interaction.

Terminating: Prior to selectively forwarding a call requiring a carrier from the base station (the station of the SCF user), a check is made for the SCF user's subscribed carrier. Forwarding is prevented and the caller receives standard error treatment if the check reveals that the SCF user has not subscribed to a carrier.

11.3.203 Selective Control of Facilities

Selective Control of Facilities (SCOF) allows the customer, via key control, to busy out private facilities and, thereby, deny all originating access.

Originating/Terminating: No interaction.

11.3.204 Selective Distinctive Alert (Distinctive Alert)

Selective Distinctive Alert (SDA) allows a customer to preselect which calls will have distinctive alerting treatment based on the telephone numbers of the calling parties.

Originating: No interaction.

Terminating: The SCF feature takes precedence over SDA. The DN of an incoming call is checked against the SCF list before it is checked against the SDA list.

11.3.205 Semirestricted Station Originating and Terminating

Semirestricted Originating and Terminating, a type of Terminal Group and Station Restriction, provides the ability to restrict a business group line from originating and/or receiving any calls from outside the group. Outside the group means "dial 9" and DID. Intragroup calls, attendant calls, and calls over private facilities are permitted. Restricted calls are routed to the special group intercept announcement.

Originating: No interaction.

Terminating: The Semirestricted Station Terminating feature takes precedence over SCF. An SCF user that is semirestricted terminating can only screen calls from other members of the terminal group or from the attendants of the terminal group.

11.3.206 Series Completion

Series Completion is a type of hunting in which DNs are grouped into a prearranged ordered list.

Originating: No interaction.

Terminating: The SCF feature takes precedence over the Series Completion feature. It is possible that a customer could have SCF active and, at the same time, have the Series Completion feature active. In this case, Series

Completion treatment is applied to a terminating call only if the customer's SCF screening list does not contain the necessary entries to forward the call. For example, assume a call is routed via Series Completion to another line in the Series Completion group having SCF active. If the calling party is on the SCF screening list, the call will route to the SCF RTN. No further hunting will be attempted even if this is not the last line in the Series Completion group.

11.3.207 Simulated Facility Groups for In and Out Calls

The Simulated Facility Groups for In and Out Calls feature provides the capability to restrict the number of simultaneous DID calls terminating to the group and the number of simultaneous calls originating by the group to direct distance dialing (DDD).

Originating: No interaction.

Terminating: Calls that forward via SCF to an RTN outside an SCF user's IDP or terminal group are subject to the same SFG restrictions that apply to the SCF user's direct dialing of the RTN. Calls going to the SCF user are subject to the same simulated facility group restriction as are regular terminating calls.

11.3.208 Single-Digit Dialing

Single-Digit Dialing permits station users to reach any station of a preselected group or other internal facility by dialing single digit codes.

Originating: See "Intercom Dialing", Section 11.3.101 .

Terminating: The SCF feature takes precedence over Single-Digit Dialing.

11.3.209 Smart Set Interface

Smart Set Interface allows customers to use *smart* station sets. Flash requests and feature function codes are associated with unique keys on the station set.

Originating/Terminating: No interaction.

11.3.210 Special Intercept Announcement

Special Intercept Announcement allows a unique intercept announcement to be provided to each business group.

Originating: No interaction.

Terminating: For the SCF user having interswitch forwarding, it is possible that an interswitch call could route to the special intercept announcement (that is, an RTN was previously entered without validation.)

11.3.211 Speed Calling (Also Known as Abbreviated Dialing)

Speed Calling permits the customer to dial selected numbers using fewer digits than normally required.

Originating: The SCF access code can be entered on a speed calling list.

Terminating: If a caller uses speed calling to an SCF user with an active SCF list, the call will be screened by SCF.

11.3.212 Tandem Call Trace

Tandem Call Trace is used when nuisance calls are found to be incoming from a tandem office. The traced DN is marked for tracing at that office to identify the tandem trunk.

Originating: No interaction.

Terminating: See "Call Tracing", Section 11.3.41 .

11.3.213 Tandem Tie Trunk Dialing

Tandem Tie Trunk is another name for Nonsenderized Tie Trunks (NTT). It uses a switching method whereby the station user directly controls, in stages, the routing of an outgoing tie trunk call through the originating switch as well as any intermediate switches.

Originating/Terminating: See "Tie Trunk Access", Section 11.3.216 .

11.3.214 Terminal Group/Station Restriction

A Terminal Group is a grouping of two or more terminals that provide restriction on screening capabilities of certain features or interactions. Station restriction provides a means to restrict calls based on a terminal being a member of a terminal group.

Originating/Terminating: TGSR for ISDN User Part Trunks interact with SCF. A user may specify members of a multi-location business group as the forward-to party for SCF, even if served by a different switch. The user's originating restriction must not prevent forwarding to multi-location business groups.

11.3.215 Three-Way Calling

Three-Way Calling (TWC) allows a customer to add a third party to an existing conversation.

Originating: An SCF customer can also subscribe to a TWC feature. An SCF customer has the ability to place a call on hold to add a third party onto the established conversation. If the SCF user disconnects with a party on hold, the SCF user will get ringback to restore the connection to the held party. Regardless of active SCF service on a TWC line, ringback will occur.

Terminating: No interaction.

11.3.216 Tie Trunk Access

Tie Trunk Access connects two or more business customer locations. They can terminate in an attendant console for direct access or have dial access.

Originating: No interaction.

Terminating: Calls arriving via tie trunks do not have the calling number available and are not screened.

11.3.217 Time-of-Day

Time-of-Day (TOD) allows a customer to preschedule recent change, thereby, controlling activation and deactivation of certain modular features and changes to feature parameters via dialed codes and key control.

Originating: The TOD feature cannot be used to activate or deactivate SCF.

Terminating: No interaction.

11.3.218 Toll Diversion to Attendant

Toll Diversion to Attendant (TDA) intercepts toll or code calls from restricted business group lines and routes them to the attendant (or other designated line).

Originating/Terminating: No interaction.

11.3.219 Tracing of Terminating Calls

Tracing of Terminating Calls allows the identification of calling lines while the call is in progress. When incoming calls are to be traced, the terminating DN is placed on the call tracing list where it remains until manually removed.

Originating: No interaction.

Terminating: See "Call Tracing", Section 11.3.41 .

11.3.220 Traveling Class Mark

Traveling Class Mark (TCM) carries class-of-service information along with the called number through a private network. The TCM provides unique downstream routing and screening information.

Originating/Terminating: No interaction.

11.3.221 Trunk Answer from Any Station

Trunk Answer from Any Station (TAS) activates a common alerting signal on the customer premises when the attendant positions are in night service for calls normally directed to the attendant. These calls can then be answered from any nonrestricted station in the business group by dialing a special answer code.

Originating/Terminating: No interaction.

11.3.222 Trunk Dial Transfer

Trunk Dial Transfer provides the Call Transfer Individual feature to tie trunks.

Originating/Terminating: No interaction.

11.3.223 Trunk Group Busy Lamps

The Trunk Group Busy Lamps feature provides a visual indication on a private facility trunk group basis when the facility group is all in use.

Originating/Terminating: No interaction.

11.3.224 Two-Party ANI/ONI Capability

The Two-Party Automatic Number Identification/Operator Number Identification (ANI/ONI) Capability allows operating companies the choice of giving two-party lines automatic number identification (ANI) treatment or operator number identification (ONI) treatment.

Originating: The SCF feature cannot be assigned on Two-Party ANI/ONI lines.

Terminating: Calls from Two-Party ANI users are screened against the SCF list.

11.3.225 Two-Party Line

Two-Party Line provides basic POTS to two customers sharing the same line.

Originating: The SCF feature cannot be assigned on two-party lines.

Terminating: Calls from two-party lines are screened against the SCF list.

11.3.226 Uniform Numbering

Uniform Numbering provides a customer-specified 7-digit numbering plan that identifies all business group stations interconnected by the facility network. Each customer switch connected by the electronic tandem network (ETN) is identified by a 3-digit code.

Originating: No interaction.

Terminating: Calls received over private non-SS7 facilities (using a uniform numbering dialing plan) do not have the calling party's DN available and are not screened at the active SCF station. Standard terminating treatment will apply.

11.3.227 Unrestricted Originating and Terminating

This is basically the absence of originating and/or terminating restriction in a terminal group.

Originating/Terminating: No interaction.

11.3.228 User-Side Primary Rate Interface Implementation

This feature allows PRI support in public (private trunks providing access to public facilities) and private networks.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SCF screening and termination treatment.

11.4 RESTRICTION CAPABILITY

11.4.1 General

Customer access to SCF can be denied on a per-line basis using a feature restriction indicator for each customer. In addition, IDP customers with intercom dialing can be restricted access on a group basis by not building an access code for SCF. However, if the office is generally available (GA) and the end-user escapes to POTS, the end-user can access the office GA feature. Also, certain lines in a group can be allowed access to SCF even if the rest of the group is denied access to SCF.

Only voice calls or analog modem calls which look like voice calls are screened by the SCF feature. Integrated services digital network (ISDN) circuit-switched or packet-switched data calls are not screened by the SCF feature. There is only one forwarding list per DN user for SCF.

The Dialing Plan Access Treatment (DPAT) capability (5ESS®-2000 switch only) can also be used to restrict individual lines from using particular access codes or ISDN feature buttons.

11.4.2 Analog Users

A maximum of 31 telephone numbers may appear in a user's screening list. The service provider has the capability to limit this number for the end-customer, if so desired.

Refer to Table 2-4 for service groups denied access to the SCF service.

Manual lines, direct connect lines, and denied originating treatment lines are allowed service to SCF; however, the SCF screening list must be built via service order. Also, a service order is required to activate or deactivate SCF for these line types.

Operator calls from no-test trunks and attendant calls with emergency override are not subject to refusal by the SCF feature.

The following ringback functions can alert an active SCF line:

- Automatic Callback-Calling (ringback function)
- 911 Service Emergency Ringback
- Call Hold (ringback from held party)
- ETS Ringback Queuing
- Home Intercom/Single Line Variety Package
- LASS Automatic Callback (ringback function)
- LASS Automatic Recall (ringback function)
- Three-Way Calling (ringback from held party).

The number of users who may access SCF is limited by the amount of switch memory available for storing lists and by the number of users who may simultaneously access the announcement system or display capability.

11.4.3 ISDN Users

When a DN is shared between ISDN station sets, only the lead station for the DN is allowed access for activating, deactivating, or editing the SCF screening list. An ISDN user at the lead station, on a call appearance for a primary or secondary DN, can press the SCF feature button to turn SCF on or off for the primary DN.

The SCF feature is assigned on a per-DN basis for ISDN users with multiple DNs, as opposed to a per-terminal basis. Incoming line history blocks are assigned on a per-terminal basis. The SCF feature only applies to voice calls. Data calls are not screened by SCF.

An ISDN customer can subscribe to the SCF feature for each DN on the terminal. In this case, the customer can have SCF assigned to the primary DN with its own screening list and SCF assigned to the secondary DNs each with their own screening lists. The SCF feature button applies only to the primary DN.

When a user at the lead station of a shared DN dials the SCF access code, the switch does not send announcements and display messages to the non-lead terminals sharing the DN. The switch sends announcements and display messages only to the lead station terminal.

11.5 ENGINEERING

11.5.1 Special Planning Considerations

The SCF screening lists are engineered to use memory as efficiently as possible. Screening lists are not allocated based on the office parameter. Instead, the allocation is based on the individual customer's list size which keeps reserved, unused memory to a minimum.

11.5.2 Hardware

No new or modified hardware is required.

11.5.3 Software

Load balancing and distribution by the switch administrator does not apply. Maintenance operations are not affected by the SCF feature.

To offer intraswitch LASS, the LASS software must reside at that switch.

11.6 IMPLEMENTATION

11.6.1 ODA Implementation

Refer to "LASS Forms and Views", Section 2.4, for ODA forms used in implementing the SCF feature.

11.6.2 Recent Change Procedures

11.6.2.1 Assigning Customer Service

Service providers can provide SCF to individual customer lines on an office-wide (GENAVAIL) basis or on a subscription basis via a service order (SUBSCR). However, MLHG access to LASS always requires a service order. The service provider can assign SCF to and remove SCF from individual customer lines. For both the office-wide and service-order situations, the telephone company can offer SCF for billing on a flat-rate or usage-sensitive basis.

At the time of subscription, the service provider needs to know the type of interface (ISDN or analog) the customer has. For ISDN customers, the service provider determines whether a feature button will be used to access SCF and whether display will be used.

All offices offering the SCF feature are required to have the Screen List Editing (SLE) capability. The SLE capability is not billed separately from the SCF feature; however, a billing record is created each time a usage-sensitive SCF customer accesses an SCF screening list.

See 235-190-104, *ISDN Feature Descriptions*, for feature button assignment.

11.6.2.1.1 Feature Definition

Feature definition, the modular feature construction process, must be completed before any lines can be assigned to use the feature. The SCF feature may be defined as part of the software release (preconstructed) or defined by the service provider (customized). The preconstructed features for Selective Call Forwarding are listed in Table 11-3.

Table 11-3 LASS Selective Call Forwarding BRCS Definitions

MODULAR FEATURE TYPE	PRECONSTRUCTED FEATURE NAMES	WILDCARD FEATURE SYMBOL
MFSCF	/SCFGA /SCFFR /SCFFRR /SCFUS	/SF*

Expansions for these preconstructed features are as follows:

- /SCFGA — Selective Call Forwarding Generally Available
- /SCFFR — Selective Call Forwarding Flat Rate
- /SCFFRR — Selective Call Forwarding Flat Rate Ringing
- /SCFUS — Selective Call Forwarding Usage Sensitive.

The Selective Call Forwarding definition view is 12.56. (ODA Form Isscfd; Office Record 5976). This view contains attributes that:

- Indicate the constructed feature name (FEATURE). One to eight characters in length with the leading character a slash (/) for the preconstructed feature.
- Allow a remark to be associated with the feature (REMARKS). One to 32 characters defining the feature in narrative form.
- Indicate whether billing is on a usage-sensitive basis or on a flat-rate basis (AMA REC). A value of "N" indicates flat-rate billing; a value of "Y" indicates usage-sensitive billing.
- Indicate whether a ping ring is applied to the called line when a call forwards. This attribute is called BSRING (base station ringing). A value of "N" indicates no ping ring; a value of "Y" indicates ping ring.

11.6.2.1.2 LASS Office Parameters

The LASS office parameters View 8.21 provides LASS feature office parameters keyed by the office ID. A second screen was added for LASS selective features. The added attributes associated with SCF are as follows:

- **SCF MAX SIZE** — This parameter determines the maximum number of entries on the screening list for SCF. Valid values are 3-31. The default value is 6. This parameter exists for each of the LASS selective features.
- **SCF GA FEAT** — This parameter specifies the preconstructed feature or constructed SCF feature to be used for general availability. Valid entries are up to 8-character feature names. The default is /SCFGA.
- **FORWARDING MAX** — This parameter determines the maximum number of times the call can be forwarded intra-office from one station to another station. Valid values are 1-32. Default is "5." This parameter applies to the number of times a call is sequentially forwarded by any forwarding feature. This parameter is checked when a call is sequentially forwarded by SCF, SCA, or CAR. Note that the maximum number of forwardings allowed for a call may decrease but never increase as the call moves from one station to another. This may occur because of the possible differences in the forwarding limits for parameters of various forwarding features during multiple forwardings of a call. For a call being forwarded in any particular office, the FORWARDING MAX parameter for that office becomes inapplicable and does not affect the call whenever it is forwarded to another office.
- **SIM INTER OFC FWD** — This parameter determines the number of calls that can be forwarded simultaneously interoffice from a single port by a single LSF forwarding feature (SCA, SCF, or CAR). Valid values are 0-99. The default value is "1." This number applies to the number of concurrently active calls that have been forwarded interoffice from a single base station by a single LSF feature which may be SCF, SCA, or CAR.
- **SIM INTRA OFC FWD** This parameter determines the number of calls that can be forwarded simultaneously intra-office from a single port by a single LSF forwarding feature (SCA or SCF or CAR). Valid values are 0-99. The default value is "1." This parameter applies to the number of concurrently active calls that have been forwarded intra-office from a single base station by a single LSF feature which may be SCF or SCA or CAR.

An SCF maximum-list-size office parameter with legal values of 3 through 31 is provided to indicate the maximum number of entries an SCF customer can have on the SCF screening list. This parameter is changeable via recent change. Service provider switching office personnel have the capability to build, change, delete, activate, or deactivate screening lists for SCF via a service order at the time the service is provisioned or at a later time. Typically, the service order process is not used to perform these functions. The telephone companies are expected to encourage customers to use SLE and will use a service order only when the customer is having trouble with SLE or for customers with denied origination class of service.

For ISDN customers with display capability, display messages for SCF are sent. Display messages are not sent to customers with non-display CPE.

11.6.2.1.3 Feature Access

11.6.2.1.3.1 General

The LASS Feature Access View (View 8.18) provides LASS feature access options specification; for example, whether LASS is generally available, requires subscription, or is unavailable on a per-SM basis. The SCF parameter attribute indicates the access options and the default for the SCF feature. Possible values are GENAVAIL, SUBSCR, UNAVAIL, and TEMPUNAVAIL. The default value is UNAVAIL.

11.6.2.1.3.2 Allow Bits

Unlike traditional BRCS feature assignment, SCF can be made generally available (on an office or SM basis; subscription not required), thereby, extending access to SCF for non-BRCS lines and providing ready access to the feature without the need for a service order.

Analog and ISDN line Views 1.1, 1.6, 2.1, and 23.2 are modified for the SCF feature. An attribute, SCF GA ALW, was added to determine whether the LASS SCF feature is allowed generally available (GA) access by the line.

11.6.2.1.4 Access Billing Control

For both SUBSCR and GENAVAIL, the customer line status may be marked with one of the following values:

- (1) A customer line status of SCF GA ALW (default for all non-restricted service classes) indicates that customers in an office with the office access parameter (View 8.18) set to GENAVAIL have GA access to SCF and are billed on a usage-sensitive basis (default). A customer line status of SCF GA ALW in an office with the office access parameter (View 8.18) set to SUBSCR indicates that the customer does not have GA access to SCF. The service provider can change SCF from a general offering to a subscription offering and from a subscription offering to a general offering by toggling the office access parameter from GENAVAIL to SUBSCR and from SUBSCR to GENAVAIL, respectively. It is not necessary to modify the customer line status of individual customer lines.
- (2) A customer line status of NO SCF GA ALW indicates this customer is denied GA access to SCF. The service provider uses a service order to mark a customer line NO SCF GA ALW.

For the SUBSCR case, the service provider can use a service order to subscribe individual lines to a flat-rate or usage-sensitive billed SCF feature. For the GENAVAIL case, the service provider can use a service order to subscribe individual lines to a flat-rate billing (overriding the default of usage-sensitive billing) or usage-sensitive billing. Flat-rate billing does not generate billing records. For usage-sensitive billed customers, billing records are created when an SCF screening list is changed or when the feature status is changed. (See "Billing", Section 11.8.2, for complete information on billing.)

11.6.2.1.5 Feature Assignment

Features are assigned to a line via RC line assignment views. A BRCS Feature Assignment view, Views 1.11, 2.11, and 3.11, can be used to assign the SCF feature to a customer line. View 1.11 is keyed by telephone number; View 2.11 is keyed by office equipment number and party; and View 3.11 is keyed by MLHG number and member. Attempts to assign a feature to a line which conflicts or interacts with another feature already assigned to a line are rejected. The SCF feature can be assigned to a BFG and/or cluster.

In addition to the BRCS feature assignment views, the SCF feature can also be assigned via a BRCS Assignment Combined View (1.8, 2.8, 3.8). For ISDN terminals, View 1.11 may be used to assign the SCF feature. Typically, the

digital subscriber lines (DSL)/BRCS assignment view (23.8) is used to assign the SCF feature to an ISDN DN.

For residential customers, the SCF access code can be established on a per-office basis. For IDP customers with intercom dialing, the SCF access code is assigned on a group basis and may, or may not, be the same code as residential customers.

11.6.2.1.6 Feature Activation

The LASS Selective features can be activated and deactivated by a customer originated recent change (CORC) or via RC LASS Selective Feature Screening List View 4.48 and the feature assignment views (listed previously) or feature activation views (1.12, 2.12, and 3.12).

11.6.2.2 Deleting Customer Service

The SCF screening list and forward-to DN are deleted by recent change when removing service from a line with a service order. When the SCF screening list is deactivated, through SLE or a service order, the forward-to DN is saved. When the SCF screening list is deleted through SLE or a service order, the forward-to DN is deleted.

11.6.2.3 Changing Customer Service

For customers having a feature button for SCF, when a service order is used to activate or deactivate the SCF feature, the feature button light will reflect the status after the next CPE restoral (about 15 minutes).

The SCF screening list telephone numbers entered by the customer via the screen list editing capability are validated; however, entries on SCF screening lists created via a service order are not validated. View 4.48 is used to add and delete screening list entries for service order applications.

The service provider can assign, change, or delete a forward-to number for the individual customer line with a service order. Again, the service providers are expected to encourage customers to use SLE and will use a service order only when the customer is having trouble.

The service provider can assign one or more dialable codes for accessing SCF. For ISDN customers, the service provider can assign a single station set SCF feature button for on-hook and off-hook activation of SCF, and on-hook and off-hook deactivation of SCF.

The SCF service status, screening list, and RTN are moved when reassigning a line (for example, changing a port) with the ISDN ACSR and the CSR capability. The SCF service status, screening list, and RTN are also moved when reassigning a line (for example, changing a port) through a service order.

11.6.3 Assignment Limitations

The service provider sets the maximum number of entries for customer SCF screening lists. The number set must fall between 3 and 31.

The SCF service is available to Multiline Hunt Group subscribers via service order only. For the 5ESS®-2000 switch, SCF can only be assigned to the first member of an MLHG or to individual no-hunt DNs of the MLHG. The SCF feature is allowed for secondary only DNs on a subscription basis only.

11.7 SYSTEM OPERATION

Selective Call Forwarding is a voice feature that can be useful to a large segment of the end-customer population.

The SCF feature is offered on a *GENAVAIL* or *SUBSCR* basis. A list size parameter for SCF allows the service provider to control memory resources and to meet the differing list size needs of SCF end-customers.

A set of measurements for SCF allows the service provider to monitor switch resource use resulting from SCF. The billing record for SCF is: Structure Code 1030. However, the service feature field is filled in with the value 53 for SCF allowing the service provider to distinguish SCF end-customers and bill them accordingly.

Successful interswitch operation of SCF requires that the Signaling System 7 (SS7) or peer-to-peer PRI Integrated Services Digital Network (ISDN) User Part protocol provide the calling party number of all incoming interswitch calls in the initial address message (IAM). The calling party number also includes the DN's uniqueness and the presentation restriction information.

Originating Treatment — For interswitch calls, the originating switch sends the calling party number via the SS7 initial address message in addition to the Q.931 setup message delivered on the peer-to-peer PRI or BRI during call setup.

Terminating Treatment — When a SS7 call is received, the SCF user's switch compares the calling DN (the DN contained in the calling number parameter in the IAM) with the DNs stored on the SCF screening list. If the DN is available and matches any one of the DNs on the screening list, the calling party number forwards to the SCF customer's previously specified RTN.

If the calling DN is not on the SCF screening list or is not available, standard terminating treatment is given.

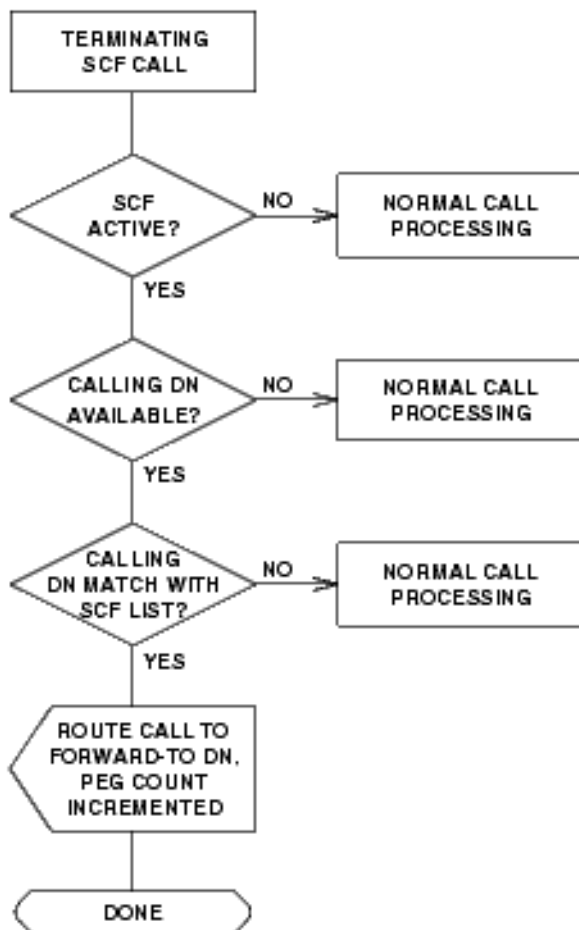


Figure 11-3 SCF Analog/ISDN Call Processing Terminating Switch

The major function of the SCF feature is to screen terminating voice calls, and to terminate calls from calling parties on the SCF screening list to an RTN. At the terminating office, the switch screens whether the directory number

(DN) or extension of the calling party is stored on the SCF screening list. If the incoming DN matches an entry on the SCF screening list, the call forwards to a customer-designated DN.

If the incoming DN for an SCF end-customer does not match any entry on the SCF screening list or is not available, the call completes normally unless another terminating feature is active preventing the call from terminating. Call processing for a call terminating to an active SCF user is represented in Figure 11-3.

A single office count is incremented each time the SCF screening list is accessed. This count is used to engineer sufficient announcement circuits, tone receiver circuits, and DP receivers on the 5ESS®-2000 switch.

The following changes are needed to install SCF in an office:

- The service provider must set an SCF maximum-list-size office parameter (with legal values of 3-31) to specify the maximum number of entries an SCF customer can have on the SCF screening list.

Before the service provider increases the value of the parameter, sufficient memory needs to be available for the larger lists. The service provider should not decrease the SCF office parameter below the number of entries on the largest SCF list in the office.

The switch gives no indication of the number of entries on the largest SCF list or the amount of memory available.

- The service provider must assign the SCF access code. Multiple access codes can be assigned to SCF. For ISDN customers desiring to use a feature button for accessing SCF, the service provider has the capability to assign a station set feature button via a service order.
- The service provider must engineer sufficient memory to support the maximum-sized SCF screening list for the particular office.
- The service provider sets an office access parameter indicating whether it will (1) offer SCF to end-customers by subscription through a service order or (2) make SCF available to all lines in the office not restricted by class of service.

The office access parameter has five possible values. The SUBSCR value indicates that the SCF customers must subscribe to the feature to gain access to it and that a service order is necessary. The GENAVAIL value indicates that SCF is generally accessible to all lines/terminals in the office that are not restricted by class of service without the need of a service order to gain access to the feature.

Refer to "LASS Feature Access", Section 2.7.2.3, for additional information about office access parameters.

11.8 ADMINISTRATION

11.8.1 Measurements

The following traffic counts are taken for SCF on a per-office basis:

- Number of times the SCF access code is dialed and the SCF feature button is pressed.
- Number of successful matches while SCF is active.
- Number of calls rerouted to forward-to DNs because of SCF.

All of the above traffic counts are new for the 5ESS®-2000 switch.

The above counts appear on the 30-minute traffic report in the section for all LASS features (section 76). The ability to turn the reporting of the LASS measurements on or off according to the needs of the service provider is provided.

11.8.2 Billing

The service provider can provide SCF on a subscription basis through a service order or on a generally-available basis. In either case, the service provider can assign SCF on a per-line basis to customers for usage-sensitive billing or flat-rate billing as indicated in Table 11-4, Access Billing Matrix — Selective Call Forwarding.

Table 11-4 illustrates the precedence in determining the type of billing (flat rate or usage sensitive) available for the SCF feature. If a particular option does not apply for a specified combination, it is shown as not applicable (NA).

Table 11-4 Access/Billing Matrix — Selective Call Forwarding

	FEATURE ACCESS OFFICE OPTION (View 8.18)	GENAVAIL FEATURE BILLING OPTION (View 8.21)	SUBSCR FEATURE BILLING OPTION (View 12.56)	FEATURE GA ALLOW (View 1.6...View 23.2)	FEATURE ASSIGN (View 1.11...View 23.8)	SWITCH RESPONSE	BILLING ACTION
1	GENAVAIL	US	NA	No	No	Block	-
2	GENAVAIL	FR	NA	No	No	Block	-
3	GENAVAIL	US	NA	Yes	No	Allow	US
4	GENAVAIL	FR	NA	Yes	No	Allow	FR
5	GENAVAIL	NA	US	Yes	Yes	Allow	US
6	GENAVAIL	NA	FR	Yes	Yes	Allow	FR
7	SUBSCR	NA	US	NA	No	Block	-
8	SUBSCR	NA	FR	NA	No	Block	-
9	SUBSCR	NA	US	NA	Yes	Allow	US
10	SUBSCR	NA	FR	NA	Yes	Allow	FR
11	UNAVAIL	NA	NA	NA	NA	Block	-
12	TEMPUNAVAIL	NA	NA	NA	NA	Block	-

Generally Available — For row 1 through row 4 combinations, the feature access office option for SCF on RC View 8.18 and the SCF GA FEAT field on RC View 8.21 are used to determine whether flat-rate (FR) or usage-sensitive (US) recording is done for the end customer. For these scenarios, the feature is not assigned via service order (column 5) but the feature access office option for SCF is set to GENAVAIL. The feature allow field (column 4) turns the access on or off for the applicable classes of service (default) or denies access to specific lines regardless of the class of service. The SCF GA FEAT field (column 2) specifies the feature name (defaults to /SCFGA), which is defined as either a preconstructed feature or modified with the feature definition, View 12.56.

Assigned — For row 5 and row 6 combinations, the feature access office option is set to GENAVAIL although the feature is assigned to the end customer via service order (column 5). The assigned feature definition will determine whether usage-sensitive AMA is recorded.

Subscription — For row 7 through row 10 combinations, the feature access office option is set to subscription. The end-customers must be assigned either a preconstructed or customized feature via the applicable RC view (1.11 through 23.8).

Unavailable — The feature access option for initial provisioning is set to UNAVAIL. Access to the features will be blocked until recent change procedures are used to change the options to either GENAVAIL or SUBSCR.

Temporarily Unavailable — The TEMPUNAVAIL option is used to temporarily turn off the feature while maintaining the line history block assignments. Access to the feature will be blocked until recent change procedures are used to

change the option back to either GENAVAIL or SUBSCR.

Usage-sensitive billing requires the generation of AMA records. Flat-rate billing requires a service order but does not require the generation of billing records. A combination of billing methods is also supported when a flat rate applies in addition to usage-sensitive billing. These values are assigned per terminal for the incoming feature.

If the service provider chooses to make SCF generally available by setting the office access option to GENAVAIL, then usage-sensitive billing applies by default (View 8.21 — SCF GA FEAT /SCFGA). For both the generally available and the service order situations, the service provider can mark the line of an individual customer for flat-rate billing via a service order.

For usage-sensitive billed SCF customers on 5ESS®-2000 switch offices that have the AMA Standard Entries feature, an event record using structure code 1030 is created for each access of the SCF screening list that results in a change in feature status or an edit of the list.

In addition, a continuation record, using the same Structure Code, is made daily (3:07 a.m.) for each usage-sensitive customer with an SCF screening list. As long as an SCF screening list exists, whether active or inactive, a continuation record is made.

The fields within the structure code billing record (1030) are as follows:

- Fields 1 through 6 are standard.
- Field 7, Service Feature, identifies the specific LASS feature event (for example, a value of 76 indicates editing the SCF activation list).
- Fields 8 and 9 together are the full national number of the served subscriber.
- Fields 10, 11, and 12 together form the complete called number in the case of an activation; otherwise, they are filled with zeros.
- Field 13 is the time at which the AMA record is generated.
- Fields 14 through 19 are filled with zeros.

Refer to "LASS Billing", Section 2.9, for a detailed layout of the structure code.

An SCF customer is charged for the portion of the call that forwards. Routine AMA treatment is used each time a call is selectively forwarded.

12. LASS SELECTIVE DISTINCTIVE ALERT

12.1 GENERAL

12.1.1 Definition

The Local Area Signaling Services (LASS) Selective Distinctive Alert (SDA) feature allows residential and business customers to preselect which calls will receive distinctive alerting treatment based on the telephone number of the calling party. Residential and business customers are allowed 7- and 10-digit directory numbers (DNs) as telephone numbers. In addition, customers are allowed 1- to 7-digit extension numbers as telephone numbers if they have extension dialing. These telephone numbers can be entered directly (dialed in) by the SDA customer, or entered as the last call to alert the customer. Alerting is either ringing or applying call waiting tone to a terminating station.

Figure 12-1 is a pictorial representation of how the SDA feature works.

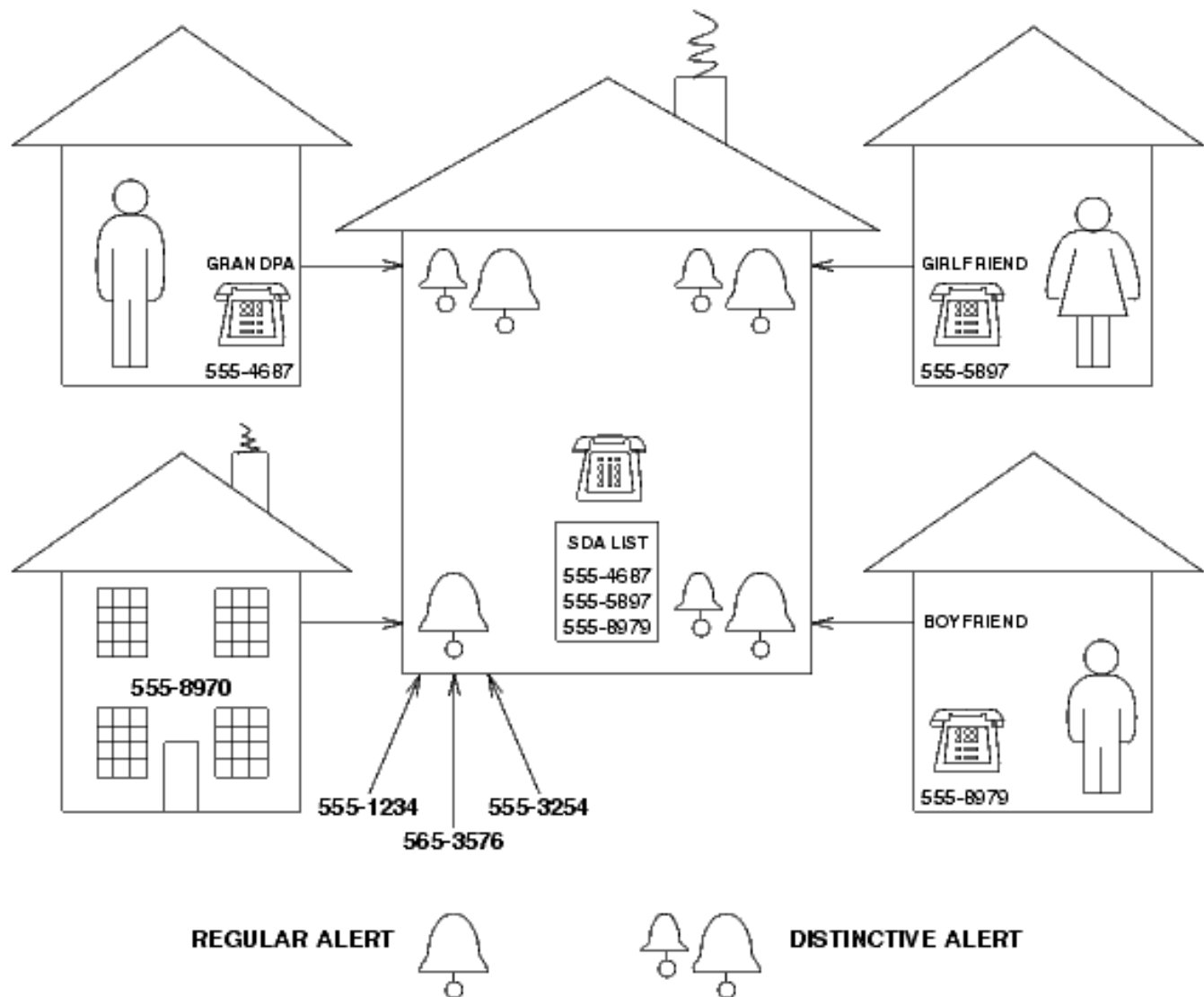


Figure 12-1 Selective Distinctive Alert

Customers create a screening list unique to SDA using the screen list editing capabilities. The SDA list contains the telephone number of each calling party whose calls will receive distinctive alerting treatment. For all terminating

calls, the telephone number of the calling party is compared to the SDA screening list. If the calling party number is on the list, the called party receives distinctive alerting. If the calling party number is not received or is not on the screening list, the call receives regular terminating treatment.

The structure of the list and methods for updating forwarding list contents are described in "LASS Screen List Editing", Section 7.

The SDA feature is available for analog and integrated services digital network (ISDN) stations and works intra-office or interoffice using signaling system 7 (SS7) links.

12.1.2 Economic Worth

The ultimate in selectivity is the Selective Distinctive Alert feature which announces the origin of incoming calls with a distinctive ringing pattern. For users who want to know when a call is from a specific caller or class of callers, this service offers powerful flexibility. The SDA feature offers a distinctive ringing pattern assignable to an individual number or class of callers.

- *For Home Businesses*—A subscriber with a home business might assign a distinctive ringing pattern to telephone numbers of customers.
- *For Emergency Workers*—For someone subject to emergency calls (police, fire, public safety, airline or airport employee, an office or plant manager, a public relations manager), a distinctive ringing pattern can be assigned to an employer's number, emergency answering service, or agencies likely to place emergency calls.
- *For Distant Relatives*—For families with relatives away from home or with infirm or aged relatives, SDA offers great peace of mind.

With many businesses trying to manage telephone usage, the LASS Selective Distinctive Alert feature helps by allowing the user to set the telephone to ring differently based upon the extension or directory number from which the call originates. The user can immediately recognize an important call, from a customer or client, by the distinctive ring.

12.1.3 Availability

The SDA feature is available in 5E6 and later software releases.

12.1.4 Feature Application

The SDA feature is provided on a per-DN basis.

12.2 USER PERSPECTIVE

12.2.1 User Profile

Emergency workers, families with aged or infirm relatives, business people expecting a special call from the boss or the customer can use Selective Distinctive Alert to alert them to these calls.

12.2.2 Customer Premises Equipment

The SDA feature works with both analog and ISDN customer premises equipment.

The type of customer premises equipment (CPE) expected to be the most widely used with SDA is an analog station set. Both dual tone multifrequency (DTMF) and dial pulse (DP) sets are supported.

Other CPE supporting SDA are ISDN types A, B, C, and D terminals with and without display capability, and ISDN types A, B, C, and D terminals with and without an SDA feature button. See 235-900-341, *National ISDN Basic Rate Interface Specification*. Part IV (Basic Call) ISDN terminals are not supported.

12.2.3 User Operation

12.2.3.1 General

To access the SDA feature, a user simply picks up the phone and dials the SDA access code. If the user is not assigned the feature or cannot access the feature, the user receives reorder or a service provider standard announcement indicating that the feature cannot be accessed. If the user has access to the feature, an announcement (and display for Custom ISDN users) indicates this. If the feature is turned off, an announcement (and display for Custom ISDN users) indicates the status of the feature. If the feature is on, the user is informed of the number of entries on the list and their type after the initial announcement.

If the SDA feature is off, an announcement informs the user to dial [3] to turn the feature on. If a user chooses to edit the screening list, the user can add, remove, or review the entries currently on the list through interactive announcements.

Refer to "LASS Screen List Editing", Section 7, for detailed SLE operation and information.

12.2.3.2 Activation

User activation sequences for the SDA feature are given in Figure 12-2. Users having ISDN terminals with feature buttons can activate SDA by using a specified activate/deactivate feature button. A screening list must exist before SDA can be activated by feature button.

The following is an example describing initial user activation of SDA:

- Initially, the SDA user goes off-hook and dials the SDA access code provided by the service provider.
- Announcements are given instructing the SDA user and outlining the available options.
- After listening to the announcements, the customer dials [3] to activate the SDA feature.
- Currently, there are no telephone numbers on the screening list. The announcements give the customer the option of adding numbers to the screening list. The SDA feature will not activate without at least one list entry.
- Pressing the [#] symbol allows an entry to be added to the SDA screening list.
- Announcements instruct the user to enter a telephone number on the list.
- The customer dials a valid telephone number or extension.
- At this point, SDA is active and at least one telephone number is on the alerting list. Although the customer can listen to additional announcements and make other choices, this session is complete and the customer can go on-hook at any time to terminate the session.

The flowchart in Figure 12-2 shows some of the choices the SDA customer can make during the SDA activation/deactivation process.

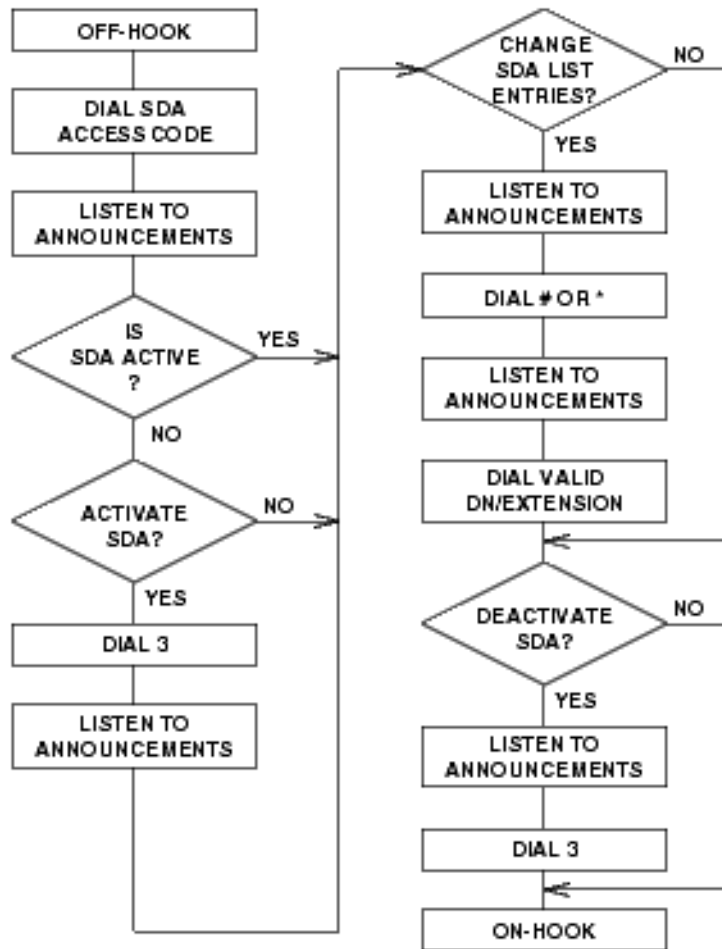


Figure 12-2 SDA End-User Dialing Sequence Flow Diagram

12.2.3.3 Deactivation

User deactivation sequences for the SDA feature are given in Figure 12-2. Users having ISDN terminals with feature buttons can deactivate SDA by using a specified activate/deactivate feature button.

The following is an example describing user deactivation of SDA:

- Initially, the SDA user goes off-hook and dials the SDA access code provided by the service provider.
- Announcements are given instructing the SDA user and outlining the available options.
- After listening to the announcements, the customer dials [3] to deactivate the SDA feature.
- At this point, SDA has been deactivated. Although the customer can listen to additional announcements and make other choices, this session is complete and the customer can go on-hook at any time to terminate the session.

12.2.4 Operational Limitations

The SDA feature requires that interswitch calls use SS7 or peer-to-peer primary rate interface (PRI) connectivity in

order to provide interswitch calling line information.

Telephone numbers (DNs or extensions) that are not assigned at the user's switch, which are to be added to the SDA list, need to be validated if validation is to be performed.

The SDA feature provides ringing pattern G (0.3 second on and 0.2 second off, 1 second on and 0.2 second off, and 0.3 second on and 4 seconds off) for analog users and ringing pattern 2 for ISDN users. The ringing patterns are not customer-changeable.

The SDA ringing pattern cannot be provided on 4-wire individual class-of-service lines.

12.3 INTERACTIONS

12.3.1 General Rules

The interactions between SDA and other features are described in terms of originating feature interactions and terminating feature interactions. An originating interaction is when the SDA station user is the originating party, while a terminating interaction is when the SDA station user is the terminating party on a call.

For Screen List Editing interactions, refer to "LASS Screen List Editing", Section 7 .

General rules that apply to SDA feature interaction are as follows:

- Incoming calls arriving from signaling system 7 (SS7) trunks or peer-to-peer PRI are screened against the active SDA screening list. If a calling party DN is not received for an incoming call (for example, calls from a private facility), the call is not screened and receives standard terminating treatment.
- All Terminal Group and Station Restriction (TGSR) features have precedence over SDA.
- The SDA screening is done after the switch checks the busy/idle status.
- The SDA feature does not take precedence over the Call Forwarding and Call Waiting features.
- If an SDA user initiates a call and encounters a busy line or trunk, and if the user is rung back when the line or trunk becomes idle, ringback is allowed regardless of the SDA status.

12.3.2 800 Service [Also Known as Inward Wide Area Telecommunications Service (INWATS)]

The 800 Service feature provides inward service from one or more predetermined areas at a rate based on expected usage.

NOTE: The 800 Service feature is not limited to the 800 NPA if the switch has implemented a toll-free treatment feature that allows additional toll-free Service Access Codes (SAC) such as 888 or 877.

Originating: The SDA feature is allowed on an 800 service line.

Terminating: No interaction.

12.3.3 800 Service Simulated Facilities Group

The 800 Service Simulated Facilities Group feature can restrict the number of simultaneous INWATS calls through software rather than by the physical size of a dedicated trunk group.

Originating: See "800 Service", Section 12.3.2 .

Terminating: No interaction.

12.3.4 900 Service

The 900 Service provides inward service from one or more predetermined areas at a rate based on expected usage.

Originating: The SDA feature is allowed on a 900 service line.

Terminating: No interaction.

12.3.5 Account Codes [Electronic Tandem Switching (ETS) Optional Account Codes]

The Account Codes (ACCT) feature allows the customer to add an account code to an automatic message accounting (AMA) or message detail recording (MDR) record for customer allocation of telecommunication charges.

Originating: The account code, as well as the account use code (access code), can be entered before the SDA access code as is done for the Business and Residence Custom Services (BRCS) features, so that billing can be charged to a different account. In addition, the account code use button is recognized as described for the account use code. In this case, the account code must still be entered by the SDA user.

If the SDA user is off-hook and not involved in a call, the use of a dialed account use code and a dialed account code are allowed before the use of the SDA access code, but not afterwards. If the SDA user is involved in off-hook activation or deactivation via the SDA feature button (and is not involved in a call), dialed account codes/buttons are allowed before the use of the SDA access code, but not afterwards. If the SDA user is on-hook, the use of a feature button for an account use code is not allowed, either before or after the use of an SDA feature button.

This interaction is applicable to National ISDN SDA.

Terminating: No interaction.

12.3.6 Add-On/Consultation Hold Incoming Only

Add-On/Consultation Hold Incoming Only is a terminal group variation of the Three-Way Calling feature. It provides three-way calling restricted to incoming direct inward dialed (DID) calls.

Originating/Terminating: See "Three-Way Calling", Section 12.3.214 .

12.3.7 Advanced Services Platform

Advanced Services Platform (ASP) provides a platform of service-independent capabilities on a 5ESS®-2000 switch allowing the switch to interact with external network elements. For further information and for the latest details on LASS features and ASP interactions, Please see the following documents:

235-190-125 Advanced Services Platform Release 0 and 0.1A

235-190-126 Advanced Services Platform Release 0.1B

Originating: LASS features are not available for lines with ASP off-hook triggers, either immediate or delayed.

This feature is not supported on standard BRI for National ISDN SDA.

Terminating: If available at the terminating switch, ASP calls are identified by the public DN of the originator and are subject to SDA screening and termination treatment.

Additionally, the SCP is not queried if a user adds a number to the screening list that is a subscribed trigger.

List entries that are DN triggers at the user's switch cannot be added to a screening list because DN triggers are not associated with a physical port. The user's switch does not query the SCP. Attempts to add these entries to a screening list result in long-term denial. This also applies to list entries which are DN triggers at a remote switch. Normal validation procedures apply because the query for the DN characteristics is still made by the originating switch.

12.3.8 Attendant Call Transfer (Also Known as Call Splitting)

Attendant Call Transfer allows the attendant to flash and dial a code before dialing the third leg of a three-way call.

Originating: No interaction.

Terminating: The SDA user will receive distinctive alerting from an attendant initiating a call transfer to the SDA station as long as the attendant's DN is on the SDA station user's screening list.

This interaction is applicable to National ISDN SDA.

12.3.9 Attendant Camp-On

Attendant Camp-On allows calls the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: No interaction.

Terminating:

- Manual Camp-On

See "Dial Call Waiting", Section 12.3.71 .

- Automatic Camp-On

See "Call Waiting Originating", Section 12.3.48 .

12.3.10 Attendant Conference Six-Way

Attendant Conference Six-Way allows an attendant to initiate a conference call involving up to six parties (including the attendant).

Originating: No interaction.

Terminating: The SDA user will receive distinctive alerting from an attendant establishing a six-way conference call including the SDA user if the attendant's DN is on the active SDA screening list.

This interaction is applicable to National ISDN SDA.

12.3.11 Attendant Control of Facilities

Attendant Control of Facilities (ACOF) permits an attendant to restrict dial access from a station to tie trunks, foreign exchange trunks, and wide area telecommunications service (WATS) by operating a key or dialing a code. When control is activated, calls to these facilities are routed to an attendant for appropriate action.

Originating: The ACOF feature can be used to restrict access to SDA by individualized dialing plan (IDP) defined dialed codes. It cannot be used to restrict access to SDA by office dialing plan (ODP) defined dialed codes.

This feature is not supported on standard BRI for National ISDN SDA.

Terminating: No interaction.

12.3.12 Attendant Direct Station Selection

Attendant Direct Station Selection (ADSS) allows an attendant with a console to place calls to stations in the business group by simply pressing a nonlocking pushbutton key associated with the desired station line.

Originating: No interaction.

Terminating: An incoming call arriving from an attendant is screened by the active screening list.

12.3.13 Attendant Identification of Incoming Calls

Attendant Identification of Incoming Calls provides identification, via incoming call indicator lamps on the attendant console, of listed directory number (LDN) calls directed toward different LDNs but served by the same attendant.

Originating/Terminating: No interaction.

12.3.14 Attendant Position

Attendant Position allows a customer to designate a particular station within a business customer group as an attendant position.

Originating: The SDA feature cannot be assigned to an attendant position.

Terminating: No interaction.

12.3.15 Attendant Recall From Satellite

Attendant Recall From Satellite gives stations located at remote locations without an attendant, but with the Satellite Attendant Transfer feature, the ability to transfer an incoming call by flashing the switchhook to generate a recall to the main location attendant, who performs the transfer for the remote station.

Originating: No interaction.

Terminating: See "Attendant Call Transfer", Section 12.3.8 .

12.3.16 Authorization Codes (ETS Authorization Codes)

The Authorization Codes (ATH) feature allows the station user to input an assigned code to change the restrictions associated with the originating station to those associated with the assigned authorization code.

Originating: An authorization code sequence can be dialed before the SDA access code is dialed as is done for ACCT. In addition, the ATH code is permitted after the dialed SDA code. The switch prompts the SDA user for the authorization code. Thus, unauthorized use of SDA can be avoided. Authorization code use buttons are also recognized as described for the authorization use codes.

If the SDA user is off-hook and not involved in a call, the use of a dialed authorization use code and a dialed authorization code are allowed either before or after the use of the SDA access code. If the SDA user is involved in off-hook activation or deactivation via the SDA feature button (and is not involved in a call), dialed authorization codes/buttons are allowed either before or after the use of the SDA access code. If the SDA user is on-hook, the use of a feature button for an authorization use code is not allowed, either before or after the use of an SDA feature button.

This interaction is applicable to National ISDN SDA.

Terminating: No interaction.

12.3.17 Automatic Alternate Routing

Automatic Alternate Routing (AAR) provides alternate routing capability similar to ARS-Deluxe. The difference being that AAR is used to route calls to stations on the customer's private network.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 12.3.22 .

12.3.18 Automatic Callback

The LASS Automatic Callback (AC) feature enables users to easily return the most recently received call.

Originating: No interaction

Terminating: Automatic Callback camp-on to a line with SDA active is not affected by SDA.

The SDA user is alerted to an incoming AC call by a distinctive ringing pattern if the DN of the caller is on the SDA screening list. Normal ringback ringing is always given to an SDA user for AC ringback.

This interaction is applicable to National ISDN SDA.

12.3.19 Automatic Callback-Calling

Automatic Callback-Calling (ACBC) allows the user, after reaching a busy station, to hang up and dial an activation code to activate ACBC. This feature only applies to two stations in the same Business and Residence Custom Services (BRCS)/Centrex group.

Originating: No interaction

Terminating: Automatic Callback-Calling camp-on to a line with SDA active is not affected by SDA.

The SDA user is alerted to an incoming ACBC call by a distinctive ringing pattern if the DN of the caller is on the SDA screening list. Normal ringback ringing is always given to an SDA user for ACBC ringback.

This interaction is applicable to National ISDN SDA.

12.3.20 Automatic Intercept System (Also Known as Remote Intercept System)

Automatic Intercept System (AIS) allows Class 5 offices to route calls to nonworking telephone numbers or to telephone numbers placed on trouble intercept to an AIS where they are connected to announcements and/or operators.

Originating: No interaction.

Terminating: Regardless of SDA, AIS rerouting will occur.

12.3.21 Automatic Recall

The LASS Automatic Recall (AR) feature allows users to redial the most recently called party.

Originating: No interaction

Terminating: Automatic Recall camp-on to a line with SDA active is not affected by SDA.

The SDA user is alerted to an incoming AR call by a distinctive ringing pattern if the DN of the caller is on the SDA screening list. Normal ringback ringing is always given to an SDA user for AR ringback.

This interaction is applicable to National ISDN SDA.

12.3.22 Automatic Route Selection (Also Known as Flexible Route Selection)

Automatic Route Selection (ARS) directs outgoing, business group line calls to the customer's most preferred available route.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, calls routed via ARS are subject to SDA screening and terminating treatment. The calling party number is not available for calls routed over non-SS7 private facilities. Such calls will terminate normally.

This interaction is applicable to National ISDN SDA.

12.3.23 Automatic Voice Network Interface

Automatic Voice Network (AUTOVON) Interface provides an interface with the AUTOVON network, including provisions for prioritizing call handling.

Originating: No interaction.

Terminating: Routine AUTOVON calls to an active SDA line are screened if the DN is delivered through the Defense System Network (DSN). Priority calls are not screened against the SDA screening list and will not receive distinctive ringing. See "Precedence and Preemption", Section 12.3.188, for details.

12.3.24 Basic Emergency Service (911)

Basic Emergency Service provides a 3-digit universal telephone number (911) for public use throughout the United States to report an emergency or request emergency assistance.

Originating: Because Public Service Answering Points (PSAPs) are connected to the serving tandem office via dedicated non-SS7 trunks, SDA is not compatible with these PSAPs. The PSAP does not have an SDA screening list associated with it. The SDA user can dial 911 for emergency assistance.

Terminating: Refer to "Emergency Ringback", Section 12.3.84, for ringback interactions.

12.3.25 Basic Queuing (Queuing for Lines)

Basic Queuing provides queuing for lines, call waiting lamps control, and delay announcements.

Originating: No interaction.

Terminating: An incoming caller's DN is screened on the active SDA list before it is put on the queue.

This interaction is applicable to National ISDN SDA. Queuing for lines may be assigned to an MLHG. If a queued call's DN is on the main DN SDA list, when it is de-queued, distinctive alerting should be provided to the terminal that receives the call.

12.3.26 BRCS Compatibility with ISDN

The BRCS Compatibility features ensure that many of the existing BRCS features and services function with supported ISDN station sets so that users experience equivalent, similar, or expanded circuit-switched voice service by subscribing to these ISDN BRCS features and services.

Originating/Terminating: See the individual BRCS features.

12.3.27 BRCS Feature Grouping

The BRCS Feature Grouping provides a logical grouping of features and groups that are used by business customers receiving communications services from a central office switch. This feature works with both analog BRCS and ISDN BRCS features.

Originating: This feature allows the SDA feature to be offered on a business-wide basis as opposed to a per-DN basis. The SDA feature can be placed in a BRCS Feature Group (BFG).

Terminating: No interaction.

12.3.28 Business Group Line

Business Group Line provides capabilities similar to those for individual lines, but is classed as a member of a group of business lines belonging to a single customer.

Originating: The SDA feature can be assigned to business group lines.

Terminating: No interaction.

12.3.29 Busy Line Verification

Busy Line Verification (BLV) allows an operator to complete a connection to a busy line to determine the off-hook/on-hook status of the line or if a conversation exists on the line.

Originating: No interaction.

Terminating: Busy Line Verification to an SDA line is allowed. No screening will be performed regardless of the SDA feature status.

This interaction is applicable to National ISDN SDA.

12.3.30 Call by Call Access from a 5ESS®-2000 Switch in a Private Network to Interexchange Carrier Services

This feature allows the private network customer to generate, on a per-call basis, a request for services from an interexchange carrier or local exchange carrier.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SDA screening and termination treatment.

12.3.31 Call Forwarding Busy Line

Call Forwarding Busy Line (CFBL) permits calls attempting to terminate to a busy line to be redirected to another customer-specified line.

Originating: No interaction.

Terminating: The CFBL feature takes precedence over SDA. A call to a busy line of an SDA user with SDA and CFBL active will forward via CFBL regardless of the SDA user's SDA screening list entries.

This interaction is applicable to National ISDN SDA.

12.3.32 Call Forwarding Busy Line Incoming Only

Call Forwarding Busy Line Incoming Only (CFBLIO) ensures that only incoming DID calls forward to the specified business group line.

Originating: No interaction.

Terminating: The CFBLIO feature is only operational for calls originating from outside the terminal group of the station with the CFBLIO feature. Otherwise, the interaction of CFBLIO with SDA is identical to that described in "Call Forwarding Busy Line", Section 12.3.31 .

This interaction is applicable to National ISDN SDA.

12.3.33 Call Forwarding Do Not Answer

Call Forwarding Do Not Answer (CFDA) forwards incoming calls to a station to another preselected station within the same customer group, or to the attendant, when the called station is not answered after a customer-specified number of rings.

Originating: No interaction.

Terminating: Calls forwarding to a customer via CFDA *are screened* on the basis of the originating party's DN at the remote station for both intraswitch calls and interswitch calls. Distinctive alerting is applied to the idle line of an SDA user with SDA and CFDA active if the DN of the caller is on the SDA screening list. If the calling party's DN is on the SDA list and the called user is idle with SDA and CFDA active, the call will forward to the CFDA RTN after CFDA timing expires.

This interaction is applicable to National ISDN SDA.

12.3.34 Call Forwarding Do Not Answer Incoming Only

Call Forwarding Do Not Answer Incoming Only (CFDAIO) ensures that only incoming DID calls to the business group line forward, if not answered, after a customer-specified number of rings.

Originating: No interaction.

Terminating: The CFDAIO feature is only operational for interterminal-group (incoming) calls. Otherwise, the interaction of CFDAIO with SDA is identical to that described in "Call Forwarding Do Not Answer", Section 12.3.33 .

This interaction is applicable to National ISDN SDA.

12.3.35 Call Forwarding Incoming Only

Call Forwarding Incoming Only (CFIO) forwards calls terminating from outside the group via DID.

Originating: No interaction.

Terminating: The CFIO feature is only operational for interterminal-group calls. Otherwise, the interaction of CFIO with SDA is identical to that described in "Call Forwarding Variable", Section 12.3.37 .

This interaction is applicable to National ISDN SDA.

12.3.36 Call Forwarding Over Private Facilities

Call Forwarding over Private Facilities (CFPF) is a Call Forwarding Variable (CFV) option allowing business customers to automatically forward voice calls over the outgoing private facilities access (PFA) or automatic route selection (ARS) service selected by the customer.

Originating: No interaction.

Terminating: Incoming calls over private facilities do not have the calling party's DN's available and are not screened at the user's switch. Standard termination treatment is applied to a call routed over private facilities terminating at a line with SDA active.

12.3.37 Call Forwarding Variable

Call Forwarding Variable (CFV) allows a station user to redirect calls intended for that station to another telephone.

Originating: No interaction.

Terminating: The CFV feature takes precedence over SDA. Calls forwarded to a customer with a LASS screening list via CFV (or CFBL) are screened on the basis of the originating party's DN. It is possible for a customer to have SDA active and, at the same time, have one or more of the call forwarding features active. A call to the line of an SDA user with SDA and CFV active will forward via CFV regardless of the SDA user's screening list entries.

This interaction is applicable to National ISDN SDA.

12.3.38 Call Forwarding In (Within) A Group

Call Forwarding In A Group (CFIAG) restricts DN's of forward-to numbers dialed during activation to intragroup extension numbers.

Originating: No interaction.

Terminating: See "Call Forwarding Variable", Section 12.3.37.

12.3.39 Call Hold

Call Hold (CHD) allows a station user to *hold* a call in progress by flashing and then dialing the call hold code.

Originating: Calls can be placed on hold by the SDA user regardless of the SDA screen list entries. An ISDN user at the lead station of a primary DN can activate/deactivate SDA by feature button while a call is on hold on any other call appearance.

If an analog SDA user disconnects from a party on hold, the SDA user will receive ringback to restore the connection between the held party and the CHD line. Regardless of active SDA service on a CHD line, ringback will occur.

If a call is placed on hold prior to an analog user becoming active on another call, ringback to the analog user for the held call will occur after the new call has terminated (disconnected).

After placing a call on hold, an ISDN user must select an idle call appearance before dialing the SDA access code. If Manual Exclusion is not active for the call appearance of the ISDN held call, the held call can be picked up on any multibutton telephone key set (MTKS) of a key-system group sharing the call appearance regardless of the SDA assignment to the shared DN.

This interaction is applicable to National ISDN SDA.

Terminating: No interaction.

12.3.40 Call Pickup (Also Known as Call Pickup Originating and Regular Call Pickup)

Call Pickup (CPU) allows a station user to answer any call within an associated preset pickup group.

Originating: The SDA user is able to answer a call directed (and alerted) to other stations in the same preset call pickup group regardless of the status of the SDA screening list.

Terminating: No interaction.

12.3.41 Call Tracing

Call Tracing allows central office personnel to determine the source of annoying or threatening calls or identify lines in emergency or demand situations.

Originating/Terminating: No interaction.

12.3.42 Call Transfer Attendant

Call Transfer Attendant (CTA) allows the called business group station user, while connected to a DID or private network incoming call, to transfer the call to the attendant.

Originating/Terminating: No interaction.

12.3.43 Call Transfer Individual All Calls

Call Transfer Individual All Calls (CTIAC) allows a station user to transfer any established call to another station within or outside the private branch exchange (PBX) or business group without the assistance of the attendant.

Originating: No interaction.

Terminating: The SDA user will receive distinctive ringing from a third party initiating a call transfer to the SDA station as long as the third party's DN is on the SDA station user's screening list.

This interaction is applicable to National ISDN SDA.

12.3.44 Call Transfer Individual Incoming Only

Call Transfer Individual Incoming Only (CTIIO) allows a business group station user to transfer an incoming call to another station in the same business group without assistance of the attendant.

Originating: No interaction.

Terminating: The CTIIO feature is only operational for calls arriving from outside the user's terminal group. Otherwise, the interactions between CTIIO and SDA are identical to those described in "Call Transfer Individual All Calls", Section 12.3.43.

This interaction is applicable to National ISDN SDA.

12.3.45 Call Transfer Internal Only

Call Transfer Internal Only (CTIO) allows a business group station user to transfer any established intragroup call to another station in the same customer group without the assistance of an attendant.

Originating: No interaction.

Terminating: See "Call Transfer Individual All Calls", Section 12.3.43 .

This interaction is applicable to National ISDN SDA.

12.3.46 Call Transfer Outside

Call Transfer Outside (CTO) allows a station user to add on a dial "9" off-network, common control switching arrangement (CCSA), or WATS facility to an external call. A call using CTO can be transferred to a private facility.

Originating/Terminating: No interaction.

12.3.47 Call Waiting Incoming Only

Call Waiting Incoming Only (CWIO) is a version of Call Waiting Terminating (CWT). It gives an analog station user, engaged in a telephone conversation, an audible alert indicating an incoming DID or private facility call is attempting to terminate. See "ISDN Priority Calling Incoming Only", Section 12.3.147 , for the ISDN version of CWIO.

Originating: No interaction.

Terminating: The CWIO feature is operational only for calls arriving from outside the user's terminal group. Otherwise, the interactions between CWIO and SDA are identical to those described in "Call Waiting Terminating", Section 12.3.49 .

12.3.48 Call Waiting Originating

Call Waiting Originating (CWO) allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The CWO feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active. It is automatically invoked any time a busy intragroup station is encountered. The CWO feature is only operational for intraterminal group calls.

Originating: No interaction.

Terminating: The SDA feature takes precedence over CWO for idle line terminations. An SDA user with SDA active on an idle line is alerted to a CWO call with an SDA ringing pattern if the DN of the caller is on the SDA screening list. The SDA feature does not provide the distinctive ringing pattern.

The SDA feature coupled with CWT takes precedence over CWO for busy line terminations to analog lines. An SDA user, with SDA and CWT active on a busy analog line not involved in an SLE session, receives the SDA call waiting tone for a CWO call if the DN of the caller is on the SDA screening list. If SDA is active but the calling DN does not match a screening list entry, a CWO call waiting tone will alert an analog SDA user to a CWO call. If SDA is active but CWT is not assigned to the terminating line, an SDA user is alerted to a CWO call with the CWO call waiting tone regardless of the SDA screening list entries. The CWO and SDA features are not applicable for terminations to *busy* ISDN lines.

12.3.49 Call Waiting Terminating

Call Waiting Terminating (CWT) uses a burst tone to inform a busy analog station user that another call is waiting.

Originating: No interaction.

Terminating: An SDA analog user must have CWT assigned to the line to receive the SDA call waiting tone for incoming calls. An SDA user with SDA and CWT assigned on a busy analog line will receive a CWT call waiting tone if SDA is not active or is active and the DN of the caller is not on the SDA screening list. The SDA user will receive an SDA call waiting tone if the DN of the caller is on the SDA screening list.

12.3.50 Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment

This feature allows the 5ESS®-2000 switch PBX to send the calling party number (CPN)/billing number (BN) of the originator to the public network or to another PBX on a per-trunk group basis for all calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch (whether or not originally obtained from CPN or BN data), a call to the SDA user is subject to SDA screening and termination treatment.

This interaction is applicable to National ISDN SDA.

12.3.51 Cancel Call Waiting

Cancel Call Waiting (CCW) allows a customer with Call Waiting to inhibit the application of the call waiting tone for the duration of one call.

Originating/Terminating: No interaction.

12.3.52 Carrier Interconnection

Carrier Interconnection provides an interface between the local exchange, inter-LATA, and interexchange carriers.

Originating: No interaction.

Terminating: Carrier Interconnection does not provide a means of delivering a calling party number for SDA screening.

12.3.53 Centrex Complex

Centrex Complex associates multiple business groups in a single switch with a single common *Complex*. All business groups in the complex share intercom calling privileges, yet may have separate private facility groups or separate dialing plans.

Originating: No interaction.

Terminating: The SDA feature takes precedence over Centrex Complex. A call arriving via the Centrex Complex dialing plan is screened at the active SDA station. A Centrex Complex can have SDA assigned to it.

12.3.54 Code Calling

Code Calling allows attendants and station users to dial an access code and a 2- or 3-digit called party code to activate signaling devices with a coded signal corresponding to the called code.

Originating/Terminating: See "Directed Call Pickup with Barge-in", Section 12.3.76 .

12.3.55 Code Restriction

Code Restriction blocks outgoing calls to customer-specified codes [numbering plan area (NPA), NXX].

Originating/Terminating: No interaction.

12.3.56 Signaling System 7 Network Interconnect

Signaling System 7 Network Interconnect (SS7 NI) provides an out-of-band signaling interface between local exchange carrier and interexchange carrier networks.

Originating: No interaction.

Terminating: Network Interconnect can also provide the calling party DN for calls incoming to the user from outside the LATA. The assigned DN's switch must support this capability. A call incoming via the SS7 network is subject to SDA screening.

This interaction is applicable to National ISDN SDA.

12.3.57 Common Control Switching Arrangement Access

Common Control Switching Arrangement (CCSA) Access provides access to the customer's CCSA network.

Originating: No interaction.

Terminating: Calls arriving from CCSA trunks do not have the calling party DN available and cannot be screened at the active SDA station. Normal termination will occur.

This interaction is applicable to National ISDN SDA.

12.3.58 Computer Access Restriction

Computer Access Restriction (CAR) allows the customer to restrict access to a computer connected through a modem to the telephone line. The CAR feature, operational only for voice calls, is not operational for ISDN packet-switched or circuit-switched data calls.

Originating: No interaction.

Terminating: The CAR feature takes precedence over SDA. If a customer has both SDA and CAR active, the CAR screening list is checked before the SDA screening list.

This interaction is applicable to National ISDN SDA.

12.3.59 Conference Calling Six-Way (Also Known as Station Dial Conference)

Conference Calling Six-Way allows a station user to establish a conference call involving up to five other parties without attendant assistance.

Originating: If the SDA customer has Conference Calling active, the SDA access code will be accepted after all called parties have been placed on hold.

Terminating: The controller's DN is screened against the SDA lists of all parties added to the conference call. For noncontrolling parties, the use of six-way calling does not in any way restrict the special call waiting capabilities of SDA when the customer has standard call waiting. The SDA user receives the special call waiting treatment whether or not the SDA user is in a talking state with the controller. A flash is not interpreted as a request for conference service if the caller is not the initiator of a six-way call, has call waiting, and receives a call waiting call as a result of having SDA active. In this respect, SDA takes precedence over six-way calling. If a noncontrolling party does not have SDA but has CW active, that party can receive call waiting treatment when in a talking or held state.

The controlling party of a six-way conferencing call cannot be call waited and will not receive special call waiting treatment.

This interaction is applicable to National ISDN SDA.

12.3.60 Critical Interdigit Timing

Critical Interdigit Timing is activated when the digits received provide sufficient information to complete a call, but the possibility of receiving additional valid digits exists.

Originating: Standard interdigit dialing applies to the dialing of the SDA access code.

This interaction is applicable to National ISDN SDA.

Terminating: No interaction.

12.3.61 Customer Access Treatment Code Restriction

Customer Access Treatment (CAT) Code Restriction allows the creation of subgroups in a business group to provide additional restriction or access functions.

Originating: The CAT codes can be used to restrict SDA activation/deactivation.

This interaction is applicable to National ISDN SDA.

Terminating: No interaction.

12.3.62 Customer-Changeable Speed Calling

Customer-Changeable Speed Calling (CCSC) allows customers to assign their own speed calling codes directly and immediately from their own telephone by dialing a change speed calling list access code, an abbreviated code, and a new telephone number.

Originating: The SDA access code is allowed as a legitimate speed calling list entry. The SDA access code can be assigned to a speed calling feature button.

Terminating: No interaction.

12.3.63 Customer Dialed Account Recording

Customer Dialed Account Recording (CDAR) allows a business group customer to associate a personal account number with a given call and have it recorded on the AMA record. The customer can use this record for allocating charges on both outgoing and incoming calls.

Originating: The same ACCT treatment as described in "Account Codes", Section 12.3.5, applies to CDAR.

This interaction is applicable to National ISDN SDA.

Terminating: No interaction.

12.3.64 Customer-Originated Trace

Customer-Originated Trace (COT) lets the terminating party request an automatic trace of the last call received.

Originating: Only calls alerting the SDA user can be traced when the SDA user invokes the Customer-Originated Trace feature.

Terminating: No interaction.

12.3.65 Customer Station Rearrangement via Remote Memory Access System

Customer Station Rearrangement (CSR) via remote memory access system (RMAS) allows business customers to make changes affecting their telephone service from an on-premises terminal.

Originating: The CSR user can activate and deactivate SDA. The SDA screening list cannot be edited via CSR.

Terminating: No interaction.

12.3.66 Delayed Announcement for Queued Calls on Hunt Group

Delayed Announcement for Queued Calls on Hunt Group allows a customer-generated automatic announcement for multiline groups with queuing.

Originating: No interaction.

Terminating: The Delayed Announcement for Queued Calls on Hunt Group feature takes precedence over the SDA feature. Only calls that are allowed to terminate at the station of the SDA user are queued. This feature provides a customer-generated automatic announcement for multiline hunt groups with queuing regardless of the SDA feature status.

12.3.67 Deluxe Automatic Route Selection

Deluxe Automatic Route Selection (DARS) extends the choice of private routes for each NPA/NXX to 16 versus 4 for basic ARS.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 12.3.22 .

12.3.68 Deluxe Queuing

Deluxe Queuing is composed of the following two parts: Priority Queuing and Ringback Queuing.

Originating/Terminating: See "Basic Queuing", Section 12.3.25 .

12.3.69 Dial Access to ISDN Attendant

Dial Access to ISDN Attendant provides dial access from the station to the ISDN attendant within the customer group.

Originating/Terminating: No interaction.

12.3.70 Dial Access to Private Facilities

Dial Access to Private Facilities (DAPF) lets a customer choose to terminate the private facilities at the central office and access those facilities by dialing a unique access code per facility.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SDA customer cannot be screened. That is, the original calling party's DN is not available. Normal termination will apply.

This interaction is applicable to National ISDN SDA.

12.3.71 Dial Call Waiting

Dial Call Waiting (DCW) allows an originating business group station to invoke call waiting service on selected

intragroup calls by dialing an access code followed by the extension number of the station to be call waited. Dial Call Waiting allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The DCW feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations if all unreserved call appearances of the ISDN station are active.

Originating: No interaction.

Terminating: The SDA feature takes precedence over DCW for idle line terminations. An SDA user with SDA active on an idle line is alerted to a DCW call with an SDA ringing pattern if the DN of the caller is on the SDA screening list.

The SDA feature coupled with CWT takes precedence over DCW for busy line terminations to analog lines. An SDA user, with SDA and CWT active on a busy analog line not involved in an SLE session, receives the SDA call waiting tone for a DCW call if the DN of the caller is on the SDA screening list. If SDA is active but the calling DN does not match a screening list entry, the DCW call waiting tone alerts the SDA user to the DCW call. If SDA is active but CWT is not assigned to the terminating line, the SDA user is alerted to a DCW call with the DCW call waiting tone regardless of the SDA screening list entries.

The DCW and SDA features have no application for terminations to *busy* ISDN lines.

12.3.72 Dial Pulsing

Dial Pulsing provides the capability to transmit and receive direct current address signals between offices.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SDA customer cannot be screened. That is, the original calling party's DN is not available. Normal termination will apply.

12.3.73 Dial Through Attendant

Dial Through Attendant (DTA) allows a station user to complete the dialing on other than station-to-station calls after the attendant selects the private facility on attendant handled calls.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 12.3.22 .

This interaction is applicable to National ISDN SDA.

12.3.74 Dial Transfer to Tandem Tie Line

Dial Transfer to Tandem Tie Line makes the Call Transfer feature compatible with tie lines (trunks). After flashing, a station user with normal access to tie lines can dial a call through the tie line and transfer the original call to it.

Originating: No interaction.

Terminating: See "Call Transfer Individual All Calls", Section 12.3.43 .

12.3.75 Direct Connect

Direct Connect automatically places a call to a preselected called number when a station goes off-hook.

Originating: No interaction.

Terminating: A call via Direct Connect is screened at the active SDA station user if the calling party DN is available.

The SDA feature can be assigned to a direct connect line, but the screening list must be built and maintained through recent change.

This interaction is applicable to National ISDN SDA.

12.3.76 Directed Call Pickup with Barge-In

Directed Call Pickup with Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, barge-in alert tone is provided and a three-way call is established.

Originating: The SDA user is able to answer a call directed (and alerted) to other stations in the same preset call pickup group regardless of the SDA feature status.

Terminating: This feature allows other stations in the same preset call pickup group to pick up a call that alerts (rings) an SDA user.

This interaction is applicable to National ISDN SDA.

12.3.77 Directed Call Pickup without Barge-In

Directed Call Pickup without Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, the party dialing the pickup code is routed to reorder rather than permitted to barge-in on the established connection and create a three-way call.

Originating/Terminating: See "Directed Call Pickup with Barge-in", Section 12.3.76 .

12.3.78 Distinctive Ringing

Distinctive Ringing (DR) applies a distinctive ringing or call waiting tone pattern enabling a station user to determine the source of an incoming call.

Originating: No interaction.

Terminating: Excluding DR associated with Precedence and Preemption (PP) calls, SDA takes precedence over all DR features for idle line call terminations. Calls made with PP precedence are not subject to SDA screening. An SDA user on an idle one with any active DR feature not associated with PP precedence calls is alerted to an incoming non-PP precedence call with an SDA ringing pattern if the DN of the caller is on the SDA screening list.

Excluding DR associated with PP precedence calls, SDA coupled with CWT takes precedence over all DR features for busy analog line call terminations. An SDA user on a busy analog line with any active DR feature not associated with PP precedence calls receives an SDA call waiting tone for an incoming non-PP precedence call if the DN of the caller is on the SDA screening list. The SDA call waiting tone is not applied to an analog line involved in an SLE session or that does not have CWT assigned. The SDA feature is not applicable for busy ISDN lines.

12.3.79 Dual Call Coverage (Also Known as Dual Telephone Coverage)

Dual Call Coverage allows calls originating internal to a customer's terminal group to route to a message center other than the one servicing outside calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via Dual Call Coverage is subject to SDA screening and termination treatment. The SDA feature cannot be used for Dual Call Coverage call redirection.

12.3.80 Electronic Tandem Switching Trunk Access (Also Known as Access to ETS Trunks)

Electronic Tandem Switching Trunk Access provides access to a customer's ETS facilities on a distant switch.

Originating: No interaction.

Terminating: Calls arriving via electronic tandem network (ETN) trunks do not have the calling party's DNs available and are not screened at the active SDA station. Standard terminating treatment will apply.

12.3.81 Electronic Tandem Switching on Primary Rate Interface Trunks

The ETS on PRI Trunks feature allows the 5ESS[®]-2000 switch to provide ETN trunking between a 5ESS[®]-2000 switch central office node and one or more digital PBX nodes in an ETN.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SDA screening and termination treatment.

12.3.82 Electronic Tandem Network Interworking in the 5ESS[®]-2000 Switch Private Network Environment

This feature gives the 5ESS[®]-2000 switch private network customer, currently using the Electronic Tandem Switching (ETS) feature, expanded capabilities using the primary rate interface (PRI) to connect multiple private ETN nodes.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SDA screening and termination treatment.

12.3.83 Emergency Access to ISDN Attendant

Emergency Access to ISDN Attendant allows a station user to dial an emergency code to gain immediate access to the attendant.

Originating/Terminating: No interaction.

12.3.84 Emergency Ringback

Emergency Ringback is associated with the basic 911 emergency service used to recall a customer station immediately following disconnect from, and at the request of, an emergency bureau.

Originating: Emergency Ringback takes precedence over SDA. Emergency Ringback calls are not screened for SDA termination treatment.

Terminating: No interaction.

12.3.85 Enhanced Private Switched Communications Service Access

Enhanced Private Switched Communications Services (EPSCS) Access provides the ability to terminate access lines to the EPSCS switch.

Originating: No interaction.

Terminating: Calls arriving from EPSCS trunks do not have the calling party DN available and cannot be screened at the active SDA station. Standard terminating treatment will apply.

This interaction is applicable to National ISDN SDA.

12.3.86 Expensive Route Warning Tone

Expensive Route Warning Tone (ERWT) indicates when a more expensive route is about to be used.

Originating/Terminating: No interaction.

12.3.87 Facility Restriction Level

Facility Restriction Level (FRL) defines the calling privileges associated with a line.

Originating/Terminating: No interaction.

12.3.88 Feature Code Definition

The Feature Code Definition is the access code defined by the service provider which allows the SDA user to access the SDA feature.

Originating: The service provider is allowed to change the SDA feature access code.

This interaction is applicable to National ISDN SDA.

Terminating: No interaction.

12.3.89 Flexible Night Service (Also Known as Attendant Call Forwarding)

Flexible Night Service (FNS) routes calls normally directed to the attendant group to a different location (night location, also known as a night directory number).

Originating: No interaction.

Terminating: See "ISDN Attendant Night Service", Section 12.3.118 .

This interaction is applicable to National ISDN SDA.

12.3.90 Foreign Exchange Line

Foreign Exchange (FX) Line provides line termination in a central office different from the line providing service to the customer.

Originating: No interaction.

Terminating: Calls arriving from FX lines do not have the calling party DN available. These calls cannot be screened at the active SDA station. Standard terminating treatment will apply.

This interaction is applicable to National ISDN SDA.

12.3.91 Four- and Eight-Party

Four- and Eight-Party provides POTS for up to four or eight customers sharing the same line.

Originating: The SDA feature cannot be assigned on four- and eight-party lines.

Terminating: No interaction.

12.3.92 Fully Restricted Originating and Terminating

Fully Restricted Originating and Terminating (FROT) provides the ability to deny a station's ability to originate and/or receive calls to or from outside the business group. It also blocks "dial 0" calls to an attendant and calls from an attendant to the station.

Originating: No interaction

Terminating: Fully Restricted Terminating takes precedence over SDA. An SDA user who is fully restricted terminating can only screen calls from other members of the same group. Termination of calls to a fully restricted terminating user from outside the user's terminal group is prevented by the Fully Restricted Terminating feature and these calls will not be screened by SDA.

This interaction is applicable to National ISDN SDA.

12.3.93 Home Intercom (Also Known as Home Intercom/Single Line Variety Package)

Home Intercom/Single Line Variety Package (HI/SVP) allows the HI/SVP user to ring all telephone sets (extensions) associated with the line by dialing specified codes from the station.

Originating: An SDA user can use the HI/SVP feature to ring his/her extensions.

Terminating: Since an HI/SVP call is not originated by another caller, the switch will not invoke the SDA service. That is, when a Home Intercom user dials a special code to ring other extensions on the line, the call is not screened.

12.3.94 Hunt Group Transfer for Circuit-Switched Data Calls

This feature allows circuit-switched data (CSD) calls to a CSD multiline hunt group (MLHG) to forward to a second CSD MLHG.

Originating/Terminating: No interaction.

12.3.95 In-Progress Call Tracing

In-Progress Call Tracing is one type of Call Tracing feature that identifies a call in progress.

Originating: No interaction.

Terminating: See "Call Tracing", Section 12.3.41 .

12.3.96 Individual Calling Line Identification Calling Number Delivery (Analog)

Individual Calling Line Identification (ICLID) Calling Number Delivery transmits data on an incoming call to the terminating station set.

Originating/Terminating: No interaction.

12.3.97 Individual Calling Line Identification Directory Number Privacy

Individual Calling Line Identification (ICLID) Directory Number Privacy (DNP) allows the calling party to prevent delivery of the origination DN to the terminating station set.

Originating: No interaction.

Terminating: Calls from DN's with a privacy restriction preventing display of the calling number are screened for SDA termination treatment in the same manner as calls from DN's without the calling number display restriction.

12.3.98 Individualized Dialing Plan

The Individualized Dialing Plan (IDP) feature allows digits to be interpreted according to the IDP of the customer instead of the office dialing plan (ODP) and/or the standard office abbreviated dialing list.

Originating: In the case of ISDN, no SDA button depressions are allowed during the second dial tone after dialing the escape to POTS access code; such as *9. If the user escapes to POTS, the SDA access code defined in the ODP must be used.

The LASS Dialed Code Restrictions on IDP Users feature affects access to LASS features AC, AR, COT, ICLID, CND, PCP, SCA, SCR, CAR, SCF, and SDA. This feature is an optioned feature available on an SM basis via the Secured Feature Upgrade View (View 8.22). The LASS Dialed Code Restrictions on IDP Users feature, controls dial code access to LASS features for IDP users. The default value for this feature is disabled (inactive). When this feature is disabled, IDP users can use the access codes defined in their IDP in addition to the ODP defined dialed access codes to access LASS features. Using an ODP defined dial access code for access to a LASS feature by an IDP user may require the dialing of an IDP defined "escape to POTS access code" (9, or *9) immediately prior to dialing the ODP defined access code. Dialing of an ODP defined access code directly (not preceded by an escape to POTS code) is allowed if the error treatment for the user's IDP has been set to use the office code on RC View 9.10.

When the LASS Dialed Code Restrictions on IDP Users feature is enabled (active), an IDP user cannot use an ODP defined dial access code to access a LASS feature. The ODP defined dial access code cannot be used whether or not the ODP LASS code is preceded by an escape to POTS code and regardless of the error treatment for the user's IDP group. Reorder tone is returned to an IDP user after an ODP access code is dialed to access a LASS feature.

Additionally, with this feature enabled, neither an ODP nor an IDP defined dial access code for a LASS feature will be accepted by the 5ESS®-2000 switch at any time after an escape to POTS code has been dialed by an IDP user in a single, off-hook dialing scenario. However, an IDP user can dial an escape to POTS code followed by an automatic route selection (ARS), authorization, or an account code prior to the dialing of an IDP (but not ODP) LASS code. Dialing an ARS, authorization, or account code in conjunction with an IDP LASS dialed access code is allowed regardless of the activation status of the LASS Dialed Code Restrictions on IDP Users feature.

The LASS Dialed Code Restrictions on IDP Users feature requires dialed codes used for access to LASS features to be defined in the IDP. Except for ARS, authorization, or account codes, activation of this optioned feature requires that access to non-LASS features allowed to be dialed prior to the LASS access codes must also be defined in the IDP. This allows IDP users to use non-LASS features in conjunction with LASS features.

Terminating: Calls from parties overriding their dialing plan are screened by SDA.

12.3.99 Inspect for ISDN Terminals

Inspect for ISDN Terminals retrieves and displays call-related information about any call appearance having a call associated with it. Inspect also displays feature button identification.

Originating: When the Inspect feature is used to inspect the SDA feature button, *Selective distinctive alert on/off* is displayed.

Terminating: Independent of whether SDA is active or inactive, the SDA user can retrieve call-related information about any call appearance having a call associated with it. If the SDA user is in an Inspect session and presses the

SDA feature button, the SDA feature status will not be affected, but the Inspect information associated with SDA feature button will be displayed. If the user presses the SDA feature button and then presses the Inspect button, the display information associated with the Inspect session may overwrite the display information associated with the SDA feature button for Lucent Technologies customer premises equipment. Other CPE may respond differently.

This feature is not supported on standard BRI for National ISDN SDA.

12.3.100 Intercom Calling Restriction

Intercom Calling Restriction counts and limits the number of intercom calls that can be in progress at any one time within a customer group. It also sets a maximum total simultaneous call volume that includes intercom and calls external to the customer group.

Originating/Terminating: No interaction.

12.3.101 Intercom Dialing

Intercom Dialing, in conjunction with the special dialing plan, permits station users in the business group to place calls to each other on a 1- to 7-digit basis.

Originating: No interaction.

Terminating: Calls arriving via intercom dialing are screened against the active SDA screening list.

This interaction is applicable to National ISDN SDA.

12.3.102 Intra-LATA Presubscribed Inter-LATA Carrier (Intra-LATA PIC)

The Intra-LATA PIC capability allows the Local Exchange Carrier (LEC) to open up certain Intra-LATA toll routes which were previously handled exclusively by the LEC, to competition on an equal access basis between the LEC and Inter-LATA Carriers (ICs).

The Intra-LATA PIC capability allows a subscriber to presubscribe to an Intra-LATA Toll Carrier (PTC) that handles all of his/her Intra-LATA Toll traffic (7 digit or 10 digit calls with or without a "1/0" prefix), if dialed without a 10XXX (or 101XXXX) prefix, but which may or may not be the same as the Presubscribed Inter-LATA Carrier (PIC).

Originating: The ability to add an Intra-LATA Toll number to a screening list of an SLE feature (such as, Selective Distinctive Alerting, Selective Call Forwarding, etc.) will not be affected by whether the INTER LATA SCREEN field on RC/V View 8.21 is set to Y or N. The ability to add an Intra-LATA (Local or Toll) number to a screening list of an SLE feature will not be affected by whether calls made by the SLE feature subscriber are carried by the LEC or an IC.

Terminating: SDA will work properly with incoming Intra-LATA PIC calls provided that the calling number is delivered. However, if the LEC does not transmit the calling party number to the IC or the IC does not transmit the calling party number to the LEC, then SDA will not work properly. Note that the CPN SUBSC option on RC/V View 10.2 can be used to allow/disallow passing of the SS7 Calling Party Number parameter to an IC.

12.3.103 Intermodule Trunking

Intermodule Trunking provides trunking between modules connected to the same base 5ESS[®]-2000 switch.

Originating: No interaction.

Terminating: The SDA feature should work the same way on calls over Intermodule Trunking as it does on calls over regular interoffice trunks.

12.3.104 Intraswitch/Interswitch Calling Party Number/Billing Number Optioning to Terminating User

This feature allows the terminating PRI or BRI user to request delivery of the calling party number or billing number on an *exclusive* or *preferred* basis on every call for circuit-switched voice/data calls.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch (whether or not originally obtained from CPN or BN data), a call to the SDA user is subject to SDA screening and termination treatment.

12.3.105 ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants

The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature allows a supervisor, or attendant, to display data about an attendant position.

Originating/Terminating: No interaction.

12.3.106 ISDN Attendant Busy Verification of Lines and Trunks

The ISDN Attendant Busy Verification of Lines and Trunks feature allows an attendant to determine whether a line or trunk within the same customer group is busy or idle.

Originating: No interaction.

Terminating: See "Busy Line Verification", Section 12.3.29 .

12.3.107 ISDN Attendant Call Hold

The ISDN Attendant Call Hold feature allows the ISDN attendant to hold a call in progress to originate another call, or pick up a call on hold.

Originating/Terminating: No interaction.

12.3.108 ISDN Attendant Call Splitting

The ISDN Attendant Call Splitting feature allows the ISDN attendant to consult privately with the called party without the calling party hearing.

Originating: No interaction.

Terminating: See "Attendant Call Transfer", Section 12.3.8 .

12.3.109 ISDN Attendant Call Transfer

The ISDN Attendant Call Transfer feature is the ISDN version of Attendant Call Transfer.

Originating: No interaction.

Terminating: See "Attendant Call Transfer", Section 12.3.8 .

12.3.110 ISDN Attendant Camp-On

The ISDN Attendant Camp-On feature is the ISDN version of the Attendant Camp-On feature. It allows calls that the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating: No interaction.

Terminating: See "Attendant Camp-on", Section 12.3.9 .

12.3.111 ISDN Attendant Conference Calling

The ISDN Attendant Conference Calling feature allows the attendant to set up conference calls with any combination of extensions or trunks on the internal conference bridge. The maximum number of parties on the conference call is limited to the capacity of the multiport conference circuit.

Originating: No interaction.

Terminating: See "Attendant Conference Six-Way", Section 12.3.10 .

12.3.112 ISDN Attendant Control of Facilities

The ISDN Attendant Control of Facilities feature is the ISDN version of ACOF.

Originating: See "Attendant Control of Facilities", Section 12.3.11 .

Terminating: No interaction.

12.3.113 ISDN Attendant Control of Voice Terminals

The ISDN Attendant Control of Voice Terminals (ACVT) feature enables an attendant to impose an originating or terminating restriction (or both) on a DN or group of DNs. The ACVT feature routes calls destined for a line or group of lines to the attendant for handling. It is activated by the attendant or automatically by the switch.

Originating: No interaction.

Terminating: The ACVT feature takes precedence over SDA. This feature routes calls destined for an SDA line to the attendant for handling regardless of the SDA feature status.

12.3.114 ISDN Attendant Direct Station Selection

The ISDN Attendant Direct Station Selection (DSS) feature allows the attendant to display the status of up to 10,000 DNs in 100 groups of 100 contiguous DNs starting at 00.

Originating: No interaction.

Terminating: See "Attendant Direct Station Selection", Section 12.3.12 .

12.3.115 ISDN Attendant Emergency Override

The ISDN Attendant Emergency Override (AEO) feature allows the attendant to complete incoming calls to stations as follows:

- Calls that are busy from setting the make-busy key
- Calls that have a series completion or multiline hunt arrangement
- Calls with Call Forwarding active
- Calls with terminating restrictions.

Originating: No interaction.

Terminating: The AEO feature takes precedence over SDA. That is, AEO calls do not undergo SDA screening.

12.3.116 ISDN Attendant Incoming Call Identification

The ISDN Attendant Incoming Call Identification feature allows an attendant to identify the type of facility over which an incoming call to the attendant was routed.

Originating/Terminating: No interaction.

12.3.117 ISDN Attendant Make-Busy Key

Originating/Terminating: No interaction.

12.3.118 ISDN Attendant Night Service

The ISDN Attendant Night Service feature routes calls directed to the ISDN attendant to a different station.

Originating: No interaction.

Terminating: When a call is forwarded via ISDN Attendant Night Service from an attendant's line to a line with SDA active, the DN of the original caller is compared with DNs on the SDA screening list.

12.3.119 ISDN Attendant Position Busy

The ISDN Attendant Position Busy feature allows the position to be made busy by the attendant. When the attendant position is made busy in a single position arrangement, new calls to the position receive busy treatment. In a multiple position arrangement, new calls are directed to a different console position.

Originating/Terminating: No interaction.

12.3.120 ISDN Attendant Selective Customer Control of Facilities

The ISDN Attendant Selective Customer Control of Facilities (ASCCOF) feature allows an attendant to deny access to a trunk or simulated facility group.

Originating/Terminating: No interaction.

12.3.121 ISDN Attendant Through Dialing

The ISDN Attendant Through Dialing feature allows an attendant to access an outgoing facility for a calling party within the group who has restrictions or difficulty in placing an outgoing call.

Originating/Terminating: No interaction.

12.3.122 ISDN Attendant Traffic

The ISDN Attendant Traffic feature provides the traffic counts for each attendant console position.

Originating/Terminating: No interaction.

12.3.123 ISDN Attendant Trunk Identification

The ISDN Attendant Trunk Identification feature provides a display of the trunk group and member number of the

incoming or outgoing trunk in use at the request of the attendant or automatically on incoming trunk calls.

Originating/Terminating: No interaction.

12.3.124 ISDN Automatic Customer Station Rearrangement

The ISDN Automatic Customer Station Rearrangement (ACSR) feature allows users to rearrange their DN's automatically when an ISDN station set is moved.

Originating: Users with the ACSR feature will be able to retain the SDA feature status and associated screening lists when the DN is relocated. Once the ACSR update is applied by the switch, the feature status will be the same as before the move. Screening lists will also be the same.

In the interim period between ACSR invocation and application of the update by the switch, access to SLE will be denied and previously activated SDA features will be inoperable (for example, incoming calls will not be screened).

Depressions of the SDA feature button during an active ACSR session are ignored.

Terminating: No interaction.

12.3.125 ISDN Automatic-Hold/Drop Preference

The ISDN Automatic-Hold/Drop Preference feature automatically determines how to handle a call active on one call appearance when the user shifts to another appearance. Two types of treatment are provided: automatic-drop and automatic-hold.

Originating/Terminating: No interaction.

This feature is not supported on standard BRI for National ISDN SDA.

12.3.126 ISDN Basic Message Service

The ISDN Basic Message Service (BMS) feature

Originating: No interaction.

Terminating: A call to a line with SDA and BMS active can be routed to a message service system (MSS) center via SCF, SCA, CFV, CFBL, or CFDA regardless of the SDA screening list entries for the called line.

12.3.127 ISDN Bridging

The ISDN Bridging feature allows the multibutton key system (MBKS) set user to bridge onto a currently active call by pressing the active call appearance button on the MBKS set and going off-hook. This establishes a three-way call. This is different from standard Three-Way Calling because the third party initiates the bridge to the active call. Bridging is inhibited if Manual Exclusion is activated at an MBKS set engaged in the active call.

Originating: No interaction.

Terminating: If a user activates bridging onto an active call, no screening will be done against the SDA screening list.

12.3.128 ISDN Customer Station Rearrangement via **MACSTAR®** I and II Software

The ISDN Customer Station Rearrangement via **MACSTAR®** I and II software feature expands the Manual Customer Station Rearrangement (CSR) capabilities to include customer control over the ISDN feature.

Originating: No interaction.

Terminating: See "Customer Station Rearrangement via Remote Memory Access System", Section 12.3.65 .

12.3.129 ISDN Delayed and Abbreviated Ringing

The ISDN Delayed and Abbreviated Ringing (DAR) feature alerts an MBKS set for a predetermined interval before ringing another designated MBKS set.

Originating: No interaction.

Terminating: For a call allowed to terminate to a shared DN with DAR and SDA active, the ISDN terminals sharing the DN receive delayed and abbreviated ringing conforming to the SDA ringing pattern if the DN of the caller is on the SDA screening list.

12.3.130 ISDN Drop

The ISDN Drop feature allows the MBKS set user to drop the last party added to a conference call. For a 2-party call, pressing this button disconnects the MBKS set from the call.

Originating/Terminating: No interaction.

12.3.131 ISDN Electronic Directory Service Autocall (Also Known as Automatic Call Setup)

The ISDN Electronic Directory Service Autocall feature allows ISDN station users able to access the applications processor directly to place a call to the party associated with a query display by pressing the appropriate button.

Originating: No interaction.

This feature is not supported on standard BRI for National ISDN SDA.

Terminating: Calls placed via Autocall are screened by SDA.

12.3.132 ISDN Electronic Directory Service Calling Name Display

The ISDN Electronic Directory Service Calling Name Display (CND) feature gives the calling party's name and telephone number to the called party.

Originating: No interaction.

This feature is not supported on standard BRI for National ISDN SDA.

Terminating: Calling Name Display provides the calling party's name and telephone number to the SDA user regardless of the SDA feature status.

12.3.133 ISDN Electronic Directory Service Directory Query Display/Autocall

The ISDN Electronic Directory Service Directory Query Display (DQD) allows the user to query the electronic directory data base for a name using the ISDN station set. The user can generate an Autocall by pressing the appropriate button.

Originating: Independent of whether SDA is active or inactive, the SDA user can query the directory data base for a name. The SDA user can then generate an Autocall by pressing the appropriate button. If the SDA user is in a DQD session and presses the SDA feature button, the display information associated with SDA is not sent. If the user presses the SDA feature button and then presses the DQD button, the display information associated with the DQD session may overwrite the display information associated with the SDA feature button.

Terminating: No interaction.

12.3.134 ISDN Electronic Directory Service Query Service (Also Known as Application Processor Query Service)

The ISDN Electronic Directory Service Query Service allows a user to query the applications processor (AP) directory using a video display terminal for call and personnel information on a per-customer group basis.

Originating/Terminating: No interaction.

12.3.135 ISDN Hold

The ISDN Hold feature allows the MBKS set user to place a call on hold by pressing the function button. Any MBKS set with a call appearance for call on hold can pick up the call by pressing the call appearance button.

Originating/Terminating: No interaction.

12.3.136 ISDN ICLID Calling Number Delivery

This feature provides calling party data on calls originated from both analog and digital lines on the same 5ESS®-2000 switch for ISDN subscribers and attendants. The ICLID feature is an enhancement to the ISDN intraswitch ICLID feature, which is available only to ISDN users with display station sets.

Originating: No interaction.

Terminating: The SDA feature will not prevent the display of ISDN ICLID data.

If any routing (forwarded or not) has been interswitch, only the original calling party DN, if available to the terminating switch, is sent for display to the terminal of an ICLID and SDA customer receiving an incoming call.

The ISDN ICLID data is sent to the terminals of ISDN ICLID and SDA customers in the NORMAL display mode. Display data associated with the activation or deactivation of an SDA feature by feature button is sent to the terminals of SDA customers with the display capability in the MISCELLANEOUS display mode. The ISDN ICLID displays have lower precedence than the SDA feature and, therefore, will be overwritten by SDA displays.

12.3.137 ISDN Initiated Priority Calling

The ISDN Initiated Priority Calling (IPC) feature provides the ISDN equivalent of Dial Call Waiting.

Originating: No interaction.

Terminating: See "Dial Call Waiting", Section 12.3.71 .

12.3.138 ISDN Manual Exclusion

The ISDN Manual Exclusion feature allows an MBKS set user to inhibit other stations from picking up a call on hold or bridging onto a call that is active at that station.

Originating/Terminating: No interaction.

12.3.139 ISDN Message Service Automatic Call Setup (Also Known as Autocall)

The ISDN Message Service Automatic Call Setup feature allows ISDN clients with the Message Retrieval Display or Direct Access to Message Data Base feature to automatically set up a call to the directory number being displayed during the retrieval session.

Originating: No interaction.

Terminating: Calls placed via Autocall are screened by SDA.

12.3.140 ISDN Message Service Message Retrieval Display

The ISDN Message Service Message Retrieval Display (MRD) allows ISDN station users to directly retrieve their Message Service Center or Leave Word Calling messages independent of whether SDA is active or inactive.

Originating: Independent of whether SDA is active or not, the SDA user can retrieve his/her Message Service Center or Leave Word Calling messages using MRD. The SDA user can generate an Autocall by pressing the appropriate button. If the SDA user is in an MRD session and presses the SDA feature button, the display information associated with SDA may not display since it is sent in the MISCELLANEOUS display mode while the terminal is in the higher precedence MRD display mode. If the user presses the SDA feature button and then presses the MRD button, the display information associated with the MRD session may overwrite the display information associated with the SDA feature button.

Terminating: No interaction.

12.3.141 ISDN Multiple Call Appearances

The ISDN Multiple Call Appearances (MCA) feature allows an MBKS set to have more than one DN button assigned to the same DN. Incoming calls for this DN are handled in much the same way as Series Completion. A hunt is made for an idle call appearance of the called DN when a call is made to a DN that has multiple call appearances on an MBKS set.

Originating/Terminating: No interaction.

12.3.142 ISDN Multiple DNs

The ISDN Multiple DNs feature assigns multiple directory numbers to a terminal.

Originating: The SDA feature can be assigned to each DN of an ISDN multiple DN terminal. However, feature button use for SDA only applies to the terminal's primary DN.

Terminating: No interaction.

12.3.143 ISDN Number of Calls on Queue (Attendant)

Number of Calls on Queue can display each ISDN incoming call identification (ICI) type. By repeating the request, the attendant can display all ICI queues.

Originating/Terminating: No interaction.

12.3.144 ISDN Number of Calls on Queue (MLHG)

Originating: If the SDA user is active and the MLHG Queue status is requested, the MLHG Queue status display takes precedence and will overwrite the existing SDA display. The SDA display data will not be sent to the terminal while the Queue status is active. The SDA display data will not appear on the user's terminal while the Queue status is active.

Terminating: No interaction.

12.3.145 ISDN Originating Priority Calling

The ISDN Originating Priority Calling (OPC) feature provides the ISDN equivalent of Call Waiting Originating.

Originating: No interaction.

Terminating: See "Call Waiting Originating", Section 12.3.48 .

12.3.146 ISDN Outgoing Called Line Identification

The ISDN Outgoing Called Line Identification (OCLID) feature provides a user originating a call with information about the called party and the facility or destination. Facility and call destination information are provided via the ISDN ICI call types.

Originating: If an SDA user has OCLID, is on a call, and presses the SDA feature button, the display information associated with SDA will be sent and the OCLID data will be overwritten since OCLID displays are sent in the NORMAL display mode and SDA displays are sent in the MISCELLANEOUS display mode.

Terminating: No interaction.

12.3.147 ISDN Priority Calling Incoming Only

The ISDN Priority Calling Incoming Only (PCIO) feature is the ISDN equivalent of the Call Waiting Incoming Only feature. With this feature, calls outside the business group can terminate to an idle call appearance reserved for incoming calls (calls from outside the terminal group) when all unreserved call appearances are active.

Originating: No interaction.

Terminating: The SDA feature takes precedence over Priority Calling Incoming Only feature. An incoming call via Priority Calling Incoming Only is screened against SDA before it alerts the SDA user. If the incoming DN is on the SDA screening list, the call will distinctively alert the SDA user.

12.3.148 ISDN Shared Call Appearances of a Directory Number

The ISDN Shared Call Appearances of a Directory Number feature allows several MBKS station sets to share one or more DNs.

Originating: When a DN has shared ISDN call appearances and has SDA assigned to it, only the lead port (primary DN) for the DN is allowed access for activating and deactivating.

Terminating: No interaction.

It is assumed every member of the shared DN will receive distinctive alerting if an incoming call's DN is on the called DN's SDA list.

12.3.149 ISDN Single-Digit Intercom

The ISDN Intercom (ICOM) feature is a form of ISDN station-to-station calling. The ICOM user can originate a call to the ICOM group member by pressing the ICOM buttons.

Originating: No interaction.

Terminating: An ICOM call terminating to an SDA user is not screened against the SDA screening list.

12.3.150 ISDN Time and Date Display

The ISDN Time and Date Display feature is a subscription feature for ISDN attendants and ISDN station set users. The 5ESS®-2000 switch provides the time and date to the ISDN station set.

Originating: Independent of whether SDA is active or not, the SDA user can obtain the Time and Date display. If the SDA user is in a Time and Date session and presses the SDA feature button, display information associated with SDA will not display since both SDA and Time and Date displays are sent in the MISCELLANEOUS display mode. If the user presses the SDA feature button and then presses the Time and Date button, display information associated with the Time and Date session will overwrite the display information associated with the SDA feature button for Lucent Technologies customer premises equipment. Other CPE may respond differently.

Terminating: No interaction.

This feature is not supported on standard BRI for National ISDN SDA.

12.3.151 ISDN Total Number of Calls Handled Display for ISDN Attendants

Total Number of Calls Handled Display for ISDN Attendants provides supervisors with traffic data information about each attendant in the ISDN attendant group.

Originating/Terminating: No interaction.

12.3.152 Line Time Slot Bridging

Line Time Slot Bridging (LTSB) provides an off-premises extension to a single directory number and bridging of two separate DNs in two separate locations with barge-in capabilities for customers served by the same 5ESS®-2000 switch. The Line Time Slot Bridging feature is only available via a service order.

Originating:

- Single DN for both lines

For lines equipped with Line Time Slot Bridging with one DN, only one SDA list applies to both phones. Only the lead port is allowed to activate, deactivate, or edit the feature.

- Separate DN for each line.

For lines equipped with Line Time Slot Bridging with two DNs, SDA cannot be assigned to either DN.

Terminating:

- Single DN for both lines

The switch distinctively alerts each phone (if the incoming DN is on the SDA list) if the user has activated SDA.

- Separate DN for each line.

No interaction.

12.3.153 Loudspeaker Paging

Loudspeaker Paging allows dial access to customer-owned loudspeaker paging equipment.

Originating/Terminating: See "Call Pickup", Section 12.3.40 .

12.3.154 Main Satellite Service

Main Satellite Service allows a customer receiving business group service provided by two or more separate

switching machines in the same geographic area to receive the same service available as if all locations were served by a single switch.

Originating: See "Dial Access to Private Facilities", Section 12.3.70 .

Terminating: A call arriving from the main-satellite service environment via tie trunk will not have the calling party's DN available and the call will not be screened at the active SDA station. Standard terminating treatment will apply. Also, see "Dial Access to Private Facilities", Section 12.3.70 .

12.3.155 Make-Busy Key

Make-Busy Key (MBK) allows designated lines to look busy to the central office by means of a key operation.

Originating: No interaction.

Terminating: The MBK feature takes precedence over SDA. A caller calling a party with MBK and SDA active will receive busy treatment.

12.3.156 Message Detail Recording on Customer Premises

Message Detail Recording (MDR) on Customer Premises provides call detail information on public telephone network and private facility calls via a tape unit located on the customer premises.

Originating: No interaction.

Terminating: The SDA feature is compatible with MDR.

12.3.157 Message Service Automatic Call (History) Display

Message Service Automatic Call (History) Display uses the 5ESS[®]-2000 switch call history information with the AP data base to display call information, client status information, and messages to the message service attendant when the message service client calls from his/her station set to receive messages.

Originating/Terminating: No interaction.

12.3.158 Message Service Automatic Control of Message Waiting Indicator

Message Service Automatic Control of Message Waiting Indicator automatically activates the message waiting indicator at the client's station set when a message is recorded in the message data base.

Originating: No interaction.

Terminating: The Message Service System attendant can activate the message waiting indicator at the SDA station set independent of the SDA status.

12.3.159 Message Service Direct Access to Message Data Base

Message Service Direct Access to Message Data Base allows clients to update their status information, leave messages for one or more clients, and retrieve messages without assistance from the message service attendant.

Originating/Terminating: No interaction.

12.3.160 Message Service Leave Word Calling

Message Service Leave Word Calling (LWC) allows a client to leave a *canned* message for another client of the

message service without assistance from a message service attendant.

Originating/Terminating: No interaction.

12.3.161 Message Service Message Data Base

Message Service Message Data Base stores customer organizational data, client status data, and standard *canned* messages. A message data base is available to the message service attendant on the applications processor.

Originating/Terminating: No interaction.

12.3.162 Message Service Print Message On Demand

Message Service Print Message On Demand provides a printout of messages at a predetermined printer upon request from the Message Services client.

Originating/Terminating: No interaction.

12.3.163 Multifrequency Pulsing

Multifrequency Pulsing provides the capability to transmit alternate current address signals between offices. Each address digit is transmitted as a pulsed pair of frequencies.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SDA customer cannot be screened. That is, the original calling party's DN is not available. Normal termination will apply.

12.3.164 Multiline Hunt Service Circular Hunting

Multiline Hunt Service Circular Hunting allows all lines in a multiline hunt group to be tested for busy, regardless of the point of entry into the group.

Originating: No interaction.

Terminating: When a feature is assigned to the main DN of the group, it applies to the group as a whole. All calls to the main DN are screened using the main DN lists. Such screening is performed before any check on busy/idle status of any of the group terminals. Calls to hunt DNs in the group are also screened using the main DN lists.

If the individual no-hunt DNs have SDA assigned to them and they are dialed direct, calls will be screened against the individual lists whether or not SDA is active for the main DN list. Calls are screened before hunting occurs.

This interaction is applicable to National ISDN SDA.

12.3.165 Multiline Hunt Service ISDN Attendant (ISAT)

Originating/Terminating: No interaction.

12.3.166 Multiline Hunt Service Multiple Position Hunt

Multiline Hunt Service Multiple Position Hunt provides the ability to distribute calls over a group of console positions, each of which can handle several types of incoming calls received on dedicated terminals.

Originating: The SDA feature cannot be assigned to analog attendants.

Terminating: No interaction.

12.3.167 Multiline Hunt Service Precedence Regular Hunt

Multiline Hunt Service Precedence Regular Hunt starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 12.3.164 .

This feature is not supported on standard BRI for National ISDN SDA.

12.3.168 Multiline Hunt Service Regular Hunting

Multiline Hunt Service Regular Hunting starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 12.3.164 .

12.3.169 Multiline Hunt Service Uniform Call Distribution Hunt

Multiline Hunt Service Uniform Call Distribution Hunt provides an even distribution of incoming calls among the available members of a hunt group.

Originating/Terminating: See "Multiline Hunt Service Circular Hunting", Section 12.3.164 .

12.3.170 Multiline Variety Package Service

Multiline Variety Package Service provides a packaged group of services for customers with a small group of lines that are not defined as a business line group.

Originating/Terminating: See the individual features that are contained in the *Multiline Variety Package Service*.

12.3.171 Multiple DNs per Line with Distinctive Ringing (Multiple DNs per Line)

Multiple DNs per Line (MDNL) with Distinctive Ringing provides multiple DNs per single port [Line Equipment Number (LEN)]. An originating call from any of the DNs is always associated with the *Master DN*, pointed to by the LEN translator; therefore, any call placed from a DN associated with the LEN will pass the *Master DN* as the calling party number.

Originating: No interaction.

Terminating: The SDA feature can only be assigned to the *Master DN* of an MDNL group. Terminations to the different DNs are distinguished using distinctive ringing. The master screening list is used to screen all calls to the master and associated DNs. All DNs receive the SDA ringing pattern after a screening list match.

12.3.172 National ISDN Additional Call Offering (Voice and Data)

The National ISDN Additional Call Offering (ACO) feature is based on Bellcore requirements. This feature notifies the Integrated Services Digital Network (ISDN) user via Q.931 signaling procedures that there is a circuit-switched voice (CSV) or circuit-switched data (CSD) call waiting for that user at the serving 5ESS®-2000 switch; the call cannot be delivered due to the unavailability of a B-channel. The user can answer the incoming call by putting an existing call on hold or by disconnecting an existing call. The call reference busy limit (CRBL) subscription parameter limits the number of concurrent originating and terminating calls that the user may have established. Arriving calls beyond this limit are given busy treatment.

Originating/Terminating: The Additional Call Offering Tone takes precedence over Selective Distinctive Alerting.

12.3.173 National ISDN Calling Number Identification Services

The National ISDN Calling Number Identification Services (I-CNIS) feature is based on Bellcore requirements and is an enhancement to the existing Calling Party Number (CPN)/Billing Number (BN) Transmittal in the 5ESS®-2000 Switch Private Network Environment feature.

Originating/Terminating: See "Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment", Section 12.3.50 .

12.3.174 National ISDN Calling Number Identification Services Intra-Group Only Delivery Optioning

The Calling Number Identification Services (CNIS) Intra-Group Only Delivery Optioning (CNIGI) feature allows restriction of the Calling Party Number (CPN) delivery, Redirecting Number (RN) delivery, and Calling Party Subaddress (CgPS) delivery features from members of a terminal group. It also restricts the provisioning of ICLID, CNAM, and EDS displays to intra-group calls. CNIGI does not effect delivery of information to residential parties. Whether the CNIGI restriction applies depends on the settings of the CNIGI option for the office, business group, and individual line/PRI trunk. The CNIGI restriction applies to all members of the terminal group, including National ISDN BRI/PRI, Custom BRI/PRI, and analog lines.

Originating/Terminating: No interaction.

12.3.175 National ISDN Channel/Terminal Configurations and Restrictions

The Channel/Terminal Configurations and Restrictions feature provides channel and terminal configurations and restrictions according to Bellcore requirements. Integrated Services Digital Network (ISDN) customers with a single terminal can be restricted to one B-channel. The ISDN customers with two or more terminals can be restricted to one B-channel via an associated group (AG). Two AGs are permitted per BRI. In an AG, customers are allowed terminals that have circuit-switched voice (CSV), circuit-switched data (CSD), on-demand B-channel (ODB) packet data, permanent packet B-channel (PPB) data, or any combination of the four services.

Originating/Terminating: Because these actions require an available B-channel, a user cannot activate/deactivate the SDA feature or change the SDA screening list under B-channel blocked conditions.

12.3.176 National ISDN Electronic Key Telephone Service

The National ISDN Electronic Key Telephone Service feature allows a user served by an National Integrated Services Digital Network (ISDN) terminal to have access to multiple directory number (DNs). Additionally, a DN can be accessed by more than one user (that is, a Shared DN). Directory numbers (DNs) may be shared on the same basic rate interface (BRI) and or on different ISDN BRIs.

Originating/Terminating: See "ISDN Shared Call Appearances of a Directory Number", Section 12.3.148 .

12.3.177 National ISDN Hold (Voice and Data)

National ISDN Hold allows a National ISDN station user to hold a call in progress by flashing and then dialing the Call Hold code or operating a function key if one is available.

Originating: An ISDN COT Two-Level activation session cannot be put on hold. If a user on Custom BRI tries to put a Two-Level Activation on hold, he/she receives a visual indication of rejection. When a National ISDN COT user tries to put a Two-Level Activation session on hold, the user will not see any indication of rejection.

Terminating: No interaction.

12.3.178 National ISDN Interswitch Calling Number Identification Services

The ISDN Interswitch Calling Number Identification Services feature is comprised of originating features and terminating features. The originating features consist of number screening, number privacy, and calling party number/calling party subaddress transfer. The terminating features include calling number delivery. Interswitch Calling Number Identification Services provides the feature capabilities between switches.

Originating/Terminating: See "Intrastwitch/Interswitch Calling Party Number/Billing Number Optioning to Terminating User", Section 12.3.104 .

12.3.179 National ISDN Three-Way Calling

National ISDN Three-Way Calling allows a customer to add a third party to an existing conversation.

Originating/Terminating: See "Three-Way Calling", Section 12.3.214 .

12.3.180 Night Service

Night Service (NS) routes calls normally directed to the attendant to preselected station lines in the customer group when regular consoles are not attended.

Originating: No interaction.

Terminating: When a call is forwarded via Night Service from an attendant's line to a line with SDA active, the DN of the original caller is compared with DNs on the SDA screening list. Also, see "ISDN Attendant Night Service", Section 12.3.118 .

12.3.181 Non-Data-Link Attendant Console

Non-Data-Link Attendant Console is a small desk-top position from which the attendant handles calls.

Originating: The SDA feature cannot be assigned to attendants.

Terminating: No interaction.

12.3.182 On-Hook/Off-Hook Queuing for Outgoing Trunks (Also Known as Queuing for Outgoing Trunks)

Queuing for Outgoing Trunks allows on-hook or off-hook queuing for a busy outgoing trunk. With on-hook queuing, the station is notified with a distinctive ring when a trunk is available. With off-hook queuing, the user remains off-hook, and the call is completed when the trunk is available.

Originating: On-hook queuing ringback to an SDA user is always in the form of regular alerting.

Terminating: See "Ringback Queuing", Section 12.3.196 .

12.3.183 Outgoing Call Tracing

Outgoing Call Tracing is used when nuisance calls are found to be coming from one particular line. The terminating DN is put on the trace list and all originating calls from that office are checked against the list. When a call is made to the number on the list, the originating DN is identified.

Originating: No interaction.

Terminating: See "Call Tracing", Section 12.3.41 .

12.3.184 Outward Calling for PBX via ARS

Outward Calling for PBX Via ARS allows a PBX to take advantage of Business Group features relating to outgoing private facilities by terminating them at the serving switch via special access lines.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 12.3.22 .

12.3.185 Outward Wide Area Telecommunications Service (OUTWATS)

Outward Wide Area Telecommunications Service (OUTWATS) allows customers to make calls to certain zone(s) or band(s) on a direct dialing basis for a flat monthly charge or a charge based on accumulated usage.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 12.3.22 .

This interaction is applicable to National ISDN SDA.

12.3.186 OUTWATS with Simulated Facility Group

The OUTWATS with Simulated Facility Group feature can restrict the number of simultaneous OUTWATS calls by software rather than by the physical size of a dedicated trunk group.

Originating: No interaction.

Terminating: See "Automatic Route Selection", Section 12.3.22 .

12.3.187 Power Failure Transfer Attendant

Power Failure Transfer Attendant routes calls destined for the attendant to a preassigned DN during a commercial power failure at the customer premises.

Originating: No interaction.

Terminating: When a call is forwarded via Power Failure Transfer from an attendant's line to a line with SDA active, the DN of the original caller is compared with the DNs on the SDA screening list. Also, see "Night Service", Section 12.3.180 .

This interaction is applicable to National ISDN SDA.

12.3.188 Precedence and Preemption Features

Precedence and Preemption (PP) is a part of the DSN/AUTOVON network for operating routine and precedence calls used primarily by the military.

Originating: No interaction.

Terminating: A precedence with preemption *priority* call is not screened while a precedence with preemption *routine* call is screened. If an SDA user is active on a call and a precedence with preemption *priority* call is made to this SDA user, the call will not be screened against the SDA list and will terminate normally. A precedence call can preempt an active call.

A PP call terminating at a busy analog line of an SDA user can preempt an active call of lower preemption

precedence. When preemption occurs, all parties engaged in the active call receive preemption tone prior to being disconnected. After going on-hook following a *preemption disconnect*, an analog SDA user is alerted to the preempting call.

A PP call terminating at a busy ISDN line of an SDA user may terminate at an idle call appearance reserved for PP call terminations. If all call appearances (reserved and unreserved) are busy, a PP call can preempt an active call of lower preemption precedence on an ISDN line. Subsequent interactions are identical to those of preemption on an analog line.

12.3.189 Priority Queuing

Priority Queuing is used to assign a queue priority level that establishes precedence for facilities when immediate access is not obtainable.

Originating/Terminating: See "Basic Queuing", Section 12.3.25 .

12.3.190 Radio Paging Access

Radio Paging Access allows attendants and station users to access radio paging equipment and page individuals carrying pocket radio receivers.

Originating/Terminating: No interaction.

12.3.191 Recall From Subscriber

Recall From Subscriber allows the customer to recall an operator services position system (OSPS) operator for certain classes of operator-assisted calls by flashing the switchhook. The operator recalled is not necessarily the operator who originally assisted on the call.

Originating/Terminating: No interaction.

12.3.192 Recorded Telephone Dictation

Recorded Telephone Dictation (RTD) permits access to and control of customer-owned dictating equipment from a station in the customer group. The station must be equipped for dual tone multifrequency signaling.

Originating/Terminating: No interaction.

12.3.193 Remote Activation of Call Forwarding (Remote Access to Call Forwarding)

Remote Activation of Call Forwarding (RACF) provides the ability to remotely activate/deactivate call forwarding by using dialed codes.

Originating: No interaction.

Terminating: The RACF feature is used with the Call Forwarding Variable feature only. There is no interaction between the SDA and RACF features.

This interaction is applicable to National ISDN SDA.

12.3.194 Remote Call Forwarding

Remote Call Forwarding (RCF) allows all calls to a specified DN to forward to a remote 7- or 10-digit telephone number.

Originating: No interaction.

Terminating: The RCF feature takes precedence over the SDA feature. Also, see "Call Forwarding Variable", Section 12.3.37.

12.3.195 Revertive Pulsing

Revertive Pulsing is the method of interoffice signaling originating with the panel systems and continuing with the No. 1 Crossbar.

Originating: No interaction.

Terminating: Calls arriving over non-SS7 private facilities to an SDA customer cannot be screened. That is, the original calling party's DN is not available. Normal termination will apply.

12.3.196 Ringback Queuing

Ringback Queuing allows a station user, encountering a busy network facility, to queue for an idle facility by dialing a function code and going on-hook in a preselected time following the queuing confirmation code. The caller is rung back when the appropriate facility becomes idle.

Originating: With the Ringback Queuing (RBQ) feature, an SDA customer can queue calls on a busy outgoing facility. When the facility becomes available, the customer receives ringback, goes off-hook, and the call is placed without having to redial. After placing an RBQ request, active SDA customers receive ringback regardless of the SDA feature status. Ringback is always given normal alerting.

Terminating: No interaction. A ringback when a queued trunk is available should not be screened by the SDA feature, as it is not a call termination.

12.3.197 Satellite Attendant Transfer

Satellite Attendant Transfer provides the same service as the Call Transfer Attendant feature to a satellite location having no attendant.

Originating/Terminating: No interaction.

12.3.198 Screen List Editing

Screen List Editing (SLE) is a capability used in conjunction with all LASS selective feature lists.

Originating: The SLE capability is necessary to build and edit the SDA screening list. For analog lines, SDA users are considered busy if they are in an editing session. For ISDN lines, SDA users are considered busy if they are in an editing session and no other call appearance is available.

Terminating: No interaction.

12.3.199 Selective Call Acceptance

Selective Call Acceptance (SCA) allows residential and business users to restrict which incoming voice calls are allowed to terminate.

Originating: No interaction.

Terminating: The SCA feature takes precedence over SDA. The DN of an incoming call is checked against the SCA list before it is checked against the SDA list.

This interaction is applicable to National ISDN SDA.

12.3.200 Selective Call Forwarding

Selective Call Forwarding (SCF) allows a customer to preselect which calls will forward based on the telephone number of the calling party.

Originating: No interaction.

Terminating: The SCF feature takes precedence over SDA. The DN of an incoming call is checked against the SCF list before it is checked against the SDA list.

This interaction is applicable to National ISDN SDA.

12.3.201 Selective Call Rejection

Selective Call Rejection (SCR) allows a customer to reject calls from telephone numbers which are on the customer's SCR list.

Originating: No interaction.

Terminating: The SCR feature takes precedence over SDA. The DN of an incoming call is checked against the SCR list before it is checked against the SDA list.

This interaction is applicable to National ISDN SDA.

12.3.202 Selective Carrier Denial

Selective Carrier Denial (SCD) allows the local office to selectively inhibit certain calls normally handled by a carrier from lines designated as nonpaying subscribers by the particular inter-LATA carrier that will handle the call.

Originating/Terminating: No interaction.

12.3.203 Selective Control of Facilities

Selective Control of Facilities (SCOF) allows the customer, via key control, to busy out private facilities and, thereby, deny all originating access.

Originating/Terminating: No interaction.

12.3.204 Selective Distinctive Alert (Distinctive Alert)

Selective Distinctive Alert (SDA) allows a customer to preselect which calls will have distinctive alerting treatment based on the telephone numbers of the calling parties.

Originating/Terminating: Not applicable.

12.3.205 Semirestricted Station Originating and Terminating

Semirestricted Originating and Terminating provides the ability to restrict a business group line from originating and/or receiving any calls from outside the group. Outside the group means "dial 9" and DID. Intragroup calls, attendant calls, and calls over private facilities are permitted. Restricted calls are routed to the special group intercept announcement.

Originating: No interaction.

Terminating: The Semirestricted Station Terminating feature takes precedence over SDA. An SDA user that is

semirestricted terminating can only screen calls from other members of the terminal group or from the attendants of the terminal group.

This interaction is applicable to National ISDN SDA.

12.3.206 Series Completion

Series Completion is a type of hunting in which DNs are grouped into a prearranged ordered list.

This feature is not supported on standard BRI for National ISDN SDA.

Originating: No interaction.

Terminating: All member DNs on a series completion list can have SDA. A call to a busy line of an SDA user with Series Completion and SDA as the only active feature will series complete to another member of the series completion list regardless of the SDA screen list entries. After series completing to another line, the originating party's number is screened against the active SDA list at that line.

12.3.207 Simulated Facility Groups for In and Out Calls

The Simulated Facility Groups for In and Out Calls feature provides the capability to restrict the number of simultaneous DID calls terminating to the group and the number of simultaneous calls originating by the group to direct distance dialing (DDD).

Originating: No interaction.

Terminating: Calls going to the SDA user are subject to the same simulated facility group restriction as are regular terminating calls.

12.3.208 Single-Digit Dialing

Single-Digit Dialing permits station users to reach any station of a preselected group or other internal facility by dialing single digit codes.

Originating: See "Intercom Dialing", Section 12.3.101 .

Terminating: The SDA feature takes precedence over Single-Digit Dialing.

12.3.209 Smart Set Interface

Smart Set Interface allows customers to use *smart* station sets. Flash requests and feature function codes are associated with unique keys on the station set.

Originating/Terminating: No interaction.

12.3.210 Special Intercept Announcement

Special Intercept Announcement allows a unique intercept announcement to be provided to each business group.

Originating/Terminating: No interaction.

12.3.211 Speed Calling (Also Known as Abbreviated Dialing)

Speed Calling permits the customer to dial selected numbers using fewer digits than normally required.

Originating: The SDA access code can be entered on a speed calling list.

Terminating: If a caller uses speed calling to an SDA user with an active SDA list, the call will be screened by SDA.

12.3.212 Tandem Call Trace

Tandem Call Trace is used when nuisance calls are found to be incoming from a tandem office. The traced DN is marked for tracing at that office to identify the tandem trunk.

Originating: No interaction.

Terminating: See "Call Tracing", Section 12.3.41 .

12.3.213 Tandem Tie Trunk Dialing

Tandem Tie Trunk is another name for Nonsenderized Tie Trunks (NTT). It uses a switching method whereby the station user directly controls, in stages, the routing of an outgoing tie trunk call through the originating switch as well as any intermediate switches.

Originating/Terminating: See "Tie Trunk Access", Section 12.3.215 .

12.3.214 Three-Way Calling

Three-Way Calling (TWC) allows a customer to add a third party to an existing conversation.

Originating: An SDA customer can also subscribe to a TWC feature. An SDA customer has the ability to place a call on hold to add a third party onto the established conversation. If the SDA user disconnects with a party on hold, the SDA user will get ringback to restore the connection to the held party. Regardless of active SDA service on a TWC line, ringback will occur.

Terminating: The controller's DN is screened against the SDA list of parties added to the three-way call. For SDA, the three-way conferencing call for noncontrolling parties works the same way as for six-way calling. The controller of a three-way call will receive special call waiting treatment as a result of having SDA, CW, and Hard Hold active when all parties involved in the three-way call are in a talking state. See "Conference Calling Six-Way", Section 12.3.59 .

This interaction is applicable to National ISDN SDA.

12.3.215 Tie Trunk Access

Tie Trunk Access connects two or more business customer locations. They can terminate in an attendant console for direct access or have dial access.

Originating: No interaction.

Terminating: Calls arriving via tie trunks do not have the calling number available and are not screened.

This interaction is applicable to National ISDN SDA.

12.3.216 Time-of-Day

Time-of-Day (TOD) allows a customer to preschedule recent change, thereby, controlling activation and deactivation of certain modular features and changes to feature parameters via dialed codes and key control.

Originating: The TOD feature cannot be used to activate or deactivate SDA.

Terminating: No interaction.

12.3.217 Toll Diversion to Attendant

Toll Diversion to Attendant (TDA) intercepts toll or code calls from restricted business group lines and routes them to the attendant (or other designated line).

Originating/Terminating: No interaction.

This feature is not supported on standard BRI for National ISDN SDA.

12.3.218 Tracing of Terminating Calls

Tracing of Terminating Calls allows the identification of calling lines while the call is in progress. When incoming calls are to be traced, the terminating DN is placed on the call tracing list where it remains until manually removed.

Originating/Terminating: No interaction.

12.3.219 Traveling Class Mark

Traveling Class Mark (TCM) carries class-of-service information along with the called number through a private network. The TCM provides unique downstream routing and screening information.

Originating/Terminating: No interaction.

12.3.220 Trunk Answer from Any Station

Trunk Answer from Any Station (TAS) activates a common alerting signal on the customer premises when the attendant positions are in night service for calls normally directed to the attendant. These calls can then be answered from any nonrestricted station in the business group by dialing a special answer code.

Originating/Terminating: No interaction.

12.3.221 Trunk Dial Transfer

Trunk Dial Transfer provides the Call Transfer Individual feature to tie trunks.

Originating/Terminating: No interaction.

12.3.222 Trunk Group Busy Lamps

The Trunk Group Busy Lamps feature provides a visual indication on a private facility trunk group basis when the facility group is all in use.

Originating/Terminating: No interaction.

12.3.223 Two-Party ANI/ONI Capability

The Two-Party Automatic Number Identification/Operator Number Identification (ANI/ONI) Capability allows operating companies the choice of giving two-party lines automatic number identification (ANI) treatment or operator number identification (ONI) treatment.

Originating: The SDA feature cannot be assigned on Two-Party ANI/ONI lines.

Terminating: Calls from Two-Party ANI users are screened against the SDA list.

12.3.224 Two-Party Line

Two-Party Line provides basic POTS to two customers sharing the same line.

Originating: The SDA feature cannot be assigned on two-party lines.

Terminating: Calls from two-party lines are screened against the SCA list.

12.3.225 Uniform Numbering

Uniform Numbering provides a customer-specified 7-digit numbering plan that identifies all business group stations interconnected by the facility network. Each customer switch connected by the electronic tandem network (ETN) is identified by a 3-digit code.

Originating: No interaction.

Terminating: Calls received over non-SS7 private facilities (using a uniform numbering dialing plan) do not have the calling party's DN available and are not screened at the active SDA station. Standard terminating treatment will apply.

12.3.226 Unrestricted Originating and Terminating

This is basically the absence of originating and/or terminating restriction in a terminal group.

Originating/Terminating: No interaction.

12.3.227 User-Side Primary Rate Interface Implementation

This feature allows PRI support in public (private trunks providing access to public facilities) and private networks.

Originating: No interaction.

Terminating: If the calling party number is available to the terminating switch, a call routed via this feature is subject to SDA screening and termination treatment.

12.4 RESTRICTION CAPABILITY

12.4.1 General

Customer access to SDA can be denied on a per-line basis using a feature restriction indicator for each customer. In addition, IDP customers with intercom dialing can be restricted access on a group basis by not building an access code for SDA. However, if the office is generally available (GA) and the end-user escapes to POTS, the end-user can access the office GA feature. Also, certain lines in a group can be allowed access to SDA even if the rest of the group is denied access to SDA.

Only voice calls or analog modem calls which look like voice calls are screened by the SDA feature. Integrated services digital network (ISDN) circuit-switched or packet-switched data calls are not screened by the SDA feature. There is only one screening list per DN user for SDA.

Although no other features are required for a customer to use the SDA feature, the residential analog customer must subscribe to the Call Waiting Terminating feature in order to have distinctive call waiting tone. Similarly, the analog business customer must subscribe to Call Waiting Terminating or Call Waiting Incoming Only, in order to have distinctive call waiting tone. The capability to provide distinctive ringing is unaffected by these restrictions. An ISDN customer is unaffected by Call Waiting.

For SDA, only one alerting pattern is used. Although a customer will know, prior to answering a terminating call, that the call is from one of the parties specified on the SDA screening list, the customer will not specifically know which

party is calling unless there is only one party on the SDA screening list.

The SDA treatment is provided for a specific fixed calling location (DN) not for a specific calling party. If a person for whom SDA treatment is to be provided calls from some other location (DN), SDA treatment is not provided unless that other location (DN) is on the SDA screening list.

The customer does not have the option to change the SDA ringing and call waiting pattern.

12.4.2 Analog Users

A maximum of 31 telephone numbers may appear in a user's screening list. The service provider has the capability to limit this number for the end-customer, if so desired.

Refer to Table 2-4 for service groups denied access to the SDA service.

Manual lines, direct connect lines, and denied originating treatment lines are allowed service to SDA; however, the SDA screening list must be built via service order. Also, a service order is required to activate or deactivate SDA for these line types.

Operator calls from no-test trunks and attendant calls with emergency override are not subject to refusal by the SDA feature.

The following ringback functions can alert an active SDA line:

- Automatic Callback-Calling (ringback function)
- 911 Service Emergency Ringback
- Call Hold (ringback from held party)
- ETS Ringback Queuing
- Home Intercom/Single Line Variety Package
- LASS Automatic Callback (ringback function)
- LASS Automatic Recall (ringback function)
- Three-Way Calling (ringback from held party).

The number of users who may access SDA is limited by the amount of switch memory available for storing lists and by the number of users who may simultaneously access the announcement system or display capability.

User access to client features can be denied on a per-line basis using a feature restriction indicator. The operating company can deny access to business group users on a group basis by not assigning access codes to activate, deactivate, or edit client features. The Dialing Plan Access Treatment (DPAT) capability (5ESS®-2000 switch only) can also be used to restrict individual lines from using particular access codes or ISDN feature buttons.

12.4.3 ISDN Users

When a DN is shared between ISDN station sets, only the lead station for the DN is allowed access for activating, deactivating, or editing the SDA screening list. An ISDN user at the lead station, on a call appearance for a primary or secondary DN, can press the SDA feature button to turn SDA on or off for the primary DN.

The SDA feature is assigned on a per-DN basis for ISDN users with multiple DNs, as opposed to a per-terminal basis. Incoming line history blocks are assigned on a per-terminal basis. The SDA feature only applies to voice calls.

Data calls are not screened by SDA.

An ISDN customer can subscribe to the SDA feature for each DN on the terminal. In this case, the customer can have SDA assigned to the primary DN with its own screening list and SDA assigned to the secondary DNs each with their own screening lists. The SDA feature button applies only to the primary DN.

NOTE: Display messages are provided **only** to Custom ISDN users with display capability.

When a user at the lead station of a shared DN dials the SDA access code, the switch does not send announcements and display messages to the non-lead terminals sharing the DN. The switch sends announcements and display messages only to the lead station.

12.5 ENGINEERING

12.5.1 Special Planning Considerations

The SDA screening lists are engineered to use memory as efficiently as possible. Screening lists are not allocated based on the office parameter. Instead, the allocation is based on the individual customer's list size which keeps reserved, unused memory to a minimum.

12.5.2 Hardware

No new or modified hardware is required.

12.5.3 Software

Load balancing and distribution by the switch administrator does not apply. Maintenance operations are not affected by the SDA feature.

To offer intraswitch LASS, the LASS software must reside at that switch.

12.6 IMPLEMENTATION

12.6.1 ODA Implementation

Refer to "LASS Forms and Views", Section 2.4, for ODA forms used in implementing the SDA feature.

12.6.2 Recent Change Procedures

12.6.2.1 Assigning Customer Service

Service providers can provide SDA to individual customer lines on an office-wide (GENAVAIL) basis or on a subscription basis via a service order (SUBSCR). However, MLHG access to LASS always requires a service order. The service provider can assign SDA to and remove SDA from individual customer lines. For both the office-wide and service-order situations, the telephone company can offer SDA for billing on a flat-rate or usage-sensitive basis.

At the time of subscription, the service provider needs to know the type of interface (ISDN or analog) the customer has. For ISDN customers, the service provider determines whether a feature button will be used to access SDA and whether display (for Custom ISDN **only**) will be used.

All offices offering the SDA feature are required to have the Screen List Editing (SLE) capability. The SLE capability is not billed separately from the SDA feature; however, a billing record is created each time a usage-sensitive SDA customer accesses an SDA screening list.

See 235-190-104, *ISDN Feature Descriptions*, for feature button assignment.

12.6.2.1.1 Feature Definition

Feature definition, the modular feature construction process, must be completed before any lines can be assigned to use the feature. The SDA feature may be defined as part of the software release (preconstructed) or defined by the service provider (customized). The preconstructed features for Selective Distinctive Alert are listed in Table 12-1.

Table 12-1 LASS Selective Distinctive Alert BRCS Definitions

MODULAR FEATURE TYPE	PRECONSTRUCTED FEATURE NAMES	WILDCARD FEATURE SYMBOL
MFSDA	/SDAGA /SDAFR	/SD*

Expansions for these preconstructed features are as follows:

- /SDAGA — Selective Distinctive Alert Generally Available
- /SDAFR — Selective Distinctive Alert Flat Rate.

The Selective Distinctive Alert definition view is 12.58, (ODA Form lssdafd; Office Record 5978). This view contains attributes that:

- Indicate the constructed feature name (FEATURE). One to eight characters in length with the leading character a slash (/) for the preconstructed feature.
- Allow a remark to be associated with the feature (REMARKS). One to 32 characters defining the feature in narrative form.
- Indicate whether billing is on a usage-sensitive basis or on a flat-rate basis (AMA REC). A value of "N" indicates flat-rate billing; a value of "Y" indicates usage-sensitive billing.

12.6.2.1.2 LASS Office Parameters

The LASS office parameters View 8.21 provides LASS feature office parameters keyed by the office ID. A second screen was added for LASS selective features. The added attributes associated with SDA are as follows:

- *SDA MAX SIZE* — This parameter determines the maximum number of entries on the screening list for SDA. Valid values are 3-31. The default value is 6. This parameter exists for each of the LASS selective features.
- *SDA GA FEAT* — This parameter specifies the preconstructed feature or constructed SDA feature to be used for general availability. Valid entries are up to 8-character feature names. The default is /SDAGA.

An SDA maximum-list-size office parameter with legal values of 3 through 31 is provided to indicate the maximum number of entries an SDA customer can have on the SDA screening list. This parameter is changeable via recent change. Service provider switching office personnel have the capability to build, change, delete, activate, or deactivate screening lists for SDA via a service order at the time the service is provisioned or at a later time. Typically, the service order process is not used to perform these functions. The telephone companies are expected to encourage customers to use SLE and will use a service order only when the customer is having trouble with SLE or for customers with denied origination class of service.

For Custom ISDN customers with display capability, display messages for SDA are sent. Display messages are not sent to customers with non-display CPE and National ISDN CPE.

12.6.2.1.3 Feature Access

12.6.2.1.3.1 General

The LASS Feature Access View (View 8.18) provides LASS feature access options specification; for example, whether LASS is generally available, requires subscription, or is unavailable on a per-SM basis. The SDA parameter attribute indicates the access options and the default for the SDA feature. Possible values are GENAVAIL, SUBSCR, UNAVAIL, and TEMPUNAVAIL. The default value is UNAVAIL.

12.6.2.1.3.2 Allow Bits

Unlike traditional BRCS feature assignment, SDA can be made generally available (on an office or SM basis; subscription not required), thereby, extending access to SDA for non-BRCS lines and providing ready access to the feature without the need for a service order.

Analog and ISDN line Views 1.1, 1.6, 2.1, and 23.2 are modified for the SDA feature. An attribute, SDA GA ALW, was added to determine whether the LASS SDA feature is allowed generally available (GA) access by the line.

12.6.2.1.4 Access Billing Control

For both SUBSCR and GENAVAIL, the customer line status may be marked with one of the following values:

- (1) A customer line status of SDA GA ALW (default for all non-restricted service classes) indicates that customers in an office with the office access parameter (View 8.18) set to GENAVAIL have GA access to SDA and are billed on a usage-sensitive basis (default). A customer line status of SDA GA ALW in an office with the office access parameter (View 8.18) set to SUBSCR indicates that the customer does not have GA access to SDA. The service provider can change SDA from a general offering to a subscription offering and from a subscription offering to a general offering by toggling the office access parameter from GENAVAIL to SUBSCR and from SUBSCR to GENAVAIL, respectively. It is not necessary to modify the customer line status of individual customer lines.
- (2) A customer line status of NO SDA GA ALW indicates this customer is denied GA access to SDA. The service provider uses a service order to mark a customer line NO SDA GA ALW.

For the SUBSCR case, the service provider can use a service order to subscribe individual lines to a flat-rate or usage-sensitive billed SDA feature. For the GENAVAIL case, the service provider can use a service order to subscribe individual lines to a flat-rate billing (overriding the default of usage-sensitive billing) or usage-sensitive billing. Flat-rate billing does not generate billing records for each activation of the feature. For usage-sensitive billed customers, billing records are created when an SDA screening list is changed or when the feature status is changed. (See "Billing", Section 12.8.2, for complete information on billing.)

12.6.2.1.5 Feature Assignment

Features are assigned to a line via RC line assignment views. A BRCS Feature Assignment view, View 1.11, can be used to assign the SDA feature to a customer line. View 1.11 is keyed by telephone number. Attempts to assign a feature to a line which conflicts or interacts with another be assigned to a BFG and/or cluster.

In addition to the BRCS feature assignment views, the SDA feature can also be assigned via a BRCS Assignment Combined View (1.8, 2.8, and 3.8). For ISDN terminals, View 1.11 may be used to assign the SDA feature. Typically, the digital subscriber lines (DSL)/BRCS assignment view (23.8) is used to assign the SDA feature to an ISDN DN.

For residential customers, the SDA access code can be established on a per-office basis. For IDP customers with intercom dialing, the SDA access code is assigned on a group basis and may, or may not, be the same code as

residential customers.

12.6.2.1.6 Feature Activation

The LASS Selective features can be activated and deactivated by a customer originated recent change (CORC) or via RC LASS Selective Feature Screening List View 4.48 and the feature assignment views (listed previously) or feature activation views (1.12, 2.12, and 3.12).

12.6.2.2 Deleting Customer Service

The SDA screening list is deleted by recent change when removing service from a line with a service order.

12.6.2.3 Changing Customer Service

For customers having a feature button for SDA, when a service order is used to activate or deactivate the SDA feature, the feature button light will reflect the status after the next CPE restoral (about 15 minutes).

The SDA screening list telephone numbers entered by the customer via the screen list editing capability are validated; however, entries on SDA screening lists created via a service order are not validated. View 4.48 is used to add and delete screening list entries for service order applications. The service providers are expected to encourage customers to use SLE and will use a service order only when the customer is having trouble.

The service provider can assign one or more dialable codes for accessing SDA. For ISDN customers, the service provider can assign a single station set SDA feature button for on-hook and off-hook activation of SDA, and on-hook and off-hook deactivation of SDA.

The SDA service status and screening list are moved when reassigning a line (for example, changing a port) with the ISDN ACSR and the CSR capability. The SDA service status and screening list are also moved when reassigning a line (for example, changing a port) through a service order.

12.6.3 Assignment Limitations

The service provider sets the maximum number of entries for customer SDA screening lists. The number set must fall between 3 and 31.

The SDA service is available to Multiline Hunt Group subscribers via service order only. For the 5ESS[®]-2000 switch, SDA can only be assigned to the first member of an MLHG or to individual no-hunt DNs of the MLHG. The SDA feature is allowed for secondary only DNs on a subscription basis only.

The SDA ringing pattern cannot be provided on 4-wire individual class of service lines.

12.7 SYSTEM OPERATION

Selective Distinctive Alert is a voice feature that can be useful to a large segment of the end-customer population.

The SDA feature is offered on a *GENAVAIL* or *SUBSCR* basis. A list size parameter for SDA allows the service provider to control memory resources and to meet the differing list size needs of SDA end-customers.

A set of measurements for SDA allows the service provider to monitor switch resource use resulting from SDA. The billing record for SDA is: Structure Code 1030. However, the service feature field is filled in with the value 53 for SDA allowing the service provider to distinguish SDA end-customers and bill them accordingly.

Successful interswitch operation of SDA requires that the Signaling System 7 (SS7) or peer-to-peer PRI Integrated Services Digital Network (ISDN) User Part protocol provide the calling party number of all incoming interswitch calls in the initial address message (IAM). The calling party number also includes the DNs uniqueness and the

presentation restriction information.

Originating Treatment — For interswitch calls, the originating switch sends the calling party number via the SS7 initial address message in addition to the Q.931 setup message delivered on the peer-to-peer PRI or BRI during call setup.

Terminating Treatment — When an SS7 call is received, the SDA user's switch compares the calling DN (the DN contained in the calling number parameter in the IAM) with the DNs stored on the SDA screening list. If the DN is available and matches any one of the DNs on the screening list, the called party is given distinctive alerting treatment.

If the calling DN is not on the SDA screening list or is not available, standard terminating treatment is given.

The following is provided for terminating calls on analog lines from telephone numbers that are specified on the SDA screening list:

- If the called line is idle, the calling party receives audible ring, and a distinctive power ring is applied at the terminating station. The distinctive power ring is 300 ms on, 200 ms off; 1 second on, 200 ms off; 300 ms on, 4 seconds off.
- If the called line is busy with Call Waiting Terminating active and another call is not already waiting, the calling party is given audible ring and a distinctive call waiting tone is provided to the called party as an indication that a call is waiting. The distinctive call waiting tone is used in place of the standard call waiting tone, and distinctive power ring is provided if the called party disconnects when a call from a telephone number specified on the SDA screening list is waiting. The distinctive call waiting tone is 100 ms on, 100 ms off; 300 ms on, 100 ms off; 100 ms on.
- If the called line is busy with Call Waiting Terminating active and another call is already waiting, the calling party is given busy treatment and the called party is not alerted to this call even though the telephone number is on the screening list.
- If the called line is busy and the called line does not have Call Waiting Terminating active, the calling party is given busy treatment. Since the called line customer does not have any applicable Call Waiting feature active, the called party is not alerted to this call even though the telephone number is on the SDA screening list.

The ISDN station set will only receive distinctive alerting signals, not distinctive call waiting tones. The station set is responsible for implementing the actual ringing cadences and/or tone sequences.

The following signaling information is provided for terminating calls on ISDN lines from telephone numbers that have been specified on the SDA screening list:

- If the called line is idle, the calling party receives audible ring and the called party's customer premises equipment (CPE) receives a SETUP message with the signal information element set to "Alerting On - Pattern 2."
- If the called line is busy (that is, no idle call appearances), the calling party is given busy treatment. The called party is not alerted to this call even though the telephone number is on the screening list.

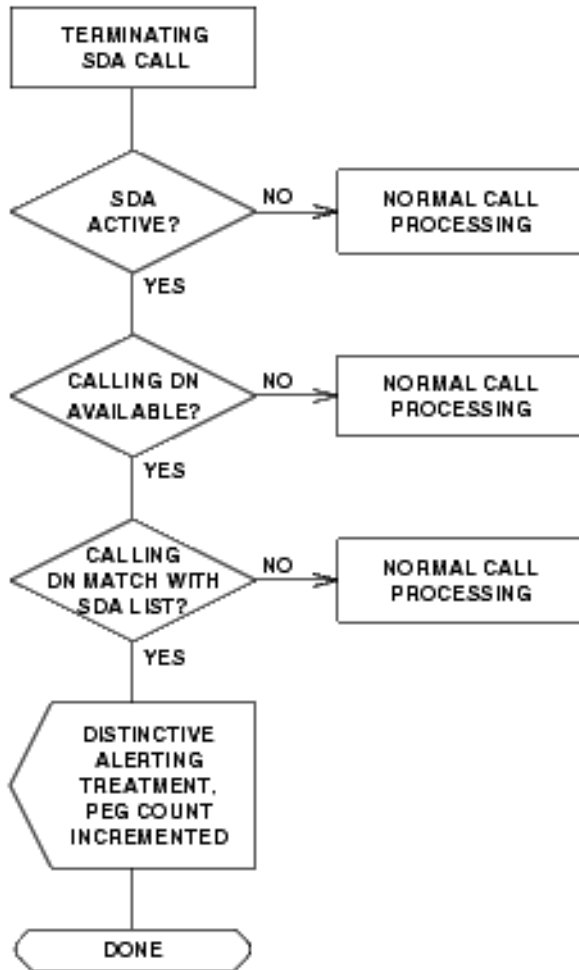


Figure 12-3 SDA Analog/ISDN Call Processing Terminating Switch

The major function of the SDA feature is to screen terminating voice calls, and provide distinctive alerting treatment to the SDA customer for those numbers on the SDA screening list. At the terminating office, the switch screens whether the directory number (DN) or extension of the calling party is stored on the SDA screening list. If the incoming DN matches an entry on the SDA screening list, the call receives distinctive alerting treatment.

If the incoming DN for an SDA end-customer does not match any entry on the SDA screening list or is not available, the call completes normally unless another terminating feature is active preventing the call from terminating. Call processing for a call terminating to an active SDA user is represented in Figure 12-3.

The types of distinctive alerting available are distinctive ringing treatment or distinctive call waiting tone. Only one distinctive ringing pattern can apply to a DN. If a customer has the Call Waiting feature and receives a call from someone on the screening list, a distinctive call waiting tone is applied.

By itself, SDA only provides the distinctive ringing capability. For the analog customer to have distinctive call waiting tone, the SDA customer must be busy without another waiting call, and either the Call Waiting Terminating or the Call Waiting Incoming Only feature must apply during the call.

A single office count is incremented each time the SDA screening list is accessed. This count is used to engineer sufficient announcement circuits, tone receiver circuits, and DP receivers on the 5ESS®-2000 switch.

The following changes are needed to install SDA in an office:

- The service provider must set an SDA maximum-list-size office parameter (with legal values of 3-31) to specify the maximum number of entries an SDA customer can have on the SDA screening list.

Before the service provider increases the value of the parameter, sufficient memory needs to be available for the larger lists. The service provider should not decrease the SDA office parameter below the number of entries on the largest SDA list in the office.

The switch gives no indication of the number of entries on the largest SDA list or the amount of memory available.

- The service provider must assign the SDA access code. Multiple access codes can be assigned to SDA. For ISDN customers desiring to use a feature button for accessing SDA, the service provider has the capability to assign a station set feature button via a service order.
- The service provider must engineer sufficient memory to support the maximum-sized SDA screening list for the particular office.
- The service provider sets an office access parameter indicating whether it will (1) offer SDA to end-customers by subscription through a service order or (2) make SDA available to all lines in the office not restricted by class of service.

The office access parameter has five possible values. The SUBSCR value indicates that the SDA customers must subscribe to the feature to gain access to it and that a service order is necessary. The GENAVAIL value indicates that SDA is generally accessible to all lines/terminals in the office that are not restricted by class of service without the need of a service order to gain access to the feature.

Refer to "LASS Feature Access", Section 2.7.2.3, for additional information about office access parameters.

12.8 ADMINISTRATION

12.8.1 Measurements

The following traffic counts are taken for SDA on a per-office basis:

- Number of times the SDA access code is dialed and the SDA feature button is pressed.
- Number of successful matches while SDA is active.

All of the traffic counts are new for the 5ESS[®]-2000 switch.

The counts appear on the 30-minute traffic report in the section for all LASS features (section 76). The ability to turn the reporting of the LASS measurements on or off according to the needs of the service provider is provided.

12.8.2 Billing

The service provider can provide SDA on a subscription basis through a service order or on a generally-available basis. In either case, the service provider can assign SDA on a per-line basis to customers for usage-sensitive billing or flat-rate billing as indicated in Table 12-2, Access Billing Matrix — Selective Distinctive Alert.

Table 12-2 illustrates the precedence in determining the type of billing (flat rate or usage sensitive) available for the SDA feature. If a particular option does not apply for a specified combination, it is shown as not applicable (NA).

Table 12-2 Access/Billing Matrix — Selective Distinctive Alert

	FEATURE ACCESS OFFICE OPTION (View 8.18)	GENAVAIL FEATURE BILLING OPTION (View 8.21)	SUBSCR FEATUR E BILLING OPTION (View 12.58)	FEATURE GA ALLOW (View 1.6...View 23.2)	FEATURE ASSIGN (View 1.11...View 23.8)	SWITCH RESPONS E	BILLING ACTION
1	GENAVAIL	US	NA	No	No	Block	-
2	GENAVAIL	FR	NA	No	No	Block	-
3	GENAVAIL	US	NA	Yes	No	Allow	US
4	GENAVAIL	FR	NA	Yes	No	Allow	FR
5	GENAVAIL	NA	US	Yes	Yes	Allow	US
6	GENAVAIL	NA	FR	Yes	Yes	Allow	FR
7	SUBSCR	NA	US	NA	No	Block	-
8	SUBSCR	NA	FR	NA	No	Block	-
9	SUBSCR	NA	US	NA	Yes	Allow	US
10	SUBSCR	NA	FR	NA	Yes	Allow	FR
11	UNAVAIL	NA	NA	NA	NA	Block	-
12	TEMPUNAVAIL	NA	NA	NA	NA	Block	-

Generally Available — For row 1 through row 4 combinations, the feature access office option for SDA on RC View 8.18 and the SDA GA FEAT field on RC View 8.21 are used to determine whether flat-rate (FR) or usage-sensitive (US) recording is done for the end-customer. For these scenarios, the feature is not assigned via service order (column 5) but the feature access office option for SDA is set to GENAVAIL. The feature allow field (column 4) turns the access on or off for the applicable classes of service (default) or denies access to specific lines regardless of the class of service. The SDA GA FEAT field (column 2) specifies the feature name (defaults to /SDAGA), which is defined as either a preconstructed feature or modified with the feature definition, View 12.58.

Assigned — For row 5 and row 6 combinations, the feature access office option is set to GENAVAIL although the feature is assigned to the end customer via service order (column 5). The assigned feature definition will determine whether usage-sensitive AMA is recorded.

Subscription — For row 7 through row 10 combinations, the feature access office option is set to subscription. The end-customers must be assigned either a preconstructed or customized feature via the applicable RC view (1.11 through 23.8).

Unavailable — The feature access option for initial provisioning is set to UNAVAIL. Access to the features will be blocked until recent change procedures are used to change the options to either GENAVAIL or SUBSCR.

Temporarily Unavailable — The TEMPUNAVAIL option is used to temporarily turn off the feature while maintaining the line history block assignments. Access to the feature will be blocked until recent change procedures are used to change the option back to either GENAVAIL or SUBSCR.

Usage-sensitive billing requires the generation of AMA records. Flat-rate billing requires a service order but does not require the generation of billing records. A combination of billing methods is also supported when a flat rate applies in addition to usage-sensitive billing. These values are assigned per terminal for the incoming feature.

If the service provider chooses to make SDA generally available by setting the office access option to GENAVAIL, then usage-sensitive billing applies by default (View 8.21 — SDA GA FEAT /SDAGA). For both the generally available and the service order situations, the service provider can mark the line of an individual customer for flat-rate billing via a service order.

For usage-sensitive billed SDA customers on 5ESS®-2000 switch offices that have the AMA Standard Entries feature, an event record using structure code 1030 is created for each access of the SDA screening list.

In addition, a continuation record, using the same Structure Code, is made daily (3:07 a.m.) for each usage-sensitive customer with an SDA screening list. As long as an SDA screening list exists, whether active or inactive, a continuation record is made.

The fields within the structure code billing record (1030) are as follows:

- Fields 1 through 6 are standard.
- Field 7, Service Feature, identifies the specific LASS feature event (for example, a value of 73 indicates editing the SDA activation list).
- Fields 8 and 9 together are the full national number of the served subscriber.
- Fields 10, 11, and 12 together form the complete called number in the case of an activation; otherwise, they are filled with zeros.
- Field 13 is the time at which the AMA record is generated.
- Fields 14 through 19 are filled with zeros.

Refer to "LASS Billing", Section 2.9 , for a detailed layout of the structure code.

13. LASS BULK CALLING LINE IDENTIFICATION

13.1 GENERAL

13.1.1 Definition

The Bulk Calling Line Identification (BCLID) feature is a Local Area Signaling Services (LASS) feature. LASS Bulk Calling Line Identification allows Private Branch Exchange (PBX) with or without Direct Inward Dialing (DID), Multiline Hunt Group (MLHG), and BRCS/Centrex groups and/or lines to receive call-related information on calls received from outside the PBX, MLHG, and BRCS/Centrex group. Information on intragroup calls can optionally be provided to BCLID subscribers. The BCLID information includes the following:

- The calling Directory Number (DN) is set to "P" if LASS privacy indicator is set, or set to "O", if unavailable.
- The calling line multistatus is set to "M" (for multi), if the true calling DN cannot be identified (for example, multiparty, PBX, etc.), or set to "T" for true DN.
- Date (Day and Month) is provided as an option.
- The time the call was received in hours, minutes, and seconds.
- The called DN is replaced by port/terminal number, and group identifier of called party, if multiline hunt group.
- A Busy/idle status of called DN, if it cannot be determined that the called DN is busy (for example, PBX), the status is always set to idle.

For interoffice calls, BCLID uses common channel signaling (CCS) so that the calling party information can be provided by the originating switch. The data is transmitted from the terminating switch to the user's customer premises equipment (CPE) shortly after each call is received. Such CPE may include computer terminals, minicomputers, magnetic tape devices or related equipment, to process and provide display or storage of the transmitted BCLID data. The data is transmitted to the CPE over a dedicated data channel [application processor interface (API)] using 3A-Translator or directly to an application processor. The transmission does not affect completion of any calls.

13.1.2 Background

The BCLID is related to the Individual Calling Line Identification (ICLID) feature that was implemented previously and then enhanced for interswitch calls. Both features provide for the transmission of calling party data. The ICLID provides the calling DN, time, and date to the called DN. The BCLID allows for additional information, the calling party line status, and the busy/idle status of the called party. All the BCLID information for each incoming call is recorded at a central location on the customer's premises.

13.1.3 Availability

The LASS BCLID feature is available in 5E9(2) and later software releases.

13.1.4 Feature Application

The BCLID provides call-related information on incoming calls for BRCS/Centrex, Multi-Line Hunt Group (MLHG), and PBX customers. The BCLID provides data only for calls from outside BRCS/Centrex Group, MLHG, or PBX. The PBX customers must either have Direct Inward Dialing (DID) capability or be part of an MLHG. This information includes the calling and called party directory number, the time the call was received, the calling line's multistatus indicator (indicating whether the true calling party DN is identified), and the called line's busy/idle status.

13.2 USER PERSPECTIVE

13.2.1 User Profile

Business users may have their CPE designed, so that they know what number is calling prior to answering. A business user may wish to receive calls only from certain relatives, friends, and/or business associates and ignore some other types of calls.

13.2.2 Customer Premises Equipment

To provide the 1A ESSTM Switch transparent output from the 5ESS[®]-2000 switch, there is a need of the 3A-Translator box that will convert the BCLID API message into asynchronous, ASCII message. This asynchronous message would be acceptable by the compatible CPEs. There is no need to change/modify the existing CPEs (for example, printer).

The firmware of the 3A-Translator box needs to be modified so that it can accept the BCLID messages received from the 5ESS[®]-2000 switch via API link. Output of the 3A-Translator box are asynchronous and in ASCII format.

13.2.3 User Operation

13.2.3.1 Normal User/System Interactions

When an individual DN, MLHG, or PBX trunk group that subscribes to BCLID is given busy or idle treatment, the call related information from the switching office is sent through an API to the BCLID subscriber's CPE/AP on a separate data channel.

A dedicated data link (API link with or without a 3A-Translator box) from central office to the customer premises is used for transmitting the BCLID call-related data, and should not be confused with analog/ISDN lines.

13.2.3.2 Activation/Deactivation

The BCLID does not provide any customer-originated activation/deactivation. The local service provider initiates BCLID service for their analog/ISDN customers through a service order request only. The BCLID is not Time Of Day Recent Changeable (TORCable) or Customer-Originated Recent Changeable (CORCable). A craftsperson is able to verify that a line, a group of lines, or a trunk group has subscribed to the BCLID feature.

13.2.4 Service Provider Personnel Perspective

13.2.4.1 Switch Engineering

The function of BCLID is to provide call related information about an incoming call to a subscriber. The call related information will be sent to the called customer within one-half second of receiving the call at the terminating DN. The one-half second would start when the ringing generator is connected to the line. This BCLID information is sent over an API link (with or without a 3A-Translator box) to the customer's CPE/AP. The customer can then process this called-related information according to their organizational needs. To assign, activate, and deactivate BCLID, the service provider will be required to process service orders. service provider craftspeople will be able to verify whether a line has subscribed to the BCLID feature and what BCLID channel the customer is associated with. Billing and traffic records will be kept by the service provider for the BCLID feature. Also, routine diagnostics should be run to ensure satisfactory feature performance.

13.2.4.2 Operations

13.2.4.2.1 General

The BCLID can be provisioned on a subscription only basis. It can be provided with BRCS Feature Groups (BFG). The BCLID can also be assigned on a per-trunk group or per-DN/line basis.

If a call attempt is made to a DN that subscribes to BCLID, and that DN is forwarding its calls with Call Forwarding Variable (CFV), Call Forwarding Busy Line (CFBL), or Selective Call Forwarding (SCF), no BCLID message will be sent for the attempt. The BCLID message will be sent for Call Forwarding Do Not Answer (CFDA), as an exception, because the call is actually offered to the called station.

13.2.4.2.2 Analog/ISDN Terminals

Both analog and ISDN users can subscribe to BCLID as an individual feature or through Business Feature Group (BFG). The BCLID handles all calls on each type of lines/groups in similar fashion. No different treatment will be given to either type of line/group.

A separate dedicated data link (API link with or without a 3A-Translator box) from central office to the customer premises is used to transmit the BCLID call-related data, and should not be confused with the analog/ISDN lines.

13.2.4.3 Abnormal User/System Interaction

Under channel, CPE/AP, or switch storage overflow conditions, the data exceeding the channel, CPE/AP, or switch storage capacity will be lost.

If the customer turns off its primary CPE/AP and there is no backup channel, all the BCLID data transmitted will be lost.

If the primary BCLID channel fails and the customers have already subscribed to a backup channel, all the BCLID messages will be routed to the backup channel.

13.2.5 Operational limitations

The following are BCLID limitations:

- When the customers' BCLID messages for their incoming calls exceed the capacity of the BCLID data channel (for example, five BCLID records per channel per second), information on some calls may be lost.
- If the calling DN has privacy indicated, then the privacy mark "P" along with the remaining information will be transmitted to CPE.
- End-to-end common channel signaling (CCS) and/or PRI connectivity is required to provide transmission of the calling DN to the CPE on interoffice calls.
- Each subscriber has at least one data channel identified by one APID for obtaining call-related information. An optional backup data channel (identified by a different APID) can be provisioned if the customer desires. However, the customer will also be billed for this backup channel.
- If a forwarded call terminates on a BCLID DN, the BCLID message will contain the originally dialed DN and not the terminating BCLID DN. The CPE/AP software developer(s) should expect such non-BCLID called DN and keep such exemption in the CPE/AP software package.

13.3 INTERACTIONS

13.3.1 General Rules

The interactions between LASS Bulk Calling Line Identification and other features are described in terms of originating feature interactions and terminating feature interactions. An originating interaction occurs when the

BCLID user is the originating party, while a terminating interaction occurs when the BCLID user is the terminating party on a call. The term "No interaction" means the BCLID feature does not do any extra handling for the feature or the feature is not supported. When the filter option is turned on, a BCLID message is not generated. No BCLID message is generated when a call is camped-on. If a BCLID subscriber receives ringback from Automatic-Callback, Automatic-Callback Calling, Automatic Recall, Ringback Queuing, Trunk Queuing, or Line Queuing, no BCLID message is generated.

13.3.2 800 Service [Also Known as Inward Wide Area Telecommunications Service (INWATS)]

The 800 Service feature provides inward service from one or more predetermined areas at a rate based on expected usage.

NOTE: The 800 Service feature is not limited to the 800 NPA if the switch has implemented a toll-free treatment feature that allows additional toll-free Service Access Codes (SAC) such as 888 or 877.

Originating: No interaction.

Terminating: After call routing and an originating DN is available, that DN will appear in the BCLID message. If no originating DN is passed, the DN will not appear in the BCLID message.

13.3.3 800 Service Simulated Facilities Group

The 800 Service Simulated Facilities Group feature can restrict the number of simultaneous INWATS calls through software, rather than by the physical size of a dedicated trunk group.

Originating/Terminating: See "800 Service [Also Known as Inward Wide Area Telecommunication Service (INWATS)]", Section 13.3.2 .

13.3.4 900 Services

The 900 Services provide inward service from one or more predetermined areas at a rate based on expected usage.

Originating/Terminating: See "800 Service [Also Known as Inward Wide Area Telecommunication Service (INWATS)]", Section 13.3.2 .

13.3.5 Account Codes [Electronic Tandem Switching (ETS) Optional Account Codes]

The Account Codes (ACCT) feature allows the customer to add an account code to an Automatic Message Accounting (AMA) or Message Detail Recording (MDR) record for customer allocation of telecommunications charges.

Originating/Terminating: No interaction.

13.3.6 Add-On/Consultation Hold-Incoming Only

Add-On/Consultation Hold-Incoming Only is a terminal group variation of the Three-Way Calling feature. It provides three-way calling restricted to incoming direct inward dialed (DID) calls.

Originating/Terminating: See "Three-Way Calling", Section 13.3.211 .

13.3.7 Advanced Services Platform

Advanced Services Platform (ASP) provides a platform of service-independent capabilities on a 5ESS®-2000 switch allowing the switch to interact with external network elements. For further information and for the latest details on

LASS features and ASP interactions, Please see the following documents:

235-190-125 Advanced Services Platform Release 0 and 0.1A

235-190-126 Advanced Services Platform Release 0.1B

Originating: No interaction.

Terminating: After call routing and an originating DN is available, that DN will appear in the BCLID message. If no originating DN is passed, the DN will not appear in the BCLID message.

13.3.8 Attendant Call Hold

Attendant Call Hold allows the attendant to hold a call in progress to originate another call, answer a call, or pick up a call on hold. Timed Reminder is activated when the call is placed on hold by the attendant.

Originating/Terminating: No interaction.

13.3.9 Attendant Call Transfer

Attendant Call Transfer allows the attendant to flash and dial a code before dialing the third leg of a three-way call.

Originating/Terminating: See "Call Transfer Internal Only", Section 13.3.46 .

13.3.10 Attendant Camp-On

Attendant Camp-On allows calls that the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating/Terminating: See "Call Waiting Originating", Section 13.3.49 .

13.3.11 Attendant Conference

Attendant Conference allows an attendant to initiate a conference call.

Originating: No interaction.

Terminating: When a BCLID customer is added to an Attendant Conference call, the DN of the attendant will appear as the originating DN in the BCLID message.

13.3.12 Attendant Control of Facilities

Attendant Control of Facilities (ACOF) permits an attendant to restrict dial access from a station to tie trunks, foreign exchange trunks, and wide area telecommunications service (WATS) by operating a key or dialing a code. When control is activated, calls to these facilities are routed to an attendant for appropriate action.

Originating/Terminating: No interaction.

13.3.13 Attendant Direct Station Selection

Attendant Direct Station Selection (ADSS) allows an attendant with a console to place calls to stations in the business group by simply pressing a nonlocking pushbutton key associated with the desired station line.

Originating: No interaction.

Terminating: When a BCLID customer is selected with Attendant Direct Station Selection, the DN of the attendant will appear as the originating DN in the BCLID message.

13.3.14 Attendant Identification of Incoming Calls

Attendant Identification of Incoming Calls provides identification, via incoming call indicator lamps on the attendant console, of listed directory number (LDN) calls directed toward different LDNs, but served by the same attendant.

Originating/Terminating: No interaction.

13.3.15 Attendant Position

Attendant Position allows a customer to designate a particular station within a business customer group as an attendant position.

Originating/Terminating: No interaction.

13.3.16 Attendant Recall from Satellite

Attendant Recall from Satellite gives stations located at remote locations without an attendant, but with the Satellite Attendant Transfer feature, the ability to transfer an incoming call by flashing the switchhook to generate a recall to the main location attendant, who performs the transfer for the remote station.

Originating/Terminating: See "Call Transfer Internal Only", Section 13.3.46 .

13.3.17 Authorization Codes (ETS Authorization Codes)

The Authorization Codes (ATH) feature allows the station user to input an assigned code to change the restrictions associated with the originating station to those associated with the assigned authorization code.

Originating/Terminating: No interaction.

13.3.18 Automatic Alternate Routing

Automatic Alternate Routing (AAR) provides alternate routing capability similar to ARS-Deluxe. The difference is that AAR is used to route calls to stations on the customer's private network.

Originating/Terminating: No interaction.

13.3.19 Automatic Callback

The LASS Automatic Callback (AC) feature allows users to call back the most recent calling party.

Originating: If a BCLID subscriber receives ringback from this feature, no BCLID message is generated.

Terminating: When a call camps-on to a busy terminal and is then alerted that the terminal is idle, no BCLID message will be recorded for an AC subscriber that also subscribes to BCLID.

The AC that is then made to the now idle terminal will result in the generation of a BCLID message.

13.3.20 Automatic Callback-Calling

Automatic Callback-Calling (ACBC) allows a user, or station to hang up and dial an activation code to activate ACBC after reaching a busy station. This feature only applies to two stations in the same switch.

Originating: If a BCLID subscriber receives ringback from this feature, no BCLID message is generated.

Terminating: When a call camps-on to a busy terminal and is then alerted that the terminal is idle, no BCLID

message will be recorded for an ACBC subscriber that also subscribes to BCLID.

The ACBC that is then made to the now idle terminal will result in the generation of a BCLID message.

13.3.21 Automatic Intercept System (Also Known as Remote Intercept System)

Automatic Intercept System (AIS) allows Class 5 offices to route calls to nonworking telephone numbers, or to telephone numbers placed on trouble intercept, on an AIS where they are connected to announcements and/or operators.

Originating/Terminating: See "Call Forwarding Variable", Section 13.3.38 .

13.3.22 Automatic Recall

The LASS Automatic Recall (AR) feature allows users to set up a call to the most recent called party.

Originating: If a BCLID subscriber receives ringback from this feature, no BCLID message is generated.

Terminating: When a call camps-on to a busy terminal and is then alerted that the terminal is idle, no BCLID message will be recorded for an AR subscriber that also subscribes to BCLID.

The AR that is then made to the now idle terminal will result in the generation of a BCLID message.

13.3.23 Automatic Route Selection (Also Known as Flexible Route Selection)

Automatic Route Selection (ARS) directs outgoing, Business Group Line calls to the customer's most preferred available route.

Originating/Terminating: No interaction.

13.3.24 Automatic Voice Network Interface

Automatic Voice Network (AUTOVON) Interface provides an interface with the AUTOVON network, including provisions for prioritizing call handling.

Originating/Terminating: See "Precedence and Preemption Features", Section 13.3.183 .

13.3.25 Basic Emergency Service (911)

Basic Emergency Service provides a 3-digit universal telephone number (911) for public use throughout the United States to report an emergency or request emergency assistance.

Originating: No interaction.

Terminating: A 911 Public Safety Access Point (PSAP) cannot be assigned BCLID.

13.3.26 Basic Queuing (Queuing for Lines)

Basic Queuing provides queuing for lines, call waiting lamps control, and delay announcements.

Originating: No interaction.

Terminating: When termination is attempted to a busy BCLID termination that results in the originator getting queued, no BCLID message will be sent when the call is queued.

When a call is dequeued for a BCLID termination, a BCLID message will be sent when the call is terminated.

13.3.27 BRCS Compatibility with ISDN

The BRCS Compatibility features ensure that many of the existing BRCS features and services function with supported ISDN station sets so that users experience equivalent, similar, or expanded circuit-switched voice service by subscribing to these ISDN BRCS features and services.

Originating: No interaction.

Terminating: The BCLID feature may be included in a BRCS Feature Group (BFG).

13.3.28 Business Group Line

Business Group Line provides capabilities similar to those for individual lines, but is classified as a member of a group of business lines belonging to a single customer.

Originating/Terminating: No interaction.

13.3.29 Business and Residence Custom Service Feature Groups/Feature Clusters

The Business and Residence Custom Service Feature Grouping provides a logical grouping of features and groups that are used by business customers receiving communications services from a central office switch. This feature works with both analog and ISDN BRCS features.

Originating: No interaction.

Terminating: The CND and PCP features are BRCS features and may be offered as part of a BFG and/or feature clusters.

13.3.30 Busy Line Verification

Busy Line Verification allows an operator to complete a connection to a busy line to determine the off-hook/on-hook status of the line or if a conversation exists on the line.

Originating: No interaction.

Terminating: When a call is made to a BCLID customer as a result of Busy Line Verification, a BCLID message will be recorded with the DN of the attendant appearing as the originating DN in the BCLID message.

13.3.31 Call by Call Access from a 5ESS®-2000 Switch in a Private Network to Interexchange Carrier Services

This feature allows the private network customer to generate a request for services from an interexchange carrier or local exchange carrier.

Originating/Terminating: No interaction.

13.3.32 Call Forwarding Busy Line All Calls

Call Forwarding Busy Line All Calls (CFBLAC) permits all calls attempting to terminate to a busy line to be redirected to another customer-specified line.

Originating/Terminating: See "Call Forwarding Variable", Section 13.3.38 .

13.3.33 Call Forwarding Busy Line Incoming Only

Call Forwarding Busy Line Incoming Only (CFBLIO) ensures that only incoming DID calls are forwarded to the specific business group line.

Originating/Terminating: See "Call Forwarding Variable", Section 13.3.38 .

13.3.34 Call Forwarding Do Not Answer All Calls

Call Forwarding Do Not Answer All Calls (CFDAAC) forwards all calls to a station to another preselected station within the same customer group, or to an attendant when the called station is not answered after a customer-specified number of seconds.

Originating: No interaction.

Terminating: If the CFDAAC base station and remote station are both BCLID customers, a BCLID message will be created and delivered to the BCLID CPE of the base station for the initial termination to the base station. For this message, the DN of the party who initially originated the call will be recorded as the calling DN and the DN of the base station will be recorded as the originally called DN. When the call is forwarded, another BCLID message will be created and delivered to the BCLID CPE of the remote station when the call is forwarded. The DN of the base station will be recorded as the calling DN and the DN of the remote station will be recorded as the originally called DN.

13.3.35 Call Forwarding Do Not Answer-Incoming Only

Call Forwarding Do Not Answer-Incoming Only (CFDAIO) ensures that only incoming DID calls to the business group line forward, if not answered, after a customer-specified number of seconds.

Originating/Terminating: See "Call Forwarding Do Not Answer All Calls", Section 13.3.34 .

13.3.36 Call Forwarding Incoming Only

Call Forwarding Incoming Only (CFIO) forwards calls terminating from outside the group via DID regardless of the on-hook/off-hook status of the line.

Originating/Terminating: See "Call Forwarding Variable", Section 13.3.38 .

13.3.37 Call Forwarding Over Private Facilities

Call Forwarding Over Private Facilities (CFPF) is a Call Forwarding Variable (CFV) option allowing business customers to automatically forward voice calls over the outgoing Private Facility Access (PFA) or Automatic Route Selection (ARS) service selected by the customer.

Originating/Terminating: No interaction.

13.3.38 Call Forwarding Variable

Call Forwarding Variable (CFV) allows a station user to redirect calls intended for that station to another station.

Originating: No interaction.

Terminating: If a call attempt is made to a DN that subscribes to BCLID, and that DN is forwarding its calls, no BCLID message will be recorded for the attempt.

If a call is forwarded to a BCLID customer, the DN of the party who initially originated the call will be recorded into the BCLID CPE as the calling DN, and the DN of the BCLID customer (remote or forwarded-to station) will be recorded into the BCLID CPE as the originally called party. BCLID data is not transmitted to the base station.

In the multiple forwarding case, the DN of the BCLID customer (remote or forwarded-to station) will be recorded into the BCLID CPE as the originally called party.

13.3.39 Call Forwarding In (Within) A Group

The Call Forwarding In (Within) A Group (CFIAG) restricts DNs of forward-to numbers dialed during activation to intragroup extension numbers

Originating/Terminating: See "Call Forwarding Variable", Section 13.3.38 .

13.3.40 Call Hold

Call Hold (CHD) allows a station user to *hold* a call in progress by flashing and then dialing the call hold code.

Originating: No interaction.

Terminating: A new BCLID message will not be sent when a call is reconnected after being on hold.

13.3.41 Call Pickup (Also Known as Call Pickup Originating and Regular Call Pickup)

Call Pickup (CPU) allows a station user to answer any call within an associated preset pickup group.

Originating/Terminating: No interaction.

13.3.42 Call Tracing

Call Tracing allows central office personnel to determine the source of annoying or threatening calls, or to identify lines in emergency or demand situations.

Originating/Terminating: No interaction

13.3.43 Call Transfer Attendant

Call Transfer Attendant (CTA) allows the called business group station user to transfer the call to the attendant while connected to a DID or private network incoming call.

Originating/Terminating: See "Call Transfer Internal Only", Section 13.3.46 .

13.3.44 Call Transfer Individual All Calls

Call Transfer Individual All Calls (CTIAC) allows a station user to transfer any established call to another station within or outside the private branch exchange (PBX) or business group without the assistance of the attendant.

Originating/Terminating: See "Call Transfer Internal Only", Section 13.3.46 .

13.3.45 Call Transfer Individual-Incoming Only

Call Transfer Individual-Incoming Only (CTIIO) allows a business group station user to transfer an incoming call to another station in the same business group without assistance of the attendant.

Originating/Terminating: See "Call Transfer Internal Only", Section 13.3.46 .

13.3.46 Call Transfer Internal Only

Call Transfer Internal Only (CTIO) allows a business group station user to transfer any established intragroup call to another station in the same customer group without the assistance of an attendant.

Originating: No interaction.

Terminating: When a call is transferred to a BCLID customer, the DN of the party that transfers the call will appear as the originating DN in the BCLID message.

13.3.47 Call Transfer Outside

Call Transfer Outside (CTO) allows a station user to add on a dial "9" off-network, Common Control Switching Arrangement (CCSA), or WATS facility to an external call. A call using CTO can be transferred to a private facility.

Originating/Terminating: See "Call Transfer Internal Only", Section 13.3.46 .

13.3.48 Call Waiting Incoming Only

Call Waiting Incoming Only (CWIO) is a version of Call Waiting Terminating (CWT). It gives an analog station user, who is engaged in a telephone conversation, an audible alert indicating an incoming Direct Inward Dialing (DID) or Private Facilities Call is attempting to terminate.

Originating: No interaction.

Terminating: If the BCLID customer has the CWIO feature active and is busy, the BCLID message will show the called DN as busy even if the caller can camp on to the DN.

13.3.49 Call Waiting Originating

Call Waiting Originating (CWO) allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The CWO feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for call waiting terminations, if all unreserved call appearances of the ISDN station are active. It is automatically invoked any time a busy intragroup station is encountered. The CWO feature is only operational for intraterminal group calls.

Originating: No interaction.

Terminating: If a caller uses this feature and terminates to a busy BCLID customer, the BCLID message will show the called DN as busy even if the caller can camp on to the DN.

13.3.50 Call Waiting Terminating

Call Waiting Terminating (CWT) uses a burst tone to inform a busy analog station user that another call is waiting.

Originating/Terminating: See "Call Waiting Incoming Only", Section 13.3.48 .

13.3.51 Calling Party Number/Billing Number Transmittal in the 5ESS®-2000 Switch Private Network Environment

This feature allows the 5ESS®-2000 switch PBX to send the calling party number (CPN)/billing number (BN) of the originator to the public network or to another PBX on a per-trunk group basis for all calls.

Originating/Terminating: No interaction.

13.3.52 Cancel Call Waiting

Cancel Call Waiting (CCW) allows a customer with Call Waiting to inhibit the application of the call waiting tone for the duration of one call.

Originating/Terminating: No interaction.

13.3.53 Carrier Interconnection

Carrier Interconnection provides an interface between the local exchange, inter-LATA, and interexchange carriers.

Originating/Terminating: No interaction.

13.3.54 Centrex Complex

Centrex Complex associates multiple business groups in a single switch with a single common *Complex*. All business groups in the complex share intercom calling privileges, yet may have separate private facility groups or separate dialing plans.

Originating/Terminating: See "Unrestricted Origination and Terminating", Section 13.3.223 .

13.3.55 Code Calling

Code Calling allows attendants and station users to dial an access code and a 2- or 3-digit called party code to activate signaling devices with a coded signal corresponding to the called code.

Originating/Terminating: No interaction.

13.3.56 Code Restriction

Code Restriction blocks outgoing calls to customer-specified codes [numbering plan area (NPA), NXX].

Originating/Terminating: No interaction.

13.3.57 Signaling System 7 Network Interconnect

Signaling System 7 Network Interconnect (SS7 NI) provides an out-of-band signaling interface between local exchange carrier and interexchange carrier networks.

Originating: No interaction.

Terminating: For an incoming call that originates from an incoming SS7 trunk and terminates to a BCLID customer, the calling DN, calling DN privacy, and calling DN multistatus indicator will be obtained from the SS7 ISUP message.

An ASCII "T" will appear in the BCLID message as the calling DN multistatus indicator if the calling DN is unique. An ASCII "M" will appear in the BCLID message as the calling DN multistatus indicator if the calling DN is non-unique.

If no calling DN is sent in the SS7 ISUP message, an ASCII "O" will appear in the BCLID message as the calling DN. If the calling DN privacy sent in the SS7 ISUP message shows the calling DN is private, an ASCII "P" will appear in the BCLID message as the calling DN.

13.3.58 Common Control Switching Arrangement Access

Common Control Switching Arrangement (CCSA) Access provides access to the customer's CCSA network.

Originating/Terminating: See "800 Service [Also Known as Inward Wide Area Telecommunication Service (INWATS)]", Section 13.3.2 .

13.3.59 Computer Access Restriction

Computer Access Restriction (CAR) allows the customer to restrict access to a computer connected through a modem to the telephone line. The CAR feature, operational only for voice calls, is not operational for ISDN packet-switched or circuit-switched data calls.

Originating: No interaction.

Terminating: The BCLID subscriber will not receive any information if a call is denied because of CAR.

If the call is forwarded because of CAR, the same interaction as with Call Forwarding Variable applies. See "Call Forwarding Variable", Section 13.3.38.

13.3.60 Conference Calling Six-Way (Also Known as Station Dial Conference)

Conference Calling Six-Way allows a station user to establish a conference call involving up to five other parties without attendant assistance.

Originating: No interaction.

Terminating: When a BCLID customer is added to a Six-Way Conference call, the DN of the controller will appear as the originating DN in the BCLID message.

13.3.61 Critical Interdigit Timing

Critical Interdigit Timing is activated when the digits received provide sufficient information to complete a call, but the possibility of receiving additional valid digits exists.

Originating/Terminating: No interaction.

13.3.62 Customer Access Treatment Code Restriction

Customer Access Treatment (CAT) Code Restriction allows the creation of subgroups in a business group to provide additional restriction or access functions.

Originating/Terminating: No interaction.

13.3.63 Customer-Changeable Speed Calling

Customer-Changeable Speed Calling (CCSC) allows customers to assign their own speed calling codes directly and immediately from their own telephone by dialing a change speed calling list access code, an abbreviated code, and a new telephone number.

Originating/Terminating: No interaction.

13.3.64 Customer Dialed Account Recording

Customer Dialed Account Recording (CDAR) allows a business group customer to associate a personal account number with a given call and have it recorded on the AMA record. The customer can use this record for allocating charges on both outgoing and incoming calls.

Originating/Terminating: No interaction.

13.3.65 Customer Station Rearrangement via Remote Memory Access System

Customer Station Rearrangement (CSR) via Remote Memory Access System (RMAS) allows business customers to make changes affecting their telephone service from an on-premises terminal.

Originating/Terminating: No interaction.

13.3.66 Delayed Announcement for Queued Calls on Hunt Group

Delayed Announcement for Queued Calls on Hunt Group allows a customer-generated automatic announcement for multiline groups with queuing.

Originating/Terminating: See "Basic Queuing (Queuing for Lines)", Section 13.3.26 .

13.3.67 Deluxe Automatic Route Selection

Deluxe Automatic Route Selection (DARS) extends the choice of private routes for each NPA/NXX to 16 versus 4 for basic ARS.

Originating/Terminating: No interaction.

13.3.68 Deluxe Queuing

Deluxe Queuing is composed of the following two parts: Priority Queuing and Ringback Queuing.

Originating: If a BCLID subscriber receives ringback from this feature, no BCLID message is generated.

Terminating: When termination is attempted to a busy PBX trunk group with BCLID that results in the originator being queued, no BCLID message will be sent when the call is queued.

When a call is dequeued for a PBX trunk group with BCLID, a BCLID message with 7-digit terminating number will be sent when the call is terminated.

13.3.69 Dial Access to ISDN Attendant

Dial Access to ISDN Attendant provides dial access from the station to the ISDN attendant within the customer group.

Originating/Terminating: No interaction.

13.3.70 Dial Access to Private Facilities

Dial Access to Private Facilities (DAPF) lets a customer choose to terminate the private facilities at the central office and access those facilities by dialing a unique access code per facility.

Originating/Terminating: No interaction.

13.3.71 Dial Call Waiting

Dial Call Waiting (DCW) allows an originating business group station to invoke Call Waiting service on selected intragroup calls by dialing an access code followed by the extension number of the station to be call waited. Dial Call Waiting allows a business group station user to direct a call waiting tone toward a busy analog called station in the same business group. The DCW feature also allows a call made to an ISDN station to terminate on an idle call appearance reserved for ISDN Priority Calling terminations if all unreserved call appearances of the ISDN station are active.

Originating/Terminating: See "Call Waiting Originating", Section 13.3.49 .

13.3.72 Dial Pulsing

Dial Pulsing provides the capability to transmit and receive direct current address signals between offices.

Originating/Terminating: No interaction.

13.3.73 Dial Through Attendant

Dial Through Attendant (DTA) allows a station user to complete the dialing on other than station-to-station calls after the attendant selects the private facility on attendant-handled calls.

Originating/Terminating: See "Call Transfer Internal Only", Section 13.3.46 .

13.3.74 Dial Transfer to Tandem Tie Line

Dial Transfer to Tandem Tie Line makes the Call Transfer feature compatible with tie lines (trunks). After flashing, a station user with normal access to tie lines can dial a call through the tie line and transfer the original call to it.

Originating/Terminating: No interaction.

13.3.75 Direct Connect

Direct Connect automatically places a call to a preselected called number when a station goes off-hook.

Originating: No interaction.

Terminating: The termination of a Direct Connect may be a customer with BCLID.

13.3.76 Directed Call Pickup with Barge-In

Directed Call Pickup with Barge-In is similar to Regular Call Pickup. For Directed Call Pickup, the call pickup dial code is dialed, and the DN of the party to be picked up is entered. If the line being picked up has been answered, barge-in alert tone is provided and a three-way call is established.

Originating/Terminating: No interaction.

13.3.77 Directed Call Pickup without Barge-In

Directed Call Pickup without Barge-In is similar to Regular Call Pickup. In addition, if the line being picked up has been answered, the party dialing the pickup code is routed to reorder rather than permitted to barge in on the established connection and create a three-way call.

Originating/Terminating: No interaction.

13.3.78 Distinctive Ringing

Distinctive Ringing (DR) applies a distinctive ringing or call waiting tone pattern enabling a station user to determine the source of an incoming call.

Originating/Terminating: No interaction.

13.3.79 Dual Call Coverage (Also Known as Dual Telephone Coverage)

Dual Call Coverage allows calls originating internal to a customer's terminal group to route to a message center other than the one servicing outside calls.

Originating/Terminating: See "Call Forwarding Variable", Section 13.3.38 .

13.3.80 Electronic Tandem Switching Trunk Access (Also Known as Access to ETS Trunks)

Electronic Tandem Switching (ETS) Trunk Access provides access to a customer's ETS facilities on a distant switch.

Originating/Terminating: See "800 Service [Also Known as Inward Wide Area Telecommunication Service (INWATS)]", Section 13.3.2 .

13.3.81 Electronic Tandem Switching on Primary Rate Interface Trunks

The Electronic Tandem Switching on Primary Rate Interface Trunks feature allows the 5ESS[®]-2000 switch to provide electronic tandem network (ETN) trunking between a 5ESS[®]-2000 switch central office node and one or more digital PBX nodes in an ETN.

Originating/Terminating: See "800 Service [Also Known as Inward Wide Area Telecommunication Service (INWATS)]", Section 13.3.2 .

13.3.82 Electronic Tandem Network Interworking in the 5ESS[®]-2000 Switch Private Network Environment

This feature gives the 5ESS[®]-2000 switch private network customer, who is currently using the Electronic Tandem Switching feature, expanded capabilities using the Primary Rate Interface to connect multiple private ETN nodes.

Originating/Terminating: See "800 Service [Also Known as Inward Wide Area Telecommunication Service (INWATS)]", Section 13.3.2 .

13.3.83 Emergency Access to ISDN Attendant

Emergency Access to ISDN Attendant allows a station user to dial an emergency code to gain immediate access to the attendant.

Originating/Terminating: No interaction.

13.3.84 Emergency Ringback

Emergency Ringback is associated with the Basic 911 Emergency Service used to recall a customer station immediately following disconnect from, and at the request of, an emergency bureau.

Originating/Terminating: No interaction.

13.3.85 Enhanced Private Switched Communications Service Access

Enhanced Private Switched Communications Service (EPSCS) Access provides the ability to terminate access lines to the EPSCS switch.

Originating/Terminating: See "800 Service [Also Known as Inward Wide Area Telecommunication Service (INWATS)]", Section 13.3.2 .

13.3.86 Expensive Route Warning Tone

Expensive Route Warning Tone (ERWT) indicates when a more expensive route is about to be used.

Originating/Terminating: No interaction.

13.3.87 Facility Restriction Level

Facility Restriction Level (FRL) defines the calling privileges associated with a line.

Originating/Terminating: No interaction.

13.3.88 Feature Code Definition

The Feature Code Definition is the access code defined by the service provider that allows the user to access the feature.

Originating/Terminating: No interaction.

13.3.89 Flexible Night Service (Also Known as Attendant Call Forwarding)

Flexible Night Service (FNS) forwards calls directed to the attendant group to a different location (night location, also known as a night directory number).

Originating: No interaction.

Originating/Terminating: See "Call Forwarding Variable", Section 13.3.38 .

13.3.90 Foreign Exchange Line

Foreign Exchange (FX) Line provides line termination in a central office different from the line providing service to the customer.

Originating/Terminating: See "800 Service [Also Known as Inward Wide Area Telecommunication Service (INWATS)]", Section 13.3.2 .

13.3.91 Four- and Eight-Party

Four- and Eight-Party provides Plain Old Telephone Service (POTS) for up to four or eight customers sharing the same line.

Originating: If a call is originated from a four- or eight- party line, the calling DN message shows up as "OUT OF AREA".

Terminating: The BCLID feature may not be assigned to a four- or eight- party line.

13.3.92 Fully Restricted Originating and Terminating

Fully Restricted Originating and Terminating (FROT) provides the ability to deny a station's ability to originate and/or receive calls to or from outside the business group. It also blocks "dial 0" calls to an attendant and calls from an attendant to the station.

Originating/Terminating: See "Unrestricted Origination and Terminating", Section 13.3.223 .

13.3.93 Home Intercom (Also Known as Home Intercom/Single Line Variety Package)

Home Intercom/Single Line Variety Package (HI/SVP) allows the HI/SVP user to ring all telephone sets (extensions) associated with the line by dialing specified codes from the station.

Originating: No interaction.

Terminating: When Home Intercom is used, no BCLID information message will be sent if a user has both Home Intercom and BCLID assigned.

13.3.94 Hunt Group Transfer for Circuit-Switched Data Calls

This feature allows Circuit-Switched Data (CSD) calls to a CSD multiline hunt group (MLHG) to forward-to a second CSD MLHG.

Originating/Terminating: No interaction.

13.3.95 In-Progress Call Tracing

In-Progress Call Tracing is one type of Call Tracing feature that identifies a call in progress.

Originating/Terminating: No interaction.

13.3.96 Individualized Dialing Plan

The Individualized Dialing Plan (IDP) feature allows digits to be interpreted according to the IDP of the customer instead of the office dialing plan (ODP) and/or the standard office abbreviated dialing list.

Originating/Terminating: See "Intercom Dialing", Section 13.3.99 .

13.3.97 Inspect for ISDN Terminals

Inspect for ISDN Terminals retrieves and displays call-related information about any call appearance having a call associated with it. Inspect also displays feature button identification.

Originating/Terminating: No interaction.

13.3.98 Intercom Calling Restriction

Intercom Calling Restriction counts and limits the number of intercom calls that can be in progress at any one time within a customer group. It also sets a maximum total simultaneous call volume that includes intercom and calls external to the customer group.

Originating/Terminating: No interaction.

13.3.99 Intercom Dialing

Intercom Dialing, in conjunction with the special dialing plan, permits station users in the business group to place calls to each other on a 1- to 7-digit basis.

Originating: No interaction.

Terminating: BCLID messages will contain 10-digit originating DN's even if intercom dialing is used to reach a user with BCLID.

13.3.100 Intra-LATA Presubscribed Inter-LATA Carrier (Intra-LATA PIC)

The Intra-LATA PIC capability allows the Local Exchange Carrier (LEC) to open up certain Intra-LATA toll routes which were previously handled exclusively by the LEC, to competition on an equal access basis between the LEC and Inter-LATA Carriers (ICs).

The Intra-LATA capability allows a subscriber to presubscribe to an Intra-LATA Toll Carrier (PTC) that handles all of his/her Intra-LATA Toll traffic (7 digit or 10 digit calls with or without a "1/0" prefix), if dialed without a 10XXX (or 101XXXX) prefix, but which may or may not be the same as the Presubscribed InterLATA Carrier (PIC).

Originating: No interaction.

Terminating: BCLID will work properly with incoming Intra-LATA PIC calls provided that the calling number is delivered. However, if the LEC does not transmit the calling party number to the IC or the IC does not transmit the calling party number to the LEC, then BCLID will not work properly. Note that the CPN SUBSC option on RC/V View 10.2 can be used to allow/disallow passing of the SS7 Calling Party Number parameter to an IC.

13.3.101 Intermodule Trunking

Intermodule Trunking provides trunking between modules connected to the same base 5ESS®-2000 switch.

Originating/Terminating: No interaction.

13.3.102 Intraswitch/Interswitch Calling Party Number/Billing Number Optioning to Terminating User

This feature allows the terminating PRI or BRI user to request delivery of the calling party number or billing number on an *exclusive* or *preferred* basis on every call for circuit-switched voice/data calls.

Originating/Terminating: No interaction.

13.3.103 ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants

The ISDN Aggregate Work Time/Number of Calls Handled for ISDN Attendants feature allows a supervisor, or attendant, to display data about an attendant position.

Originating/Terminating: No interaction.

13.3.104 ISDN Attendant Busy Verification of Lines and Trunks

The ISDN Attendant Busy Verification of Lines and Trunks feature allows an attendant to determine whether a line or trunk within the same customer group is busy or idle.

Originating: No interaction.

Terminating: When a call is made to a BCLID customer as the result of this feature, a BCLID message will be recorded with the DN of the attendant appearing as the originating DN in the BCLID message.

13.3.105 ISDN Attendant Call Hold

The ISDN Attendant Call Hold feature allows the ISDN attendant to hold a call in progress to originate another call or to pick up a call on hold.

Originating/Terminating: No interaction.

13.3.106 ISDN Attendant Call Splitting

The ISDN Attendant Call Splitting feature allows the ISDN attendant to consult privately with the called party without the calling party hearing.

Originating/Terminating: See "ISDN Attendant Busy Verification of Lines and Trunks", Section 13.3.104 .

13.3.107 ISDN Attendant Call Transfer

The ISDN Attendant Call Transfer feature is the ISDN version of Attendant Call Transfer.

Originating/Terminating: See "Call Transfer Internal Only", Section 13.3.46 .

13.3.108 ISDN Attendant Camp-On

The ISDN Attendant Camp-On feature is the ISDN version of the Attendant Camp-On feature. It allows calls that the attendant attempts to complete to a busy analog station to be held waiting until the station becomes idle.

Originating/Terminating: See "Call Waiting Origination", Section 13.3.49 .

13.3.109 ISDN Attendant Conference Calling

The ISDN Attendant Conference Calling feature allows the attendant to set up conference calls with any combination of extensions or trunks on the internal conference bridge. The maximum number of parties on the conference call is limited to the capacity of the multiport conference circuit.

Originating: No interaction.

Terminating: When a BCLID customer is added to an ISDN Attendant Conference call, the DN of the attendant will appear as the originating DN in the BCLID message.

13.3.110 ISDN Attendant Control of Facilities

The ISDN Attendant Control of Facilities (ACOF) feature is the ISDN version of ACOF.

Originating/Terminating: No interaction.

13.3.111 ISDN Attendant Control of Voice Terminals

The ISDN Attendant Control of Voice Terminals (ACVT) feature enables an attendant to impose an originating or terminating restriction (or both) on a DN or group of DNs. The ACVT feature routes calls destined for a line or group of lines to the attendant for handling. It is activated by the attendant or automatically by the switch.

Originating/Terminating: No interaction.

13.3.112 ISDN Attendant Direct Station Selection

The ISDN Attendant Direct Station Selection (ADSS) feature allows the attendant to display the status of up to 10,000 DNs in 100 groups of 100 contiguous DNs starting at 00.

Originating/Terminating: No interaction.

13.3.113 ISDN Attendant Emergency Override

The ISDN Attendant Emergency Override (AEO) feature allows the attendant to complete incoming calls to stations as follows:

- Calls that are busy from setting the make-busy key
- Calls that have a series completion or multiline hunt arrangement
- Calls with Call Forwarding active
- Calls with terminating restrictions.

Originating/Terminating: See "ISDN Attendant Busy Verification of Lines and Trunks", Section 13.3.104 .

13.3.114 ISDN Attendant Incoming Call Identification

The ISDN Attendant Incoming Call Identification (ICI) feature allows an attendant to identify the type of facility over which an incoming call to the attendant was routed.

Originating/Terminating: No interaction.

13.3.115 ISDN Attendant Night Service

The ISDN Attendant Night Service feature forwards calls directed to the ISDN attendant to a different station.

Originating/Terminating: See "Call Forwarding Variable", Section 13.3.38 .

13.3.116 ISDN Attendant Position Busy

The ISDN Attendant Position Busy feature allows the position to be made busy by the attendant. When the attendant position is made busy in a single position arrangement, new calls to the position receive busy treatment. In a multiple position arrangement, new calls are directed to a different console position.

Originating/Terminating: No interaction.

13.3.117 ISDN Attendant Selective Customer Control of Facilities

The ISDN Attendant Selective Customer Control of Facilities (ASCCOF) feature allows an attendant to deny access to a trunk or Simulated Facilities Group.

Originating/Terminating: No interaction.

13.3.118 ISDN Attendant Through Dialing

The ISDN Attendant Through Dialing feature allows an attendant to access an outgoing facility for a calling party within the group who has restrictions or difficulty in placing an outgoing call.

Originating/Terminating: See "ISDN Attendant Busy Verification of Lines and Trunks", Section 13.3.104 .

13.3.119 ISDN Attendant Timed Reminder

The ISDN Attendant Timed Reminder feature provides a timer that is started when a call is camped on, when the called party has not answered after a transfer, or when a call is on hold. When the timer expires, the attendant is alerted and can pick up the call to talk to the calling party.

Originating/Terminating: No interaction.

13.3.120 ISDN Attendant Traffic

The ISDN Attendant Traffic feature provides the traffic counts for each attendant console position.

Originating/Terminating: No interaction.

13.3.121 ISDN Attendant Trunk Identification

The ISDN Attendant Trunk Identification feature provides a display of the trunk group and member number of the incoming or outgoing trunk in use either at the request of the attendant or automatically on incoming trunk calls.

Originating/Terminating: No interaction.

13.3.122 ISDN Automatic Customer Station Rearrangement

The ISDN Automatic Customer Station Rearrangement (ACSR) feature allows users to rearrange their DNs automatically when an ISDN station set is moved.

Originating: No interaction.

Terminating: When a user uses ISDN Automatic Customer Station Rearrangement (ACSR) to move her/his station set to another location within the switch, and any of the DNs for the station set have BCLID assigned, the assignment of BCLID, the active/inactive status of BCLID, and the billing will remain unchanged by the move.

The switch will keep the billing unchanged by either maintaining the counts during the move, or by generating an AMA record at the time of the move and starting a new (zeroed) count for the new location. This interaction is identical to what happens if RC is used to do the move.

13.3.123 ISDN Automatic-Hold/Drop Preference

The ISDN Automatic-Hold/Drop Preference feature automatically determines how to handle a call active on one call appearance when the user shifts to another appearance. Two types of treatment are provided: Automatic-Drop and Automatic-Hold.

Originating/Terminating: No interaction.

13.3.124 ISDN Basic Message Service

The ISDN Basic Message Service (BMS) feature provides basic personalized message service for customer groups.

Originating/Terminating: No interaction.

13.3.125 ISDN Bridging

The ISDN Bridging feature allows the multibutton key system (MBKS) set user to bridge onto a currently active call by pressing the active call appearance button on the MBKS set and going off-hook. This establishes a three-way call. This is different from standard Three-Way Calling because the third party initiates the bridge to the active call. Bridging is inhibited if Manual Exclusion is activated at an MBKS set engaged in the active call.

Originating/Terminating: No interaction.

13.3.126 ISDN Customer Station Rearrangement via MACSTAR® I and II Software

The ISDN Customer Station Rearrangement via MACSTAR® I and II software feature expands the Manual Customer Station Rearrangement (CSR) capabilities to include customer control over the ISDN feature.

Originating/Terminating: No interaction.

13.3.127 ISDN Delayed and Abbreviated Ringing

The ISDN Delayed and Abbreviated Ringing (DAR) feature alerts an MBKS set for a predetermined interval before ringing another designated MBKS set.

Originating/Terminating: No interaction.

13.3.128 ISDN Drop

The ISDN Drop feature allows the MBKS set user to drop the last party added to a conference call. For a 2-party call, pressing this button disconnects the MBKS set from the call.

Originating/Terminating: No interaction.

13.3.129 ISDN Electronic Directory Service Calling Name Display

The ISDN Electronic Directory (EDS) Service Calling Name Display feature gives the calling party's name and telephone number to the called party. Only names of callers within the business group are displayed.

Originating/Terminating: No interaction.

13.3.130 ISDN Electronic Directory Service Directory Query Display/Autocall

The ISDN Electronic Directory Service Directory Query Display (DQD) allows the user to query the electronic directory data base for a name using the ISDN station set. The user can generate an Autocall (automatic call setup) by pressing the appropriate button.

Originating/Terminating: No interaction.

13.3.131 ISDN Electronic Directory Service Query Service (Also Known as Application Processor Query Service)

The ISDN Electronic Directory Service Query Service allows a user to query the applications processor (AP) directory using a video display terminal for call and personnel information on a per-customer group basis.

Originating/Terminating: No interaction.

13.3.132 ISDN Hold

The ISDN Hold feature allows the MBKS set user to place a call on hold by pressing the function button. Any MBKS set with a call appearance for call on hold can pick up the call by pressing the call appearance button.

Originating: No interaction.

Terminating: A new BCLID message will not be sent when a call is reconnected after being on HOLD.

13.3.133 ISDN Initiated Priority Calling

The ISDN Initiated Priority Calling (IPC) feature provides the ISDN equivalent of Dial Call Waiting.

Originating: No interaction.

Originating/Terminating: See "Call Waiting Origination", Section 13.3.49 .

13.3.134 ISDN Manual Exclusion

The ISDN Manual Exclusion feature allows an MBKS set user to inhibit other stations from picking up a call on hold or bridging onto a call that is active at that station.

Originating/Terminating: No interaction.

13.3.135 ISDN Message Service Automatic Call Setup (Also Known as Autocall)

The ISDN Message Service Automatic Call Setup feature allows ISDN clients with the Message Retrieval Display or

Direct Access to Message Data Base feature to automatically set up a call to the directory number being displayed during the retrieval session.

Originating/Terminating: No interaction.

13.3.136 ISDN Message Service Message Retrieval Display

The ISDN Message Service Message Retrieval Display (MRD) allows ISDN station users to directly retrieve their Message Service Center or Leave Word Calling messages independent of whether SCA is active or inactive.

Originating/Terminating: No interaction.

13.3.137 ISDN Multiple Call Appearances

The ISDN Multiple Call Appearances feature allows an MBKS set to have more than one DN button assigned to the same DN. Incoming calls for this DN are handled in much the same way as Series Completion. A hunt is made for an idle call appearance of the called DN when a call is made to a DN that has multiple call appearances on an MBKS set.

Originating: No interaction.

Terminating: When a DN appears as Multiple Call Appearances (MCA) on a terminal, and that DN subscribes to BCLID, calls terminating to that DN will record the called DN as idle if there is any call appearance available to receive the call.

13.3.138 ISDN Number of Calls on Queue (Attendant)

Number of Calls on Queue can display each ISDN Incoming Call Identification (ICI) type. By repeating the request, the attendant can display all ICI queues.

Originating/Terminating: No interaction.

13.3.139 ISDN Number of Calls on Queue (MLHG)

Originating/Terminating: No interaction.

13.3.140 ISDN Originating Priority Calling

The ISDN Originating Priority Calling (OPC) feature provides the ISDN equivalent of Call Waiting Originating.

Originating/Terminating: See "ISDN Multiple Call Appearances, Section 13.3.137 .

13.3.141 ISDN Outgoing Called Line Identification

The ISDN Outgoing Called Line Identification (OCLID) feature provides a user originating a call with information about the called party and the facility or destination. Facility and call destination information are provided via the ISDN ICI call types.

Originating/Terminating: No interaction.

13.3.142 ISDN Priority Calling-Incoming Only

The ISDN Priority Calling Incoming Only (PCIO) feature is the ISDN equivalent of the Call Waiting Incoming Only feature. With this feature, calls outside the business group can terminate to an idle call appearance reserved for incoming calls (calls from outside the terminal group) when all unreserved call appearances are active.

Originating/Terminating: See "ISDN Multiple Call Appearances", Section 13.3.137 .

13.3.143 ISDN Shared Call Appearances of a Directory Number

The ISDN Shared Call Appearances of a Directory Number feature allows several MBKS station sets to share one or more DNs.

Originating: No interaction.

Terminating: When a DN appears as Shared Call Appearances of a Directory Number on more than one terminal, and that DN subscribes to BCLID, calls terminating to that DN will record the called DN as idle if there is any call appearance available to receive the call.

A uniqueness indicator sent with the initial address message to update the history block indicates whether the calling DN is unique or nonunique. If calls from the calling address identify a specific station, they are considered unique.

Some guidelines about whether a DN is marked as unique are as follows:

- MLHG
 - If members are assigned individual DNs, the individual DN is sent as the calling party number and marked as unique.
 - If members do not have individual DNs assigned, the main DN is sent as the calling party number and marked as nonunique.
 - If the main DN is assigned as an individual DN to the first member in the group (regular or circular), the main DN is sent as the calling party number and marked as unique.
- Multiparty
 - Two-party origination with Automatic Number Identification (ANI) results in a calling party number being sent and marked as unique.
 - Two-party origination with Operator Number Identification (ONI) does not include the calling party number in the call setup and marked as nonunique.
 - Three-or-more-party originations do not include the calling party number in the call setup; therefore, the uniqueness indicator is not sent either and marked as nonunique.
- PBX
 - Calls originating from PBX trunk connections do not include calling party numbers and, thus, do not include any uniqueness indicators.
 - Calls originating from PBX line connections include calling party numbers and are marked as nonunique.
 - Calls originating from Primary Rate Interface (PRI) connections may include calling party numbers but are always marked as nonunique.
- ISDN-Shared DN Originations
 - Primary DN originations include the primary DN as the calling party number, which is marked as unique.

- Secondary DN originations include the secondary DN as the calling party number, which is marked as nonunique.

Nonunique indicates the sharing of an address between two or more terminals. A customer-set office parameter determines whether feature activations toward nonunique DNs are allowed.

13.3.144 ISDN Single-Digit Intercom

The ISDN Intercom (ICOM) feature is a form of ISDN station-to-station calling. The ICOM user can originate a call to the ICOM group member by pressing the ICOM buttons.

Originating/Terminating: No interaction.

13.3.145 ISDN Time and Date Display

The ISDN Time and Date Display feature is a subscription feature for ISDN attendants and ISDN station set users. The 5ESS®-2000 switch provides the time and date to the ISDN station set.

Originating/Terminating: No interaction.

13.3.146 ISDN Total Number of Calls Handled Display for ISDN Attendants

Total Number of Calls Handled Display for ISDN Attendants provides supervisors with traffic data information about each attendant in the ISDN attendant group.

Originating/Terminating: No interaction.

13.3.147 Limited Intragroup Individual Calling Line Identification

The Limited Intragroup ICLID (LIGI) feature allows the calling DN to be displayed at the terminating station set when calls originate and terminate within the same terminal group.

Originating: No interaction.

Terminating: If LIGI is active, only calls made within a terminal group receive BCLID CND display; calls from outside the terminal group receive a private number display.

13.3.148 Line Time Slot Bridging

Line Time Slot Bridging (LTSB) provides an off-premises extension to a single directory number and bridging of two separate DNs in two separate locations with barge-in capabilities for customers served by the same 5ESS®-2000 switch. The Line Time Slot Bridging feature is only available via a service order.

Originating: No interaction.

Terminating: The BCLID feature can be assigned to a line with Line Time Slot Bridging.

The Internally Bridged Dual Service Package 3 (99-5E-4184) feature permits the 5ESS®-2000 switch to allow one DN LTSB lead and non-lead lines to use the BCLID feature. The 5ESS®-2000 switch records BCLID data for calls to LTSB lines with the BCLID feature. The 5ESS®-2000 switch sends this BCLID data over the BCLID data link.

Internally Bridged Dual Service Package 1 (99-5E-3338), available as a software update to the 5E11 software release and with the 5E12 and later software releases, Internally Bridged Dual Service Package 2 (99-5E-3739),

available as a software update to the 5E12 software release and with 5E13 and later software releases, and Internally Bridged Dual Service Package 3 (99-5E-4184), available with the 5E13 and later software releases, are LTSB feature interaction modifications designed to enhance the current 5ESS®-2000 Switch LTSB feature by allowing more features to be assigned to and used on 1-DN LTSB lines. For more information, see 235-190-103 *Business and Residence Feature Descriptions*, Line Time Slot Bridging.

13.3.149 Loudspeaker Paging

Loudspeaker Paging allows dial access to customer-owned loudspeaker paging equipment.

Originating/Terminating: No interaction.

13.3.150 Main Satellite Service

Main Satellite Service allows a customer receiving business group service provided by two or more separate switching machines in the same geographic area to receive the same service available as if all locations were served by a single switch.

Originating/Terminating: No interaction.

13.3.151 Make-Busy Key

Make-Busy Key (MBK) allows designated lines to look busy to the central office with a key operation.

Originating: No interaction.

Terminating: When building the BCLID message and determining the busy/idle status of the group, the group will be considered busy if all members of the group are busy, or if the group has been made artificially busy with the make-busy key.

13.3.152 Message Detail Recording on Customer Premises

Message Detail Recording (MDR) on Customer Premises provides call detail information on public telephone network and private facility calls via a tape unit located on the customer premises.

Originating/Terminating: No interaction.

13.3.153 Message Service Automatic Call (History) Display

Message Service Automatic Call (History) Display uses the 5ESS®-2000 switch call history information with the AP data base to display call information, client status information, and messages to the Message Service attendant when the Message Service client calls from his/her station set to receive messages.

Originating/Terminating: No interaction.

13.3.154 Message Service Automatic Control of Message Waiting Indicator

Message Service Automatic Control of Message Waiting Indicator automatically activates the Message Waiting Indicator at the client's station set when a message is recorded in the message data base.

Originating/Terminating: No interaction.

13.3.155 Message Service Direct Access to Message Data Base

Message Service Direct Access to Message Data Base allows clients to update their status information, leave

messages for one or more clients, and retrieve messages without assistance from the Message Service attendant.

Originating/Terminating: No interaction.

13.3.156 Message Service Leave Word Calling

Message Service Leave Word Calling (LWC) allows a client to leave a *canned* message for another client of the Message Service without assistance from a Message Service attendant.

Originating/Terminating: No interaction.

13.3.157 Message Service Message Data Base

Message Service Message Data Base stores customer organizational data, client status data, and standard *canned* messages. A message data base is available to the Message Service attendant on the applications processor.

Originating/Terminating: No interaction.

13.3.158 Message Service Print Message On Demand

Message Service Print Message On Demand provides a printout of messages at a predetermined printer on request from the Message Services client.

Originating/Terminating: No interaction.

13.3.159 Multifrequency Pulsing

Multifrequency Pulsing provides the capability to transmit alternate current address signals between offices. Each address digit is transmitted as a pulsed pair of frequencies.

Originating/Terminating: No interaction.

13.3.160 Multiline Hunt Service Circular Hunting

Multiline Hunt Service Circular Hunting allows all lines in a multiline hunt group to be tested for busy, regardless of the point of entry into the group.

Originating/Terminating: See "Multiline Hunt Service Regular Hunting", Section 13.3.164 .

13.3.161 Multiline Hunt Service ISDN Attendant

Multiline Hunt Service for ISDN Attendant (ISAT) is a type multiline hunting arrangement for ISDN attendant positions.

Originating/Terminating: See "Multiline Hunt Service Regular Hunting", Section 13.3.164 .

13.3.162 Multiline Hunt Service Multiple Position Hunt

Multiline Hunt Service Multiple Position Hunt provides the ability to distribute calls over a group of console positions, each of which can handle several types of incoming calls received on dedicated terminals.

Originating/Terminating: See "Multiline Hunt Service Regular Hunting", Section 13.3.164 .

13.3.163 Multiline Hunt Service Precedence Regular Hunt

Multiline Hunt Service Precedence Regular Hunt starts hunting for an idle terminal at the terminal associated with

the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating/Terminating: See "Multiline Hunt Service Regular Hunting", Section 13.3.164 .

13.3.164 Multiline Hunt Service Regular Hunting

Multiline Hunt Service Regular Hunting starts hunting for an idle terminal at the terminal associated with the called DN and ends with the last terminal in a prearranged group. The hunt completes to the first idle terminal found.

Originating: No interaction.

Terminating: BCLID may be assigned directly to Member 1 of the Multiline Hunt Group (MLHG).

If the MLHG customer wants BCLID to apply to terminations made to members with individual DNs, or no-hunt DNs, those DNs must subscribe to BCLID individually.

When termination is made to the DN of an MLHG, the group will be checked to see if BCLID is assigned to it. When building the BCLID message and determining the busy/idle status of the group, the group will be considered busy if all members of the group are busy, or if the group has been made artificially busy (for example, with a group make-busy key).

If the BCLID customer wishes to record BCLID information only for calls that originate outside the MLHG, the customer must assign a Terminal Group (TG) feature to the MLHG. The 5ESS®-2000 switch software will then record a BCLID message if the Terminal Group ID (TGID) of the originating party is non-existent or does not match the TGID of the TG feature for the MLHG.

When the called DN to be recorded in the BCLID message is an MLHG DN, the DN will be replaced with a two-digit BCLID MLHG ID associated with the MLHG, and the MLHG member number for the call termination.

When the MLHG is busy, the member number in the BCLID message will be zero.

13.3.165 Multiline Hunt Service Uniform Call Distribution Hunt

Multiline Hunt Service Uniform Call Distribution Hunt provides an even distribution of incoming calls among the available members of a hunt group.

Originating/Terminating: See "Multiline Hunt Service Regular Hunting", Section 13.3.164 .

13.3.166 Multiline Variety Package Service

Multiline Variety Package Service provides a packaged group of services for customers with a small group of lines that are not defined as a Business Line Group.

Originating/Terminating: No interaction.

13.3.167 Multiple Directory Numbers per Line with Distinctive Ringing (Multiple DNs per Line)

Multiple DNs per Line (MDNL) with Distinctive Ringing provides multiple DNs per single port [line equipment number (LEN)]. An originating call from any of the DNs is always associated with the *Master DN*, pointed to by the LEN translator; therefore, any call placed from a DN associated with the LEN passes the *Master DN* as the calling party number.

Originating: No interaction.

Terminating: For a line with MDNL, the master DN for the line may be assigned BCLID.

13.3.168 National ISDN Additional Call Offering (Voice and Data)

The National ISDN Additional Call Offering (ACO) feature is based on Bellcore requirements. This feature notifies the Integrated Services Digital Network (ISDN) user via Q.931 signaling procedures that there is a circuit-switched voice (CSV) or circuit-switched data (CSD) call waiting for that user at the serving 5ESS[®]-2000 switch; the call cannot be delivered due to the unavailability of a B-channel. The user can answer the incoming call by putting an existing call on hold or by disconnecting an existing call. The call reference busy limit (CRBL) subscription parameter limits the number of concurrent originating and terminating calls that the user may have established. Arriving calls beyond this limit are given busy treatment.

Originating/Terminating: See "ISDN Multiple Call Appearances", Section 13.3.137 .

13.3.169 National ISDN Calling Number Identification Services

The National ISDN Calling Number Identification Services (I-CNIS) feature is based on Bellcore requirements and is an enhancement to the existing Calling Party Number (CPN)/Billing Number (BN) Transmittal in the 5ESS[®]-2000 Switch Private Network Environment feature.

Originating/Terminating: No interaction.

13.3.170 National ISDN Calling Number Identification Services Intra-Group Only Delivery Optioning

The Calling Number Identification Services (CNIS) Intra-Group Only Delivery Optioning (CNIGI) feature allows restriction of the Calling Party Number (CPN) delivery, Redirecting Number (RN) delivery, and Calling Party Subaddress (CgPS) delivery features from members of a terminal group. It also restricts the provisioning of ICLID, CNAM, and EDS displays to intra-group calls. CNIGI does not effect delivery of information to residential parties. Whether the CNIGI restriction applies depends on the settings of the CNIGI option for the office, business group, and individual line/PRI trunk. The CNIGI restriction applies to all members of the terminal group, including National ISDN BRI/PRI, Custom BRI/PRI, and analog lines.

Originating/Terminating: No interaction.

13.3.171 National ISDN Channel/Terminal Configurations and Restrictions

The Channel/Terminal Configurations and Restrictions feature provides channel and terminal configurations and restrictions according to Bellcore requirements. Integrated Services Digital Network (ISDN) customers with a single terminal can be restricted to one B-channel. The ISDN customers with two or more terminals can be restricted to one B-channel via an associated group (AG). Two AGs are permitted per BRI. In an AG, customers are allowed terminals that have circuit-switched voice (CSV), circuit-switched data (CSD), on-demand B-channel (ODB) packet data, permanent packet B-channel (PPB) data, or any combination of the four services.

Originating/Terminating: No interaction.

13.3.172 National ISDN Electronic Key Telephone Service

The National ISDN Electronic Key Telephone Service feature allows a user served by a National Integrated Services Digital Network (ISDN) terminal to have access to multiple directory number (DNs). Additionally, a DN can be accessed by more than one user (that is, a Shared DN). Directory numbers (DNs) may be shared on the same basic rate interface (BRI) and or on different ISDN BRIs.

Originating/Terminating: See "ISDN Shared Call Appearances of a Directory Number", Section 13.3.143 .

13.3.173 National ISDN Hold (Voice and Data)

National ISDN Hold feature allows a National ISDN station user to *hold* a call in progress by flashing and then dialing the Call Hold code or operating a function key, if available.

Originating/Terminating: See "ISDN Hold", Section 13.3.132 .

13.3.174 National ISDN Interswitch Calling Number Identification Services

The ISDN Interswitch Calling Number Identification Services feature is comprised of originating features and terminating features. The originating features consist of number screening, number privacy, and calling party number/calling party subaddress transfer. The terminating features include calling number delivery. Interswitch Calling Number Identification Services provides the feature capabilities between switches.

Originating/Terminating: See "ISDN Multiple Call Appearances", Section 13.3.137 .

13.3.175 Night Service

Night Service forwards calls directed to the attendant to preselected station lines in the customer group when regular consoles are not attended.

Originating/Terminating: See "Call Forwarding Variable", Section 13.3.38 .

13.3.176 Non-Data-Link Attendant Console

Non-Data-Link Attendant Console is a small desk top position from which the attendant handles calls.

Originating/Terminating: No interaction.

13.3.177 On-Hook/Off-Hook Queuing for Outgoing Trunks (Also Known as Queuing for Outgoing Trunks)

Queuing for Outgoing Trunks allows on-hook or off-hook queuing for a busy outgoing trunk. With on-hook queuing, the station is notified with a distinctive ring when a trunk is available. With off-hook queuing, the user remains off-hook, and the call is completed when the trunk is available.

Originating: No interaction.

Terminating: When termination is attempted to a busy PBX trunk group with BCLID that results in the originator getting queued, no BCLID message will be sent when the call is queued.

When a call is dequeued for a PBX trunk group with BCLID, a BCLID message with 7-digit terminating number will be sent when the call is terminated.

13.3.178 Outgoing Call Tracing

Outgoing Call Tracing is used when nuisance calls are found to be coming from one particular line. The terminating DN is put on the trace list and all originating calls from that office are checked against the list. When a call is made to the number on the list, the originating DN is identified.

Originating/Terminating: No interaction.

13.3.179 Outward Calling for PBX Via Automatic Route Selection

Outward Calling for PBX Via Automatic Route Selection (ARS) allows a PBX to take advantage of Business Group

features relating to outgoing private facilities by terminating them at the serving switch via special access lines.

Originating/Terminating: No interaction.

13.3.180 Outward Wide Area Telecommunications Service (OUTWATS)

Outward Wide Area Telecommunications Service (OUTWATS) allows customers to make calls to certain zone(s) or band(s) on a direct dialing basis for either a flat monthly charge or a charge based on accumulated usage.

Originating/Terminating: See "800 Service [Also Known as Inward Wide Area Telecommunication Service (INWATS)]", Section 13.3.2 .

13.3.181 OUTWATS with Simulated Facilities Group

The OUTWATS with Simulated Facilities Group feature can restrict the number of simultaneous OUTWATS calls by software, rather than by the physical size of a dedicated trunk group.

Originating/Terminating: See "800 Service [Also Known as Inward Wide Area Telecommunication Service (INWATS)]", Section 13.3.2 .

13.3.182 Power Failure Transfer Attendant

Power Failure Transfer Attendant routes calls destined for the attendant to a preassigned DN during a commercial power failure at the customer premises.

Originating/Terminating: See "Call Forwarding Variable", Section 13.3.38 .

13.3.183 Precedence and Preemption Features

Precedence and Preemption is a part of the DSN/AUTOVON network for operating routine and precedence calls used primarily by the military.

Originating: No interaction.

Terminating: If a Precedence and Preemption call terminates to a BCLID customer, a BCLID message will be sent.

13.3.184 Priority Queuing

Priority Queuing is used to assign a queue priority level that establishes precedence for facilities when immediate access is not obtainable.

Originating: No interaction.

Terminating: When termination is attempted to a busy PBX trunk group with BCLID that results in the originator getting queued, no BCLID message will be sent when the call is queued.

When a call is dequeued for a PBX trunk group with BCLID, a BCLID message with 7-digit terminating number will be sent when the call is terminated.

13.3.185 Private Branch Exchanges and Trunks

Private Branch Exchanges (PBXs) are customer switching systems that can be either at a central office (CO) or located on the customer premises.

Originating: No interaction.

Terminating: PBX with DID (using trunks or PRI) and PBX without DID (if part of a multiline hunt group) can subscribe to the BCLID feature.

13.3.186 Private Option for the Last Incoming Number

The Private Option for the Last Incoming Number (POLIN) feature, a secured and optioned feature, provides the option to have the last incoming call considered private in all cases, even if the calling party had not marked the number as private.

Originating/Terminating: No interaction.

13.3.187 Radio Paging Access

Radio Paging Access allows attendants and station users to access radio paging equipment and to page individuals carrying pocket radio receivers.

Originating/Terminating: No interaction.

13.3.188 Recall From Subscriber

Recall From Subscriber allows the customer to recall an Operator Services Position System (OSPS) operator for certain classes of operator-assisted calls by flashing the switchhook. The operator recalled is not necessarily the operator who originally assisted on the call.

Originating/Terminating: No interaction.

13.3.189 Recorded Telephone Dictation

Recorded Telephone Dictation (RTD) permits access to and control of customer-owned dictating equipment from a station in the customer group. The station must be equipped for dual tone multifrequency signaling.

Originating/Terminating: No interaction.

13.3.190 Remote Activation of Call Forwarding (Remote Access to Call Forwarding)

Remote Activation of Call Forwarding (RACF) provides the ability to remotely activate/deactivate Call Forwarding by using dialed codes.

Originating/Terminating: No interaction.

13.3.191 Remote Call Forwarding

Remote Call Forwarding allows all calls to a specified DN to forward-to a remote 7- or 10-digit telephone number.

Originating/Terminating: See "Call Forwarding Variable", Section 13.3.38 .

13.3.192 Revertive Pulsing

Revertive Pulsing is the method of interoffice signaling originating with the panel systems and continuing with the No. 1 Crossbar.

Originating/Terminating: No interaction.

13.3.193 Ringback Queuing

Ringback Queuing allows a station user encountering a busy network facility to queue for an idle facility by dialing a function code and going on-hook in a preselected time following the queuing confirmation code. The caller is rung back when the appropriate facility becomes idle.

Originating: No interaction.

Terminating: When termination is attempted to a busy PBX trunk group with BCLID that results in the originator getting queued, no BCLID message will be sent when the call is queued.

When a call is dequeued for a PBX trunk group with BCLID, a BCLID message with 7-digit terminating number will be sent when the call is terminated.

When a caller abandons while in queue, or the queue entry times out, a BCLID message will be sent. The BCLID message will show the terminator marked busy, and the PBX trunk group identifier and member number of zero will appear as the called DN since the call never terminated.

13.3.194 Satellite Attendant Transfer

Satellite Attendant Transfer provides the same service as the Call Transfer Attendant feature to a satellite location having no attendant.

Originating/Terminating: See "Call Transfer Internal Only", Section 13.3.46 .

13.3.195 Screen List Editing

Screen List Editing (SLE) is a capability used in conjunction with all LASS selective feature lists.

Originating/Terminating: No interaction.

13.3.196 Selective Call Acceptance

Selective Call Acceptance (SCA) allows residential and business users to restrict which incoming voice calls are allowed to terminate.

Originating: No interaction.

Terminating: The CPE of the BCLID subscriber will not receive any information if a call is denied because of SCA.

If the call is forwarded because of SCA, the same interaction as with Call Forwarding Variable applies. See "Call Forwarding Variable", Section 13.3.38 .

13.3.197 Selective Call Forwarding

Selective Call Forwarding (SCF) allows a customer to preselect which calls are forwarded based on the telephone number of the calling party.

Originating: No interaction.

Terminating: If a call attempt is made to a DN that subscribes to BCLID, and that DN is forwarded as the result of Selective Call Forwarding (SCF), no BCLID message will be recorded for the attempt.

If a call is forwarded to a BCLID customer via SCF, the DN of the party who initially originated the call will be recorded into the BCLID CPE as the calling DN, and the DN of the BCLID customer (remote or forwarded-to station) will be recorded into the BCLID CPE as the originally called party. BCLID data is not transmitted to the base station.

In the multiple forwarding case, the DN of the BCLID customer (remote or forwarded-to station) will be recorded into

the BCLID CPE as the originally called party.

13.3.198 Selective Call Rejection

Selective Call Rejection (SCR) allows a customer to reject calls from telephone numbers that are on the customer's SCR list.

Originating: No interaction

Terminating: The CPE of BCLID subscriber will not receive any information if a call is denied because of SCR.

13.3.199 Selective Carrier Denial

Selective Carrier Denial (SCD) allows the local office to selectively inhibit certain calls, handled by a carrier from lines designated as nonpaying subscribers by the particular inter-LATA carrier that handles the call.

Originating/Terminating: No interaction.

13.3.200 Selective Control of Facilities

Selective Control of Facilities (SCOF) allows the customer, to busy-out private facilities via key control and, thereby, deny all originating access.

Originating/Terminating: No interaction.

13.3.201 Selective Distinctive Alert (Distinctive Alert)

Selective Distinctive Alert (SDA) allows a customer to preselect which calls have distinctive alerting treatment based on the telephone numbers of the calling parties.

Originating/Terminating: No interaction.

13.3.202 Semirestricted Station Originating and Terminating

Semirestricted Originating and Terminating provides the ability to restrict a Business Group Line from originating and/or receiving any calls from outside the group. Outside the group means "dial 9" and DID. Intragroup calls, attendant calls, and calls over private facilities are permitted. Restricted calls are routed to the special group intercept announcement.

Originating/Terminating: See "Unrestricted Origination and Terminating", Section 13.3.223 .

13.3.203 Series Completion

Series Completion is a type of hunting in which DNs are grouped into a prearranged ordered list.

Originating: No interaction

Terminating: For BCLID to be assigned to a Series Completion group, each DN of the group must be assigned the feature, or be a member of a BFG that subscribes to the BCLID feature.

If the BCLID customer wishes to record BCLID information only for calls that originate outside the Series Completion group, the customer must assign a Terminal Group (TG) feature to each member of the Series Completion group. The 5ESS[®]-2000 software will then record a BCLID message if the Terminal Group ID (TGID) of the originating party is non-existent or does not match the TGID of the TG feature for the Series Completion Group.

When a call is made to a Series Completion group, an attempt will be made to each member of the group until an

idle member is found that can receive the call. Only one BCLID message will be generated for each termination to the Series Completion Group even though these multiple attempts are made.

13.3.204 Simulated Facilities Groups for In and Out Calls

The Simulated Facilities Groups for In and Out Calls feature provides the capability to restrict the number of simultaneous DID calls terminating to the group, and the number of simultaneous calls originating by the group to direct distance dialing (DDD).

Originating: No interaction.

Terminating: When termination is made to the DN of a PBX configured as a trunk group or when termination is made to an MLHG, and an SFG is not available to complete the incoming call, the trunk group associated with the SFG or MLHG associated with SFG will be checked to see if BCLID is assigned to it. If BCLID is assigned, the BCLID message will be built and sent and the group will be considered busy. In case the first trunk group is busy and the call is routed to another trunk group, the BCLID message will be built and sent upon termination of the call at the last trunk group.

13.3.205 Single-Digit Dialing

Single-Digit Dialing permits station users to reach any station of a preselected group, or other internal facility, by dialing single-digit codes.

Originating/Terminating: No interaction.

13.3.206 Smart Set Interface

Smart Set Interface allows customers to use *smart* station sets. Flash requests and feature function codes are associated with unique keys on the station set.

Originating/Terminating: No interaction.

13.3.207 Special Intercept Announcement

Special Intercept Announcement allows a unique intercept announcement to be provided to each business group.

Originating/Terminating: No interaction.

13.3.208 Speed Calling (Also Known as Abbreviated Dialing)

Speed Calling permits the customer to dial selected numbers using fewer digits than required.

Originating/Terminating: No interaction.

13.3.209 Tandem Call Trace

Tandem Call Trace is used when nuisance calls are found to be incoming from a tandem office. The traced DN is marked for tracing at that office to identify the tandem trunk.

Originating/Terminating: No interaction.

13.3.210 Tandem Tie Trunk Dialing

Tandem Tie Trunk is another name for Nonsenderized Tie Trunks (NTT). It uses a switching method whereby the station user directly controls, in stages, the routing of an outgoing tie trunk call through the originating switch as well

as any intermediate switches.

Originating/Terminating: See "800 Service [Also Known as Inward Wide Area Telecommunication Service (INWATS)]", Section 13.3.2 .

13.3.211 Three-Way Calling

Three-Way Calling (TWC) allows a customer to add a third party to an existing conversation.

Originating: No interaction.

Terminating: When a BCLID customer is added to a three-way call, the DN of the controller will appear as the originating DN in the BCLID message.

13.3.212 Tie Trunk Access

Tie Trunk Access connects two or more business customer locations. They can terminate in an attendant console for direct access or have dial access.

Originating/Terminating: See "800 Service [Also Known as Inward Wide Area Telecommunication Service (INWATS)]", Section 13.3.2 .

13.3.213 Time-of-Day

Time-of-Day (TOD) allows a customer to preschedule recent change, thereby controlling activation and deactivation of certain modular features and changes to feature parameters via dialed codes and key control. Calling Number Delivery can be controlled by TOD.

Originating/Terminating: No interaction.

13.3.214 Toll Diversion to Attendant

Toll Diversion to Attendant (TDA) intercepts toll or code calls from restricted Business Group Lines and routes them to the attendant (or other designated line).

Originating/Terminating: No interaction.

13.3.215 Tracing of Terminating Calls

Tracing of Terminating Calls allows the identification of calling lines while the call is in progress. When incoming calls are to be traced, the terminating DN is placed on the call tracing list where it remains until manually removed.

Originating/Terminating: No interaction.

13.3.216 Traveling Class Mark

Traveling Class Mark (TCM) carries class-of-service information along with the called number through a private network. The TCM provides unique downstream routing and screening information.

Originating/Terminating: No interaction.

13.3.217 Trunk Answer From Any Station

Trunk Answer From Any Station (TAS) activates a common alerting signal on the customer premises, when the attendant positions are in Night Service for calls directed to the attendant. These calls can then be answered from

any nonrestricted station in the business group by dialing a special answer code.

Originating/Terminating: No interaction.

13.3.218 Trunk Dial Transfer

Trunk Dial Transfer provides the Call Transfer Individual feature to tie trunks.

Originating/Terminating: No interaction.

13.3.219 Trunk Group Busy Lamps

The Trunk Group Busy Lamps feature provides a visual indication on a private facility trunk group basis when the facility group is in use.

Originating/Terminating: See "800 Service [Also Known as Inward Wide Area Telecommunication Service (INWATS)]", Section 13.3.2 .

13.3.220 Two-Party ANI/ONI Capability

The Two-Party Automatic Number Identification/Operator Number Identification (ANI/ONI) Capability allows operating companies the choice of giving two-party lines Automatic Number Identification (ANI) treatment or Operator Number Identification (ONI) treatment.

Originating: No interaction.

Originating: If a call is originated from a two-party ANI/ONI capability, the calling DN message shows up as "OUT OF AREA".

Terminating: The BCLID feature may not be assigned to a Two-Party Line with ANI/ONI.

13.3.221 Two-Party Line

Two-Party Line provides basic POTS to two customers sharing the same line.

Originating: If a call is originated from a two-party line, the calling DN message shows up as "OUT OF AREA".

Terminating: The BCLID feature may not be assigned to a Two-Party Line.

13.3.222 Uniform Numbering

Uniform Numbering provides a customer-specified 7-digit numbering plan that identifies all business group stations interconnected by the facility network. Each customer switch connected by the Electronic Tandem Network (ETN) is identified by a 3-digit code.

Originating/Terminating: No interaction.

13.3.223 Unrestricted Originating and Terminating

This is basically the absence of originating and/or terminating restriction in a terminal group.

Originating: No interaction.

Terminating: For BCLID to be assigned to a Terminal Group (TG), each DN for the group must be assigned the feature, or each DN for the group must be assigned a BFG that subscribes to the BCLID feature.

13.3.224 User-Side Primary Rate Interface Implementation

This feature allows PRI support in public (private trunks providing access to public facilities) and private networks.

Originating: No interaction.

Terminating: A PBX configured as a PRI trunk group may be assigned BCLID.

For an incoming call that originates from an incoming PRI trunk and terminates to a BCLID customer, the calling DN and calling DN privacy.

If no calling DN is sent in the PRI SETUP message, an ASCII "O" will appear in the BCLID message as the calling DN. If the calling DN privacy sent in the PRI SETUP message shows the calling DN is private, an ASCII "P" will appear in the BCLID message as the calling DN.

If less than a 10-digit calling DN is passed by the PRI, the missing digits will be replaced by blanks in the BCLID message. If more than 10 digits are passed, only the first 10 will be used.

13.4 ENGINEERING

13.4.1 Design Considerations

The BCLID is related to the Individual Calling Line Identification (ICLID) feature that was enhanced for interswitch calls. Both features provide for the transmission of calling party data. The ICLID provides the calling DN, time, and date at the called DN. The BCLID allows for additional information, the calling party line status, and the busy/idle status of the called party. All the BCLID information for each incoming call is recorded at a central location on the customer's premises.

13.4.2 Hardware

There is no hardware change in the 5ESS®-2000 switch for BCLID.

13.4.3 Software

13.4.3.1 Timing

A requirement for BCLID feature is that the BCLID information must be delivered to the AP within one-half second after the arrival of the call (for example, ringing applied to terminator or trunk/seize).

13.4.3.2 Messages

13.4.3.2.1 General

A new feature identity is created to identify the message sent over the API link as a BCLID information message. The BCLID message will come in one of eight different lengths.

An example of a BCLID information message is as follows:

BCLID INFO MESSAGE CONTENT		
INFORMATION FIELD	TYPE	LENGTH
Switch Client	Binary ^a	4
Business Customer Identification	Binary	2
Feature Identification	Binary	1
Length	Binary	1
Message Type	Binary	1
BCLID	ASCII	29/38/43/44

FILL	b	1
Notes: a. This field can be ignored by the AP. b. The fill field is reserved.		

The BCLID information field may be any of the eight variations that follow.

13.4.3.2.2 BCLID Type 1 Field-7-digit Terminating Line DN

This field contains the BCLID information that is generated at the terminating switch for incoming calls to users subscribing to the BCLID feature. This version is generated when the DATE is included in the BCLID message, and the calling DN is available.

```
<som><cr-lf>BCbaaccbdeeffbfgggggggbhhhhhhhhhhbibj<cr-lf><em>
                                0xyyyyyy
```

Note 1: 0xyyyyyy format is used in place of gggggggg when the terminating line is part of an MLHG.

The message contains the following:

<som>	-	The ASCII character start of message (octal 001)
<cr-lf>	-	The ASCII characters carriage return (octal 015) and line feed (octal 012)
BC	-	BCLID I/O message identifier
b	-	ASCII space
aa	-	Month (01 - 12)
cc	-	Day of Month (01 - 31)
b	-	ASCII space
dd	-	Hours (24-hour format)
ee	-	Minutes
ff	-	Seconds
b	-	ASCII space
gggggggg	-	7-digit terminating line DN
or		
0xx	-	MLHG group ID
yyyy	-	MLHG terminal number
b	-	ASCII space
hhhhhhhhh	-	Calling DN (10 digits)
h		
b	-	ASCII space
i	-	Called DN busy/idle status indicator ("I" - idle, "B" - busy)
b	-	ASCII space
j	-	Calling DN multi-status indicator
		("T" - true DN or "M" - DN cannot be identified)
<cr-lf>	-	The ASCII characters carriage return (octal 015) and line feed (octal 012)
	-	The ASCII character end of message (octal 031)

13.4.3.2.3 BCLID Type 2 Field-7-digit Terminating Line DN

This field contains the BCLID information that is generated at the terminating switch for incoming calls to users subscribing to the BCLID feature. This version is generated when the DATE is included in the BCLID message, and the calling DN is not available or is private.

```
<som><cr-lf>BCbaaccbdeeffbfgggggggbhbibj<cr-lf><em>
                                0xyyyyyy
```

Note 1: 0xyyyyyy format is used in place of gggggggg when the terminating line is part of an MLHG.

The message contains the following:

<som>	-	The ASCII character start of message (octal 001)
<cr-lf>	-	The ASCII characters carriage return (octal 015) and line feed (octal 012)

BC	-	BCLID I/O message identifier
b	-	ASCII space
aa	-	Month (01 - 12)
cc	-	Day of Month (01 - 31)
b	-	ASCII space
dd	-	Hours (24-hour format)
ee	-	Minutes
ff	-	Seconds
b	-	ASCII space
ggggggg	-	7-digit terminating line DN
or		
0xx	-	MLHG group ID
yyyy	-	MLHG terminal number
b	-	ASCII space
h	-	"P" (PRIVATE) indicator or "O" (OUT OF AREA) indicator
b	-	ASCII space
i	-	Called DN busy/idle status indicator ("I" - idle, "B" - busy)
b	-	ASCII space
j	-	Calling DN multistatus indicator
		("T" - true DN or "M" - DN cannot be identified)
<cr-lf>	-	The ASCII characters carriage return (octal 015) and line feed (octal 012)
	-	The ASCII character end of message (octal 031)

13.4.3.2.4 BCLID Type 3 Field-7-digit Terminating Line DN

This field contains the BCLID information that is generated at the terminating switch for incoming calls to users subscribing to the BCLID feature. This version is generated when the DATE is not included in the BCLID message, and the calling DN is available.

```
<som><cr-lf>BCbddeeffbgggggggbhhhhhhhhhhbibj<cr-lf><em>
0xyyyyy
```

Note 1: 0xyyyyy format is used in place of gggggggg when the terminating line is part of an MLHG.

The message contains the following:

<som>	-	The ASCII character start of message (octal 001)
<cr-lf>	-	The ASCII characters carriage return (octal 015) and line feed (octal 012)
BC	-	BCLID I/O message identifier
b	-	ASCII space
dd	-	Hours (24-hour format)
ee	-	Minutes
ff	-	Seconds
b	-	ASCII space
ggggggg	-	7-digit terminating line DN
or		
0xx	-	MLHG group ID
yyyy	-	MLHG terminal number
b	-	ASCII space
hhhhhhhhh	-	Calling DN (10 digits)
b	-	ASCII space
i	-	Called DN busy/idle status indicator ("I" - idle, "B" - busy)
b	-	ASCII space
j	-	Calling DN multistatus indicator
		("T" - true DN or "M" - DN cannot be identified)
<cr-lf>	-	The ASCII characters carriage return (octal 015) and line feed (octal 012)
	-	The ASCII character end of message (octal 031)

13.4.3.2.5 BCLID Type 4 Field-7-digit Terminating Line DN

This field contains the BCLID information that is generated at the terminating switch for incoming calls to users subscribing to the BCLID feature. This version is generated when the DATE is not included in the BCLID message, and the calling DN is not available or is private.

```
<som><cr-lf>BCbddeeffbgggggggbhhbibj<cr-lf><em>
0xyyyyy
```


Note 1: 0xxxxxxx format is used in place of xxxxxxxx when the terminating line is part of an MLHG.

The message contains the following:

<som>	-	The ASCII character start of message (octal 001)
<cr-lf>	-	The ASCII characters carriage return (octal 015) and line feed (octal 012)
BC	-	BCLID I/O message identifier
b	-	ASCII space
dd	-	Hours (24-hour format)
ee	-	Minutes
ff	-	Seconds
b	-	ASCII space
ggggggg	-	7-digit terminating line DN
or		
0xx	-	MLHG group ID
yyyy	-	MLHG terminal number
b	-	ASCII space
h	-	"P" (PRIVATE) indicator or "O" (OUT OF AREA) indicator
b	-	ASCII space
i	-	Called DN busy/idle status indicator ("I" - idle, "B" - busy)
b	-	ASCII space
j	-	Calling DN multistatus indicator
		("T" - true DN or "M" - DN cannot be identified)
<cr-lf>	-	The ASCII characters carriage return (octal 015) and line feed (octal 012)
	-	The ASCII character end of message (octal 031)

13.4.3.2.6 BCLID Type 1 Field-10-digit Terminating Line DN

This field contains the BCLID information that is generated at the terminating switch for incoming calls to users subscribing to the BCLID feature. This version is generated when the DATE is included in the BCLID message, and the calling DN is available. All information in this field is coded in ASCII as follows:

```
<som><cr-lf>BCbaaccbdeeffbggggggggggbbhhhhhhhhhhbbibj<cr-lf><em>
0000xxxxxxx
```

Note: 0xxxxxxx format is used in place of xxxxxxxx when the terminating line is part of an MLHG.

The message contains the following:

<som>	-	The ASCII character start of message (octal 001)
<cr-lf>	-	The ASCII characters carriage return (octal 015) and line feed (octal 012)
2)		
BC	-	BCLID I/O message identifier
b	-	ASCII space
aa	-	Month (01 - 12)
cc	-	Day of Month (01 - 31)
b	-	ASCII space
dd	-	Hours (24-hour format)
ee	-	Minutes
ff	-	Seconds
b	-	ASCII space
ggggggggg	-	10-digit terminating line DN
or		
0000xx	-	MLHG group ID
yyyy	-	MLHG terminal number
b	-	ASCII space
hhhhhhhhh	-	Calling DN (10 digits)
b	-	ASCII space
i	-	Called DN busy/idle status indicator ("I" - idle, "B" - busy)
b	-	ASCII space
j	-	Calling DN multistatus indicator
		("T" - true DN or "M" - DN cannot be identified.)
<cr-lf>	-	The ASCII characters carriage return (octal 015) and line feed (octal 012)
2)		

	-	The ASCII character end of message (octal 031).

13.4.3.2.7 BCLID Type 2 Field-10-digit Terminating Line DN

This field contains the BCLID information that is generated at the terminating switch for incoming calls to users subscribing to the BCLID feature. This version is generated when the DATE is included in the BCLID message, and the Calling DN is not available or is private. All information in this field is coded in ASCII as follows:

```
<som><cr-lf>BCbaaccbddeeffbggggggggggbhbj<cr-lf><em>
0000xxyyyy
```

Note: *0xxyyyy format is used in place of gggggggggg when the terminating line is part of an MLHG.*

The message contains the following:

<som>	-	The ASCII character start of message (octal 001)
<cr-lf>	-	The ASCII characters carriage return (octal 015) and line feed (octal 012)
BC	-	BCLID I/O message identifier
b	-	ASCII space
aa	-	Month (01 - 12)
cc	-	Day of Month (01 - 31)
b	-	ASCII space
dd	-	Hours (24-hour format)
ee	-	Minutes
ff	-	Seconds
b	-	ASCII space
gggggggggg	-	10-digit terminating line DN
or		
0000xx	-	MLHG group ID
yyyy	-	MLHG terminal number
b	-	ASCII space
h	-	"P" (PRIVATE) indicator or "O" (OUT OF AREA) indicator
b	-	ASCII space
i	-	Called DN busy/idle status indicator ("I" - idle, "B" - busy)
b	-	ASCII space
j	-	Calling DN multistatus indicator ("T" - true DN or "M" - DN cannot be identified.)
<cr-lf>	-	The ASCII characters carriage return (octal 015) and line feed (octal 012)
	-	The ASCII character end of message (octal 031).

13.4.3.2.8 BCLID Type 3 Field-10-digit Terminating Line DN

This field contains the BCLID information that is generated at the terminating switch for incoming calls to users subscribing to the BCLID feature. This version is generated when the DATE is not included in the BCLID message, and the calling DN is available. All information in this field is coded in ASCII as follows:

```
<som><cr-lf>BCbddeeffbggggggggggbhhhhhhhhhhbj<cr-lf><em>
0000xxyyyy
```

Note: *0xxyyyy format is used in place of gggggggggg when the terminating line is part of an MLHG.*

The message contains the following:

<som>	-	The ASCII character start of message (octal 001)
<cr-lf>	-	The ASCII characters carriage return (octal 015) and line feed (octal 012)
BC	-	BCLID I/O message identifier
b	-	ASCII space
dd	-	Hours (24-hour format)
ee	-	Minutes
ff	-	Seconds

<i>b</i>	-	ASCII space
<i>gggggggggg</i>	-	10-digit terminating line DN
<i>or</i>		
<i>0000xx</i>	-	MLHG group ID
<i>yyyy</i>	-	MLHG terminal number
<i>b</i>	-	ASCII space
<i>hhhhhhhhhh</i>	-	Calling DN (10 digits)
<i>b</i>	-	ASCII space
<i>i</i>	-	Called DN busy/idle status indicator ("I" - idle, "B" - busy)
<i>b</i>	-	ASCII space
<i>j</i>	-	Calling DN multistatus indicator ("T" - true DN or "M" - DN cannot be identified.)
<i><cr-lf></i>	d	The ASCII characters carriage return (octal 015) and line feed (octal 01
<i>2)</i>		
<i></i>	-	The ASCII character end of message (octal 031).

13.4.3.2.9 BCLID Type 4 Field-10-digit Terminating Line DN

This field contains the BCLID information that is generated at the terminating switch for incoming calls to users subscribing to the BCLID feature. This version is generated when the DATE is not included in the BCLID message, and the calling DN is not available or is private. All information in this field is coded in ASCII as follows:

```
<som><cr-lf>BCbdeeefbggggggggggbhbj<cr-lf><em>
0000xyyyyy
```

Note: *0xyyyyy format is used in place of gggggggggg when the terminating line is part of an MLHG.*

The message contains the following:

<i><som></i>	-	The ASCII character start of message (octal 001)
<i><cr-lf></i>	-	The ASCII characters carriage return (octal 015) and line feed (octal 01
<i>2)</i>		
<i>BC</i>	-	BCLID I/O message identifier
<i>b</i>	-	ASCII space
<i>dd</i>	-	Hours (24-hour format)
<i>ee</i>	-	Minutes
<i>ff</i>	-	Seconds
<i>b</i>	-	ASCII space
<i>gggggggggg</i>	-	10-digit terminating line DN
<i>or</i>		
<i>0000xx</i>	-	MLHG group ID
<i>yyyy</i>	-	MLHG terminal number
<i>b</i>	-	ASCII space
<i>h</i>	-	"P" (PRIVATE) indicator or "O" (OUT OF AREA) indicator
<i>b</i>	-	ASCII space
<i>i</i>	-	Called DN busy/idle status indicator ("I" - idle, "B" - busy)
<i>b</i>	-	ASCII space
<i>j</i>	-	Calling DN multistatus indicator ("T" - true DN or "M" - DN cannot be identified.)
<i><cr-lf></i>	-	The ASCII characters carriage return (octal 015) and line feed (octal 01
<i>2)</i>		
<i></i>	-	The ASCII character end of message (octal 031).

13.4.4 Recent Change Procedures

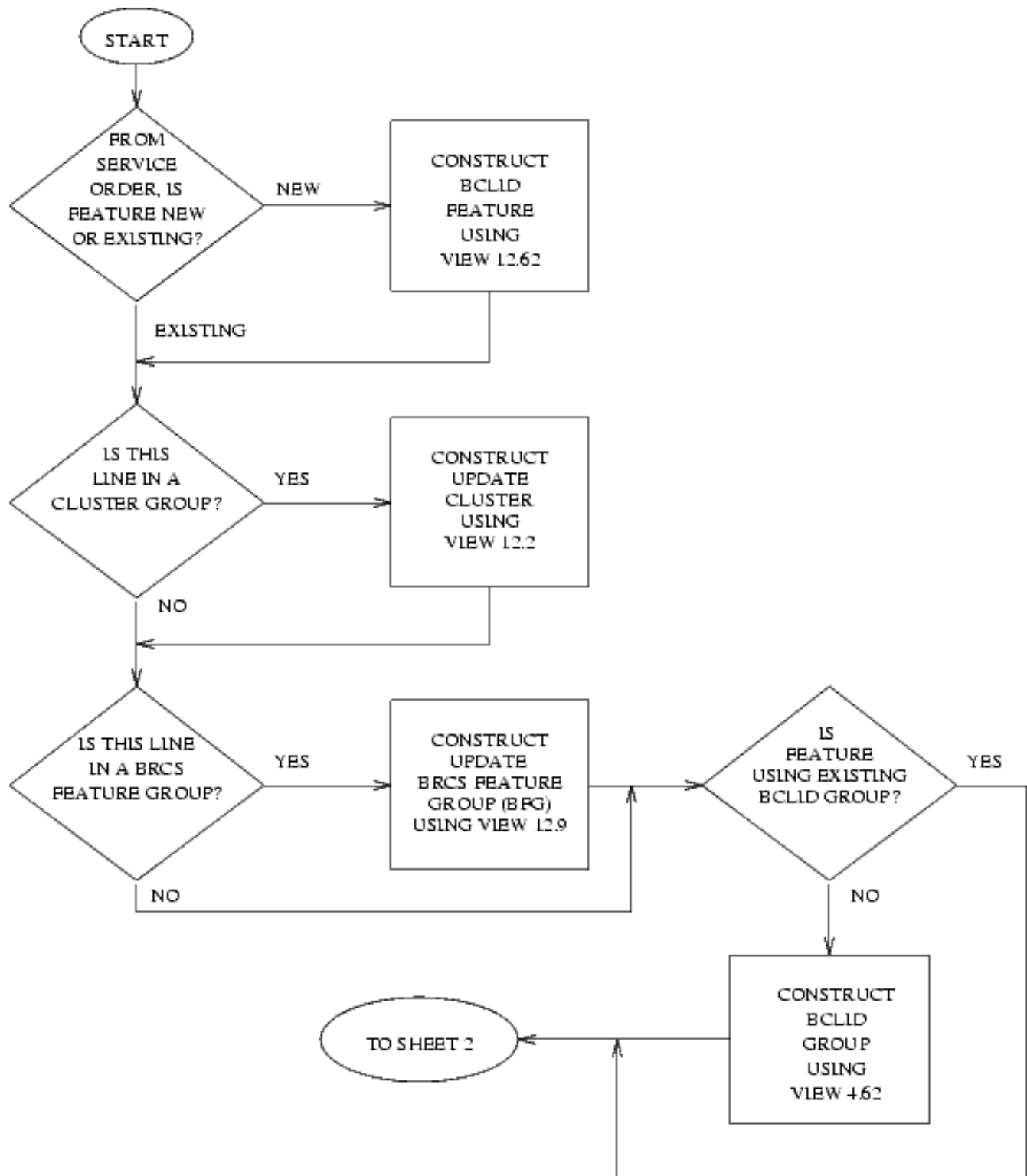
13.4.4.1 Assigning Customer Service

Customer service may be assigned for an individual line using Figure 13-1 .

NOTE: When the Number Portability - NPA-NXX Growth feature is active (both before and after), RC/V view 4.62 allows the switch to be administered to send either seven digit DNs or ten digit DNs to the customer CPE supporting the BCLID feature (the default is seven digit DNs). The attribute is assigned on a per BCLID Group basis.

If all the digits of a called DN are not received, but enough digits are received by the switch to seize a trunk (PBX with DID) group member, the BCLID message is sent with the available digits and the remaining spaces (reserved for the called DN) are filled with the "*" character.

For a MLHG, when ten digits are being sent for the called party on the interface, the high order four digits are filled with zeros, followed by six digit MLHG identification.



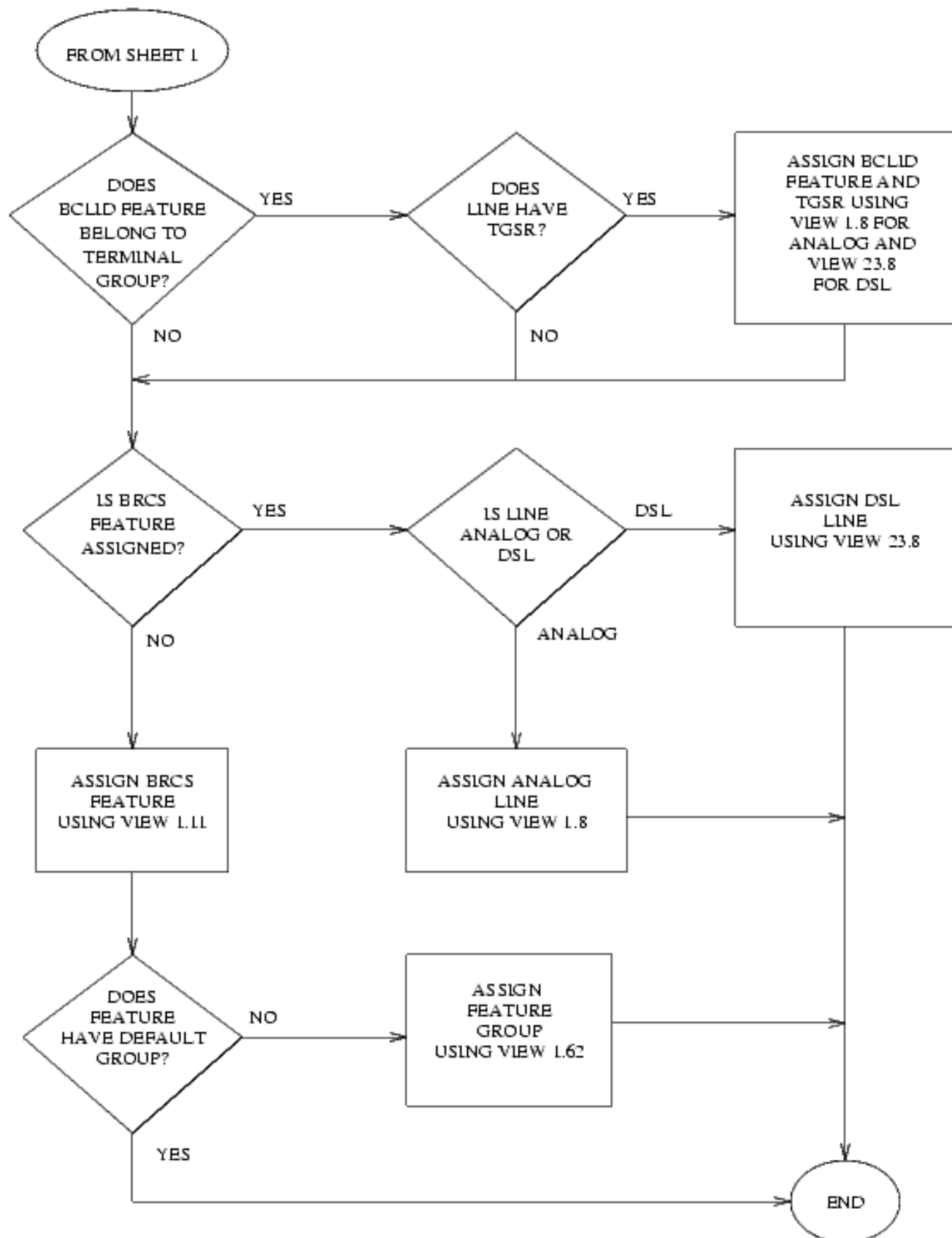
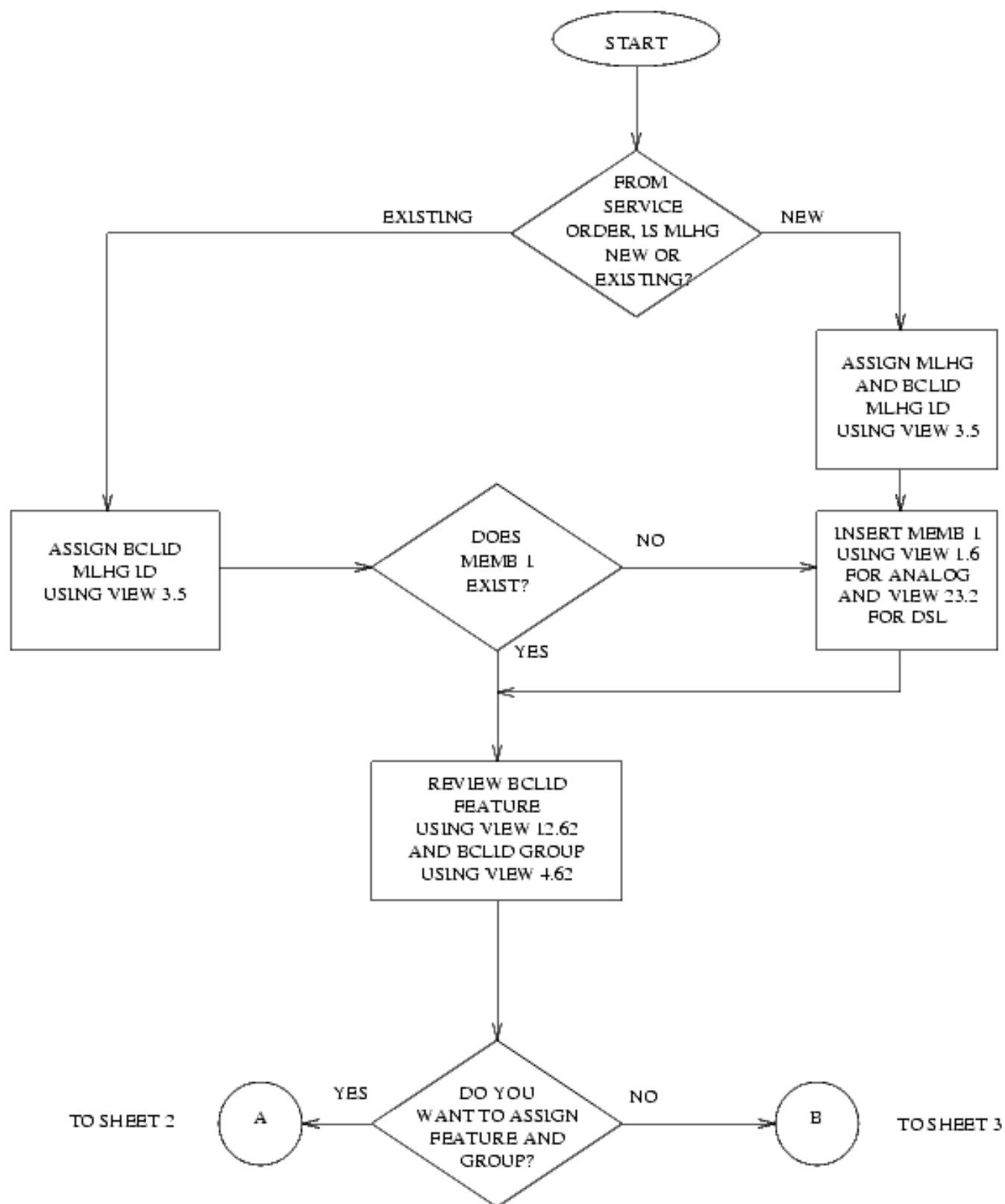
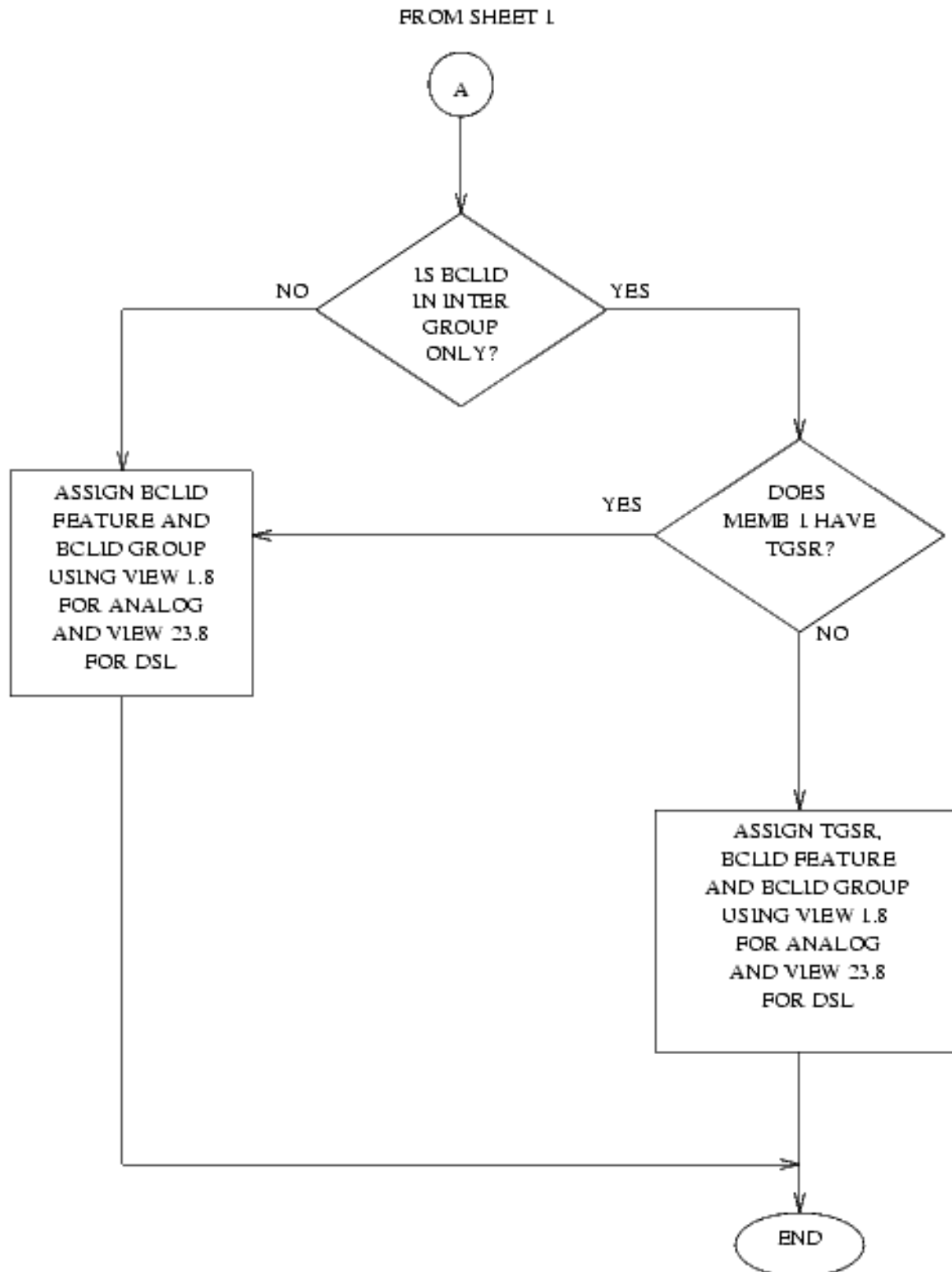


Figure 13-1 Example of Assigning BCLID Feature to an Individual Line

Customer service may be assigned to an MLHG using Figure 13-2 .





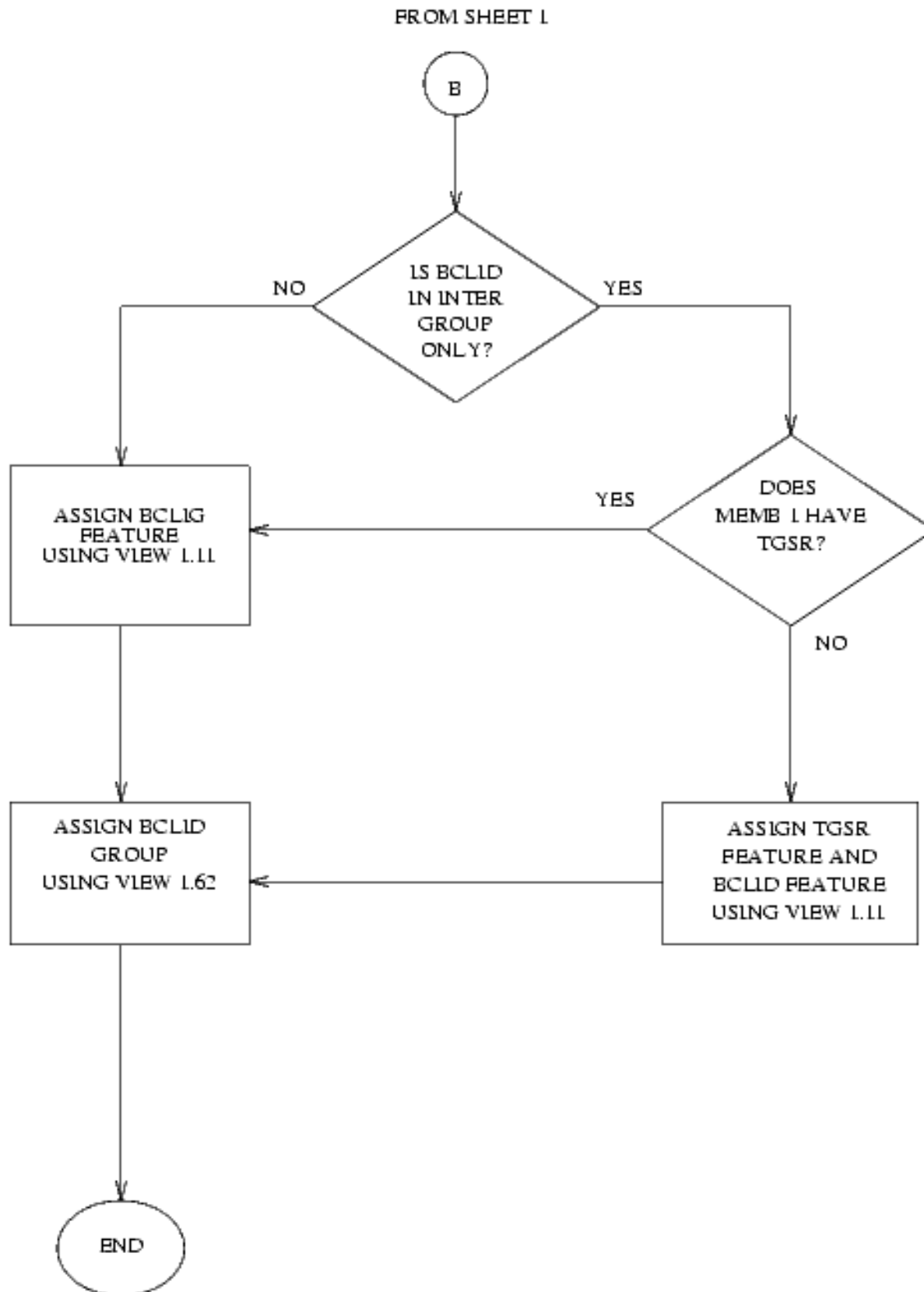
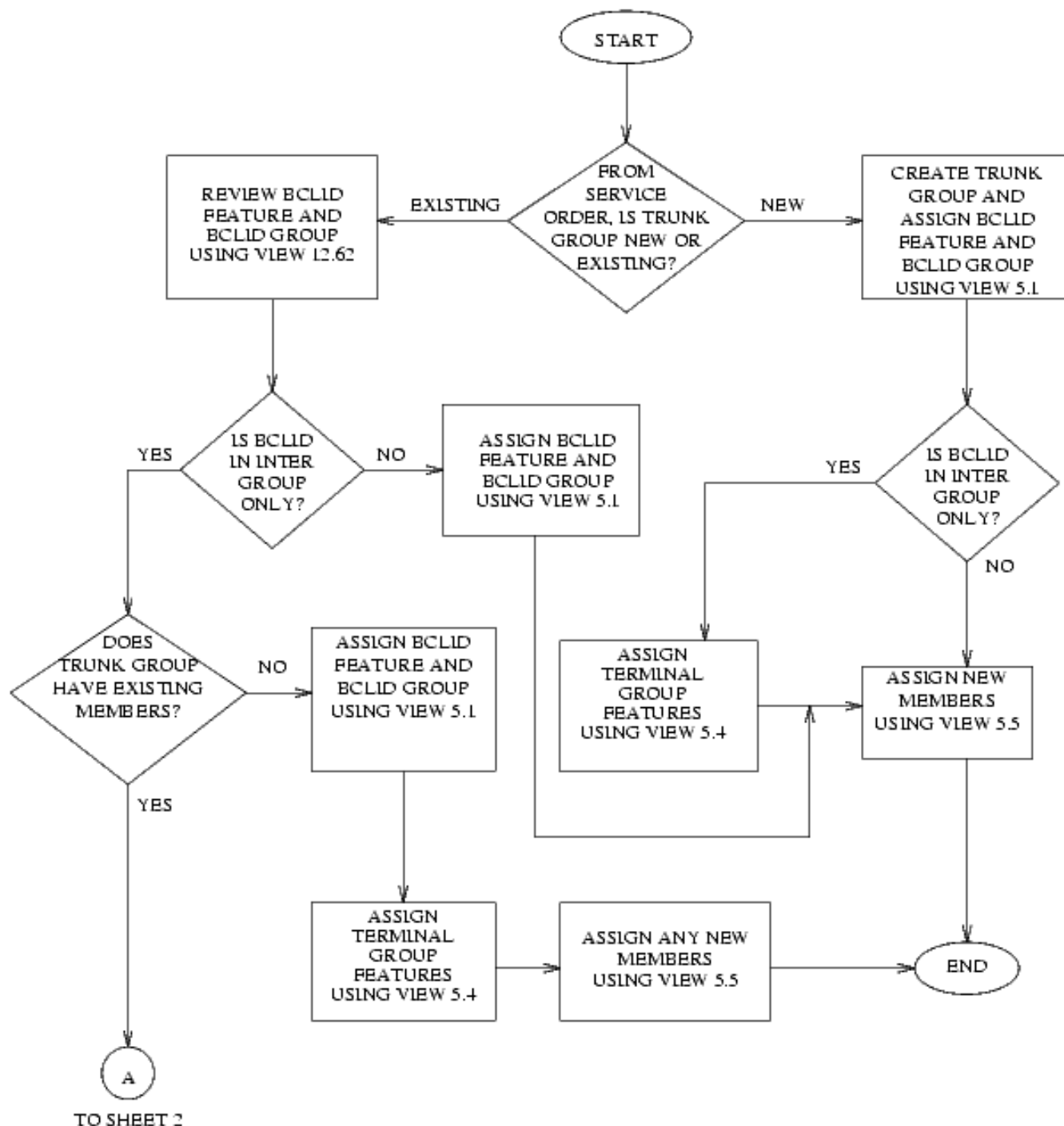


Figure 13-2 Example of Assigning BCLID Feature to an MLHG

Customer service may be assigned to a trunk group using Figure 13-3 .



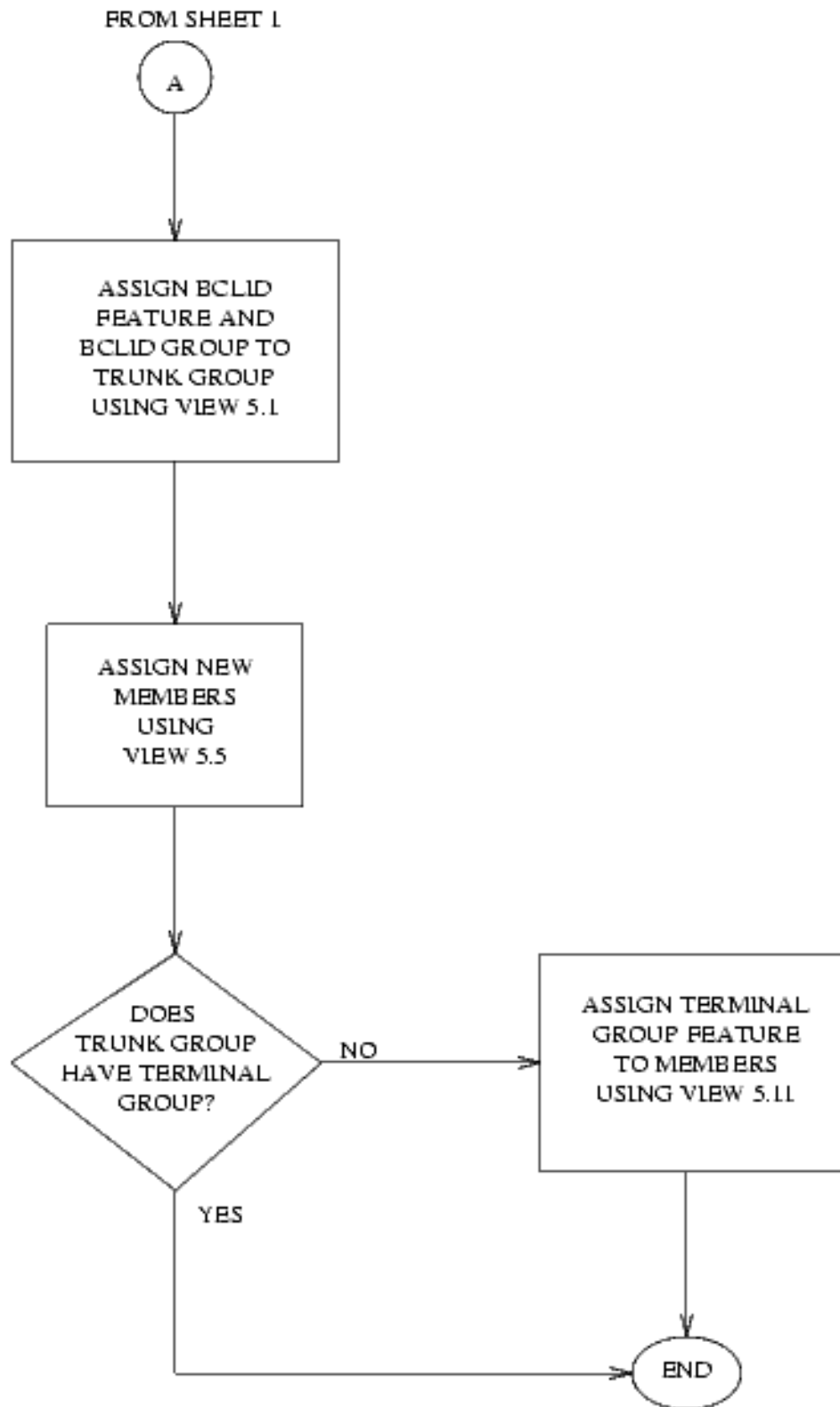


Figure 13-3 Example of Assigning BCLID Feature to a Trunk Group

13.5 IMPLEMENTATION

13.5.1 General

Views 1.62, 4.62, and 12.62 are new for 5E8, and views 1.8, 3.5, 5.1, 8.21 and 23.8 were modified for the BCLID feature.

13.5.2 Description of Operational Capability BCLID

- (1) BCLID records information for both Circuit-Switched Voice (CSV) and Circuit-Switched Data (CSD) calls.
- (2) BCLID receives calling party address information in the SS7 Initial Address Message (IAM).
- (3) BCLID obtains multistatus/uniqueness information from the SS7 Line Descriptor parameter supported in the IAM for Customer-Originated Trace (COT).
- (4) BCLID supports the following configurations for PBX:
 - PBX without Direct Inward Dialing (DID).
 - PBX with DID (trunks and PRI trunks).
- (5) BCLID messages will be sent in X.25 messages across BRIs controlled by a modified AP Communications Package (APCP) system process.
- (6) BCLID messages will be sent over an Applications Processor Interface (API) link that will be terminated to an Applications Processor (AP) or equivalent asynchronous RS-232 device (3A-Translator), from which they will be written to a tape drive, PC, or printer.
- (7) Multiple data links (BRIs) are permitted on the CPE.
- (8) Backup links will be supported as follows: if multiple links go to the CPE, and some of these go down, all traffic will automatically be routed on the remaining links. An alternate APID may also be specified so if the primary APID is not operational, all traffic will automatically be routed to the alternate APID.
- (9) BCLID is able to report 1, 2, 3, 4, 6, 8, 12, and 24-hour recordings. The global office parameter for the BCLID billing interval is read only at midnight and this parameter defines the BCLID billing intervals for the period from midnight to the following midnight. This global parameter is only accessed in the AM.

13.6 SYSTEM OPERATION

13.6.1 Originating Switch

Originations From Users Within Office — Every user-originated call results in the calling party information being sent to the terminating end of the call. The originating switch provides the DN privacy capability and the capability of getting the calling DN. In addition to the directory number of the originator being checked, privacy for that DN is also checked.

Privacy for a given call is controlled in three ways as follows:

DN Privacy Office Parameter — This parameter can be set to indicate that all calls from all lines in the office are private. When set, this parameter overrides Per-Call and All-Call Privacy assigned to the individual terminals. (This parameter is located on RC View 8.1.)

All-Call DN Privacy Feature — This feature, which is assigned to a terminal through recent change, changes the default for calls from the terminal to "private." [This parameter is located on RC View 1.6, 1.8 for analog customers,

or RC View 23.2 or 23.8 for ISDN.]

Per-Call DN Privacy Feature — This feature is generally available to all terminals or is assigned to a terminal through recent change. When invoked by a user who does not have All-Call Privacy, the calling number is marked "private" for the associated call. When invoked by a user who has All-Call Privacy, the calling number is marked "public" for the associated call (privacy is *deactivated*, making this call public). (This parameter is located on RC View 1.8, 1.11, or 23.8.)

Originations From Incoming SS7 Trunks — On each end-to-end SS7 trunk, the calling party information is received and passed to the terminating end of the call. If the call goes through a tandem switch and it was non-SS7 on an earlier leg, the calling number is not received. If the call goes through an interexchange carrier (an inter-LATA call), the calling number may or may not be received depending on the originating option. For an interswitch call that is private, the calling DN and privacy indicator are passed through the office. RC View 10.2, Route Index Routing (attribute CPN SUBSC), allows CPN to be turned off/on for inter-LATA trunks.

The originating switch sends the 10-digit calling DN and the privacy indicator via SS7 during call setup. The switch always sends the 10-digit DN (even on intra-NPA calls).

Tandem switches pass the calling party address parameter, including the address presentation restriction indicator, in the SS7 initial address message (IAM) for call setup.

Originations from trunks that are neither SS7 nor PRI do not have calling party information.

13.6.2 Terminating Switch

Termination To Users Within Office — The terminating switch checks the called DN to determine whether the BCLID feature is active. If the BCLID feature is not active, no BCLID information is sent to the customer's CPE/AP. However, if BCLID is active, the BCLID information from the originating call is unpacked. A check is made on the BCLID information to determine whether the originating call was from a private DN. If so, the calling DN is not sent, and a privacy indicator "P" along with the other call-related information (calling line multistatus, date, time, called DN/MLHG identifier, and busy/idle status of the called DN) is sent to the customer's CPE/AP.

If the privacy indicator for the DN is "not private," the calling DN along with the other call-related data is sent to the BCLID customer's CPE/AP.

An out of area indicator "O" along with the other call-related information is sent to the BCLID customer's CPE/AP if the DN is unavailable.

If all the digits of a called DN are not received, but enough are received by the switch to seize a trunk (PBX with DID) group member, the BCLID message will be sent with the available digits and the remaining spaces (reserved for the called DN) filled with "*" character.

An API data link is used for transmitting the BCLID call-related data from the 5ESS[®]-2000 switch to the CPE/AP (with or without 3A-Translator box). The BCLID customer must be provided with at least one API data link identified by one APID (for example, link number 1 or a unique APID number for MLHG # 51 and 52).

A second 3A-Translator box can be used for provisioning of a backup link identified by a different APID. If the first box (supporting one link/channel) fails or the link overflows or fails, the BCLID data will be transmitted to the second 3A-Translator box (supporting one link).

If multiple links with same APID terminate to the same AP, load sharing will be automatic.

An Applications or Adjunct Processor (AP) that accepts API (X.25) messages can be used as a CPE for receiving BCLID information. In addition, a teletypewriter, computer, PC, magnetic tape driver, or printer that can receive the ASCII formatted signals at 300-9600 baud (1200 baud typical), asynchronous, and in full duplex fashion, could be used on the customer premises. These asynchronous CPEs will be served by 3A-Translator box that converts API

messages (X.25 or D-channel protocol) into asynchronous, ASCII messages.

SS7 Terminations — For calls over SS7 trunks, the DN of the calling party and a presentation indicator are passed to the SS7 network. The date and time are not sent. For outgoing SS7 tandem trunks, the BCLID information received from incoming SS7 trunks is simply passed on to the outgoing trunk.

13.6.3 Class of Service

The MLHG, BRCS/Centrex groups, PBX with DID (using trunks or PRI), and PBX without DID (if part of a multiline hunt group), can subscribe to the BCLID feature. The BCLID feature is available to all type of Centrex groups (for example, denied originating, nonrestricted, semirestricted terminating major class of service, etc.). The BCLID may not be assigned to the trunks terminating to another switch.

13.6.4 Signaling Interfaces

13.6.4.1 BRI

The AP connects to the network via BRIs. The B-channels are not used, and each D-channel is used as a single X.25 permanent virtual circuit (PVC).

13.6.4.2 SS7 ISDN User Part

For interswitch operation, BCLID requires that the originating switch send the called party number and calling party number parameters to the terminating switch. If an originating office is equipped with SS7, it will include this information in the standard call setup messages, specifically the Initial Address Message (IAM), for all intranetwork interswitch calls set up over SS7 trunks.

If this information is not provided in the IAM to the terminating switch, it is assumed to be unavailable.

The contents of the "Calling Party Number" parameter should be encoded as follows:

- Odd/even indicator: set to even; the Calling Party Number is to contain a 10-digit calling party DN.
- Nature of address indicator: set to national (significant) number.
- Numbering plan: set to ISDN (telephone) numbering plan.
- Address presentation restricted indicator: set appropriately. If the calling party DN is private, this indicator should be set to presentation restricted; otherwise, it should be set to presentation allowed.
- Address information: the address signals are set appropriately according to the calling party's 10-digit DN.

13.7 ADMINISTRATION

13.7.1 Measurements

13.7.1.1 Traffic Measurements

The following traffic counts are taken on a per-office basis. They are reported on the 30-minute Traffic Report to the Engineering Administration Data Acquisition System (EADAS).

- The number of calls for which complete calling DN is transmitted to the CPE/AP.
- The number of messages transmitted to BCLID customers' CPE/AP containing the character "P", indicating that the calling party had invoked the privacy feature.

- The number of messages transmitted to BCLID customers' CPE/AP containing "O", indicating that the calling DN could not be determined.
- The number of messages not transmitted to the BCLID customer's CPE/AP.

This is the number of BCLID messages lost per customer because of data channel overload. This count will be used to identify under-engineered BCLID links.

13.7.1.2 Maintenance Measurements

A per office peg count can be available on an hourly basis and on a 24-hour basis, for calls which a BCLID customer receives no BCLID message because of the unavailability of switch data equipment. This count will be used to identify BCLID messages which are lost for reasons other than under-engineering of the BCLID link. Reports should be available on a scheduled and a demand basis.

The BCLID messages are buffered temporarily before they are sent out the API link to the applications processor. If an API link or the CPE/AP is down, a flow control message will be generated by the APCP indicating Phase 2 (AP down). If BCLID software is unable to send a BCLID message to the APCP because Phase 2 flow control is in effect, BCLID data will be lost. This count, therefore, provides an indication on a per office basis that BCLID messages are being lost due to unavailability of data equipment related to maintenance state.

This count is, therefore, mutually exclusive of the messages lost count described in "Traffic Measurements", Section 13.7.1.1 .

This measurement is a service measurement, since it provides counts of subscriber perceptible events that affect service and relate to maintenance condition of the exchange, API link, and AP/CPE.

13.7.2 Billing

13.7.2.1 General

The service provider may assign BCLID to the customers on a usage-sensitive (number of messages/DNs delivered to CPE/AP) or flat-rate basis.

The assignment of either usage-sensitive or flat-rate billing is accomplished by setting the AMA record office parameter in RC View 12.62, BCLID Feature Definition. When the parameter is set to NO, flat-rate billing applies to that customer and no periodic AMA record will be generated. Usage-sensitive billing applies to that customer and a periodic AMA record will be generated at the terminating office for each DN when the AMA record parameter is set to YES.

13.7.2.2 Billing Record

As a minimum, one AMA record each hour will be generated; however, the range could be from 1 to 24 hours. This AMA record is Structure Code 09015 and contains the following:

- (1) Billing DN.
- (2) Number of DNs that are unavailable (for example, out of LATA, international, etc.) and number of DNs that are private.
- (3) Number of DNs that are sent to a channel.

The AMA record for BCLID has the same Structure Code (09015) as ICLID. A new call type (331) is created for this

feature that indicates that the record is BCLID and not ICLID of call type 332. Refer to "LASS BILLING", Section 2.9, for a layout of the 09015 billing record.

When a usage-sensitive customer is removed from service, an AMA record will be recorded.

If a usage-sensitive customer is provisioned with a backup APID, and this standby link becomes operational, usage-sensitive billing will continue for that link also. The AMA record will not distinguish between the primary and backup API links.

14. ANALOG CALLING NAME DELIVERY - PHASE 0

14.1 GENERAL

14.1.1 Definition

The Analog Calling Name Delivery (CNAM) special feature is a terminating line option feature that provides the end-user with a name associated with a calling number. The CNAM feature is directly related to the Individual Calling Line Identification (ICLID) Local Area Signaling Services (LASS) Calling Number Delivery (CND) feature. A customer may subscribe to ICLID CND which delivers the calling party number, or ICLID CND and CNAM which delivers the calling party number, or both the calling party number and name to the customer premises equipment (CPE) except when the calling number and name are not available or private. Therefore, in the initial offering of CNAM, Phase 0, only ICLID CND with CNAM is available.

The calling party's name is stored in the Network Names Data Base (NNDB) which is external to the 5ESS®-2000 switch. The queries from the switch and the responses from the data base use the Transaction Capabilities Application Part (TCAP) of the Signaling System 7 (SS7) protocol. The queries from the switch are routed to the NNDB by the Signal Transfer Points (STPs) based on the calling number and the translation type assigned to this service. The switch attempts to do queries on the calling number, and the success of these queries is dependent on the information in the NNDB. It is assumed that the name data bases are deployed on a local or regional basis and contain the names associated with all the directory numbers (DNs) in the served area.

The TCAP Improvements for a Switch Spanning Multiple LATAs feature permits lines (or groups of lines) to be assigned a LATA NUMBER different from the default LATA NUMBER associated with the office. This feature allows a LATA NUMBER to be associated with a subscriber. The assigned LATA NUMBER will be used to select the appropriate signaling link based on the Signal Transfer Point (STP) for LASS services or will be used to populate the SSP 800 TCAP query to the Service Control Point (SCP). This feature is available in the 5E11 software release. For more information and a complete description of this feature, refer to 235-190-120, *Common Channel Signaling Service Features*.

NOTE 1: Information on the Calling Name for ISDN BRI feature can be found in 235-190-104 5ESS®-2000 *Switch ISDN Feature Descriptions*.

NOTE 2: General information on the Calling Name for ISDN PRI feature can be found in 235-190-104 5ESS®-2000 *Switch ISDN Feature Descriptions*. Billing information on the Calling Name for ISDN PRI feature can be found in 235-190-300 5ESS®-2000 *Switch Billing Features and Specifications Feature Document*.

14.1.2 Availability

This special feature is generally available with 5E8 and later software releases. In order to provide the customer with basic capability in a timely manner and satisfy the long-term needs for this service, this feature has been split into two phases.

Only ICLID CND with CNAM is supported in Phase 0; CNAM by itself is not supported in phase 0. In Phase 2, the user can only subscribe to CNAM.

NOTE: Consult your Lucent Technologies Account Executive for availability.

14.1.3 Feature Provision Basis

This secured feature, which is provided on a per-switch basis, is not activated until the purchaser has made the necessary arrangements with Lucent Technologies. Information on feature activation is provided upon ordering. Please contact your Lucent Technologies Account Executive for ordering information and the Right-to-Use (RTU) fee associated with this feature.

When this secured feature has been activated, the Block Query with Private Number (BQPN) option may be enabled. It is recommended that the BQPN option be enabled on a per-office basis. The BQPN option is not active until it has been enabled. The enabling is done locally, and does not require assistance from Lucent Technologies. The option number for the BQPN option is 541.

14.2 USER PERSPECTIVE

14.2.1 User Profile

The end-user with the CNAM feature active is provided with a name associated with a calling number on their analog CPE.

14.2.2 Customer Premises Equipment

The user is required to have the appropriate analog display CPE that interfaces with the Multiple Data format message used by the CNAM feature.

14.2.3 User Operation

The end-user with the CND and CNAM features active is provided with the number, name, time, and date during the first full silent interval of the ringing cycle.

14.2.4 Operational Limitations

The CNAM feature by itself is not supported in Phase 0. Only ICLID CND with CNAM is supported in Phase 0.

If the name is considered private, the letter "P" (for private) is delivered to the CPE.

If the name is considered unavailable, the letter "O" (for out-of-area) is delivered to the CPE.

If the TCAP timer expires before a response is received, call processing continues and the name is considered unavailable.

The NNDB could possibly hold more than one name per DN; however, CNAM only accepts one name as a response to a query.

The CNAM feature does not support the following line types:

- ISDN
- Analog lines shared with ISDN terminals
- 2-party
- 2-party with ANI
- Multiparty
- Coin (including coinless public)
- Denied termination
- Trunks (including 911 and PBX)
- Private facilities.

The full ASCII character set is available.

If the CNAM subscriber goes off-hook after the incoming call request has been received, but before the end of the first ring cycle, answer treatment is applied, and no name information is delivered.

In stand-alone mode, an unavailable indication for name is delivered to the CNAM subscriber.

If greater than 15 characters are received from the NNDB, the first 15 characters are displayed.

14.2.5 Interactions

Usage-sensitive CND subscribers are able to activate/deactivate the delivery of number information by entering a dialed code. For customers subscribing to both CNAM and usage-sensitive CND, activating CND activates CNAM and deactivating CND deactivates CNAM. The existing ICLID CND dial code will be used in CNAM Phase 0. CNAM Phase 0 will be available to analog users on a subscription basis with flat-rate billing.

In order to receive the response to the TCAP query prior to power ringing on the terminating line, the CNAM feature may sometimes lengthen the power ring delay. The maximum delay in ringing the called line is dependent on either the time it takes to complete the query, or the value of the TCAP response timer, whichever is smaller.

Per-Call-Privacy and All-Call-Privacy affect the privacy of the name information if the Block Query with Private Number (BQPN) option is set to "yes." In this case, if the DN is private, the name is also private. If the (BQPN) option is set to "yes" and the number is private, a private indication is returned. If the DN is public, and the BQPN option is set to "N or Y," the Network Names Data Base (NNDB) is queried and the privacy indicator in the data base is used for name delivery.

For incoming calls to an Automatic Callback (AC) subscriber, the caller's name is not stored in the Incoming Line History Block (ILHB). When a CNAM subscriber activates AC, the called party's name is not delivered to the CNAM subscriber's station if the call is set up immediately. If the call is established later, at the time of ringback, a query is made using the stored number. For Phase 0, the called party's name and number information is delivered upon ringback using the DN privacy indicator, BQPN, and the NNDB.

For outgoing calls by an Automatic Callback-Calling (ACBC) subscriber, no name information is stored. For Phase 0, the 5ESS[®]-2000 switch does not display name or number on ACBC ringback.

For outgoing calls from a subscriber to both CNAM and Automatic Recall (AR), no name information is stored in the Outgoing Line History Block (OLHB). When a CNAM subscriber activates AR, the called party's name is not delivered to the CNAM subscriber's station if the call is set up immediately. If the call is established later, the name data base is queried at the time of ringback. For Phase 0, the called party's name and number information is delivered upon ringback using the DN privacy indicator, BQPN, and the NNDB.

For Call Forwarding Variable (CFV) type features, the base party does not receive the calling name information for incoming calls.

If the remote party has CNAM, the calling party's name is delivered to the remote party's display device, provided that the calling number is available at the remote party's switch.

For Call Forwarding Busy (CFB) type features, if the base party is idle, they will receive the calling name information.

- If the base party is busy, they do not receive the calling name information.
- If the remote party has CNAM, the calling party's name information is delivered, provided that the calling number is available at the remote party's switch.

For Call Forwarding Do Not Answer (CFDA) type features, if the base party has CNAM and a CFDA feature active,

the base party receives the calling name information if the base party is alerted. If the call is not answered in the specified number of rings and the remote party has CNAM, the calling party's name is delivered to the remote party, provided the calling number is available at the remote party's switch.

When a call is transferred, the transferring party's name information is delivered to the transferred-to party when they are alerted if they are subscribed to CNAM. The transferred party's name is not delivered to the transferred-to party.

If the CNAM subscriber goes on-hook to wait for a ringback due to a call waiting call, the calling party's name is delivered during ringback, in all cases that the number is delivered. If they are also subscribed to CND, the number is also delivered.

Any ringing pattern that supports CND should also support CNAM. The patterns that will support CND and CNAM on the 5ESS[®]-2000 switch are: standard ringing (pattern A), and patterns B, C, D, and G (used for Multiple Directory Numbers Per Line and Home Intercom). The patterns that will not support CND and CNAM on the 5ESS[®]-2000 Switch are: pattern P (used for Precedence and Preemption), reverive ringing, and emergency ringing.

The name information will be transmitted in the first silent interval of a distinctive ringing pattern that is long enough to send the data (at least 3 seconds). If that first silent interval begins more than three seconds after the start of the first power ring, the switch will not send the data.

If Limited Intragroup Individual Calling Line Identification (LIGI) is active on the switch, and a line is assigned CNAM, the LIGI feature makes the calling numbers private for all calls from outside the group. If BQPN is set to "yes," the name is also treated as private. In this case, the name query is blocked.

The conference controller's name is delivered to each terminating party that is subscribed to CNAM, as long as it is available and public.

Since Screen List Editing does not provide voiceback of name information, and analog users will not get number/name delivery on AC/AR ringback unless they subscribe to CND/CNAM, POLIN currently has no interaction with CNAM. POLIN will not block delivery of CNAM if the user is subscribed. Service providers can choose not to offer POLIN if the calling party names are not to be provided. If the calling party has subscribed to POLIN and CND/CNAM, and the calling party number is marked as private, the calling party name is not provided to the user.

Name information is available for calls accepted by the SCA user. No name information is available for calls not accepted by the SCA user. If the SCA user has forwarding treatment, normal call forwarding variable interactions apply.

No name information is delivered at the base station for calls forwarded by SCF. Call Forwarding Variable interactions apply at the remote station.

Name information is available for calls accepted by SCR, but not for rejected calls.

14.2.5.1 Line Time Slot Bridging

Internally Bridged Dual Service Package 1 (99-5E-3338), available as a software update to the 5E11 software release and with the 5E12 and later software releases, Internally Bridged Dual Service Package 2 (99-5E-3739), available as a software update to the 5E12 software release and with 5E13 and later software releases, and Internally Bridged Dual Service Package 3 (99-5E-4184), available with the 5E13 and later software releases, are LTSB feature interaction modifications designed to enhance the current 5ESS[®]-2000 Switch LTSB feature by allowing more features to be assigned to and used on 1-DN LTSB lines. For more information, see 235-190-103 *Business and Residence Feature Descriptions*, Line Time Slot Bridging.

14.3 ENGINEERING

14.3.1 Hardware Resources

A resource which is critical to the CNAM feature is the availability of tone transceivers (TTR) circuits to perform the outpulsing. These circuits are engineered five per digital signal processor (DSP) in the local digital service unit (LDSU). A sufficient number of TTR circuits must be engineered to handle the lines assigned the CNAM feature.

NOTE: Switch modules with the CNAM feature active must be engineered with a pumpable Digital Service Unit Model 2 (DSU2).

14.3.2 Software Resources

Not applicable.

14.4 ASSIGNMENT GUIDELINES

14.4.1 Forms and Views

14.4.1.1 Translation Guide Forms

The following translation guide forms are used to assign the CNAM feature:

- Form 5112 (Feature Assignment Telephone Number) -
The corresponding RC views are 1.8, 1.11, and 1.12.
- Form 5537 (Direct Signaling Application) -
The corresponding RC view is 8.17.
- Form 5713 (Secured Feature System Assignment) -
The corresponding RC view is 8.22.
- Form 5966 (Line Identification Feature Definition) -
The corresponding RC view is 12.44.

14.4.1.2 Recent Change Views

The following RC views are used to assign the CNAM feature:

- RC View 8.17 (Direct Signaling Application) is used to assign a unique translation type and subsystem number (See View 15.10) to the CNAM direct signaling application type. The direct signaling application type **ACND** is added by this feature.
- RC View 8.22 (Secured Feature Upgrade) is used to activate/deactivate this secured feature and enable/disable the BQPN option.
- RC View 12.44 (Line Identification Feature Definition) has four ICLID preconstructed features added by this feature as follows:
 - /LIRCNMA, (Name, number delivery all terminals)
 - /LIRCNMP, (Name, number delivery primary terminal only)
 - /LIRDNMA, (Name, number, display activate/deactivate all)
 - /LIRDNMP, (Name, number, display activate/deactivate primary)

NOTE: Preconstructed CNAM features are populated via an ODBE script which is part of the software update.

- RC View 15.10 (Subsystem Information) is used to assign subsystem information for the CNAM subsystem number.
- Analog Calling Name Delivery features are assigned to an analog line using existing recent change views for feature assignment (for example, RC View 1.8).

14.4.2 Assigning to Customer

To activate this secured feature, contact the Lucent Technologies Secured Feature Administrator (SFA) for assistance. In a new start office, the SFA activates the feature through ODA. In an existing office, the SFA provides instructions, including the necessary password, for using RC View 8.22.

The procedure to enable the BQPN option for an office is as follows:

- (1) Select RC View 8.22.
- (2) Enter **u** for the update mode.
- (3) In the FEATURE ID field, enter **541**.
- (4) In the MODULE field, enter **OFC** (office).
- (5) The PASSWD field must be blank.
- (6) In the ACTIVE field, enter **Y** (yes).
- (7) Leave all remaining fields blank.
- (8) Enter **u** to update the data.

Use an existing feature assignment recent change view (for example, RC View 1.8) to assign a preconstructed CNAM feature to each analog line subscribing to the CNAM feature.

Use RC View 8.17 to specify the Direct Signaling Application Type **ACND**, a transition type (0 through 255), and a unique subsystem number (232 through 254).

NOTE: The translation type and subsystem number assignment must be coordinated with the translation type and subsystem number required by the Common network interface/signal transfer point (CNI/STP) network to route the CNAM queries. A subsystem number to be used for the CNAM application should be populated on RC View 15.10.

14.4.3 Deleting Customer Service

To deactivate this secured feature, contact the SFA for assistance. The SFA provides instructions, including the necessary password, for using RC View 8.22.

Use an existing feature assignment recent change view (for example, RC view 1.8) to delete the preconstructed CNAM feature from each analog line subscribing to the CNAM feature.

The procedure to disable the BQPN option for an office is as follows:

- (1) Select RC View 8.22.

- (2) Enter **u** for the update mode.
- (3) In the FEATURE ID field, enter **541**.
- (4) In the MODULE field, enter **OFC** (office).
- (5) The PASSWD field must be blank.
- (6) In the ACTIVE field, enter **N** (no).
- (7) Leave all remaining fields blank.
- (8) Enter **u** to update the data.

The procedure to disable this option for one SM is as follows:

- (1) Select RC View 8.22.
- (2) Enter **u** for the update mode.
- (3) In the FEATURE ID field, enter **541**.
- (4) In the MODULE field, enter an SM number (1 to 192).
- (5) The PASSWD field must be blank.
- (6) In the ACTIVE field, enter **N** (no).
- (7) Leave all remaining fields blank.
- (8) Enter **u** to update the data.

NOTE: Repeat this procedure for each SM to be disabled.

14.4.4 Verify Option Feature

The procedure to verify the BQPN option for one SM is as follows:

- (1) Select RC View 8.22.
- (2) Enter **r** for review mode.
- (3) In the FEATURE ID field, enter **541**.
- (4) In the MODULE field, enter an SM number (1 to 192).

NOTE: Do not use **OFC** in the MODULE field for the verify procedure.

- (5) If the ACTIVE field is **Y**, the feature is enabled for the SM specified. If the ACTIVE field is **N**, the feature is disabled for the SM.

NOTE: Repeat this procedure for each SM to be verified.

14.5 SYSTEM OPERATION

This feature is invoked upon termination to a line with a CNAM feature assigned. The TCAP query to get the calling name associated with the calling DN is made prior to power ringing the terminating line.

NOTE: The CNAM option (BQPN) is used to determine if the TCAP query is allowed when the calling DN is marked "private." If the query is allowed, the NNDB determines if the calling name is "public" or "private."

When the TCAP query is allowed, the 5ESS®-2000 switch checks the calling party number (CPN) for validity.

NOTE: The CPN is considered valid if it is a 10-digit unique or nonunique national number.

If valid, the 5ESS®-2000 switch formats and sends the query, waits for a response, saves the data from the query, and during the first silent interval formats and sends the name, number, time, and date via frequency shift key (FSK) to the analog CPE using the Multiple Data Message Format protocol.

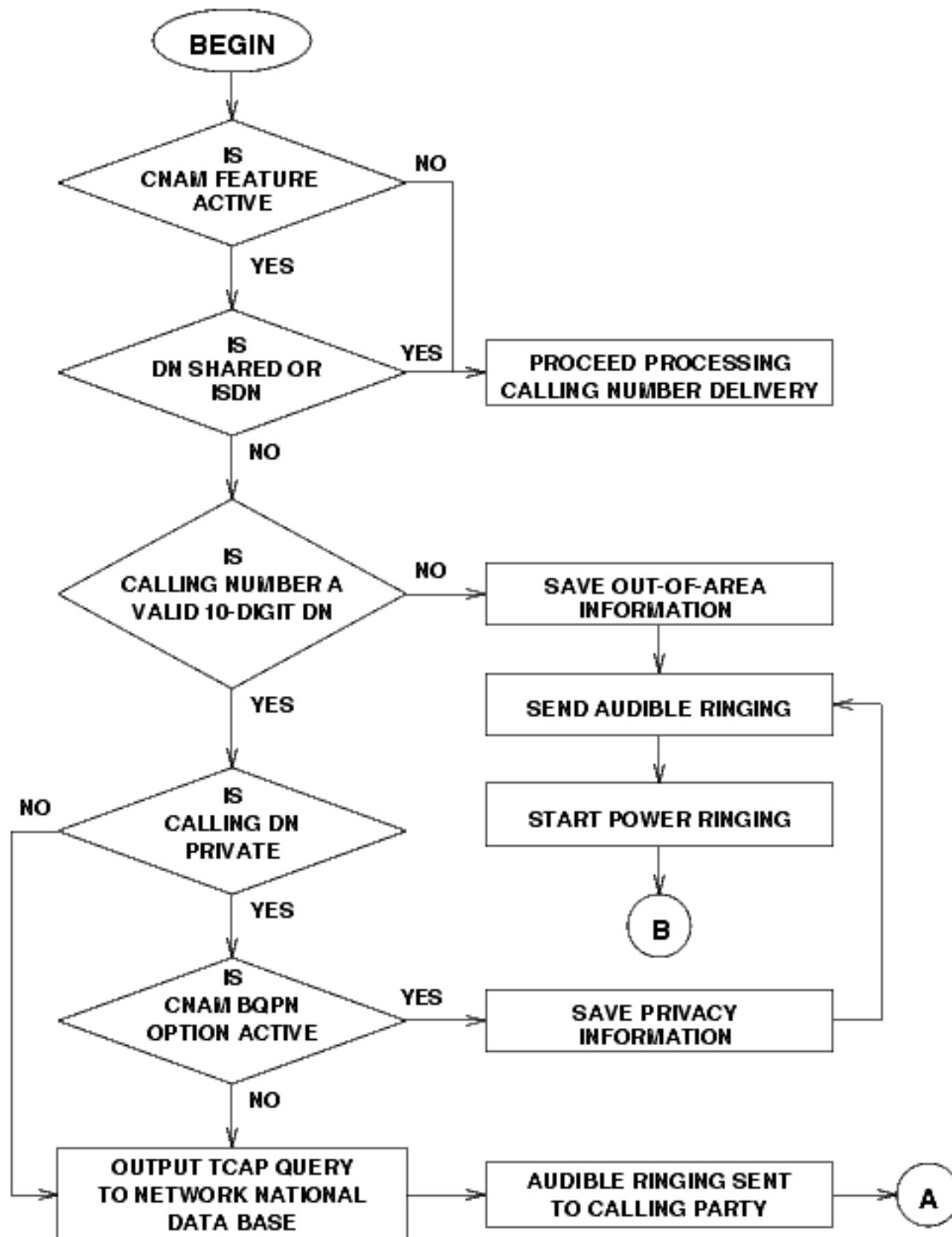
When the TCAP query is not allowed, the name is treated as private.

The feature flow diagram for CNAM is shown in Figure 14-1 .

14.6 ADMINISTRATION

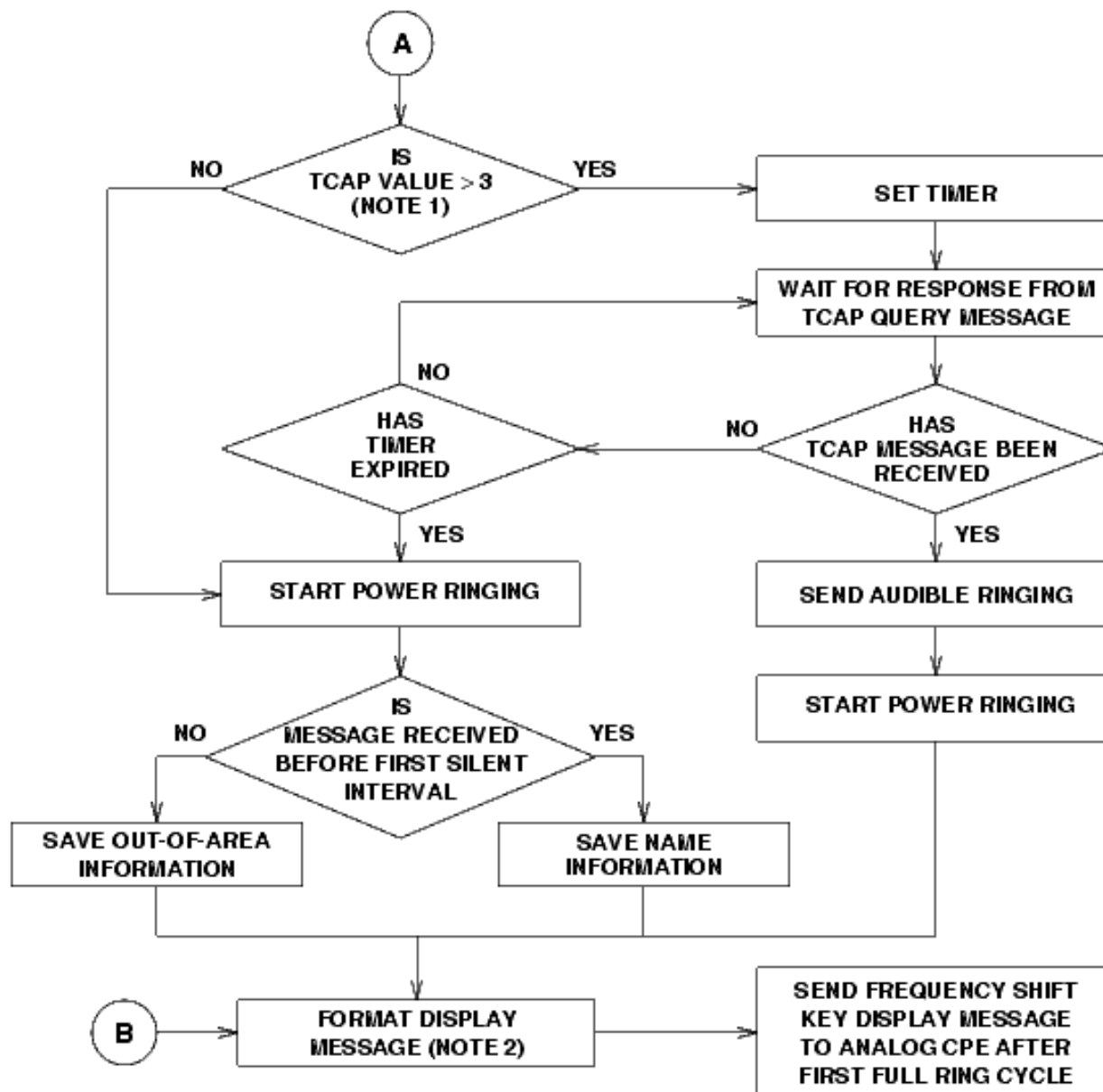
14.6.1 Measurements

No new measurements are being implemented. The existing ICLID CND measurements are not changed.



NOTE: CALLING DN IS VALID IF NATURE OF ADDRESS IS A
UNIQUE OR NONUNIQUE NATIONAL NUMBER.

ANALOG CALLING NAME DELIVERY (CNAM)
 DIRECTORY NUMBER (DN)
 INTEGRATED SERVICES DIGITAL NETWORK (ISDN)
 TRANSACTION CAPABILITIES APPLICATION PART (TCAP)



NOTE 1: THE TIMER CAN BE SET DEPENDING ON THE TCAP VALUE. THAT IS, IF THE TCAP VALUE IS > 3, THEN 2 SECONDS IS SUBTRACTED FROM IT. THIS IS DONE TO MINIMIZE DELAY IN POWER RINGING.

NOTE 2: DISPLAY MESSAGE IS TIME AND DATE PLUS ONE OF THE FOLLOWING:

- a) CALLING NUMBER AND NAME
- b) CALLING NUMBER AND P (PRIVATE)
- c) CALLING NUMBER AND O (OUT-OF-AREA)
- d) O AND CALLING NAME
- e) P AND CALLING NAME
- f) O AND O

CUSTOMER PREMISES EQUIPMENT (CPE)
TRANSACTION CAPABILITIES APPLICATION PART (TCAP)

Figure 14-1 Analog Calling Name Delivery Feature Flow Diagram

15. CALLING PARTY NUMBER PRESENTATION

15.1 GENERAL

15.1.1 Definition

The Calling Party Number Presentation (CPNP) feature enhances the existing Directory Number (DN) privacy features by modifying the Per-Call Privacy and All-Call Privacy features. This feature allows the service provider to assign privacy at the finest level of granularity without an office parameter override.

The CPNP feature introduces changes to the existing DN Privacy features as follows:

- (1) The Originating Privacy Precedence list and the Per-Call Privacy Toggle Precedence list are changed as shown in Tables 15-1 and 15-2, respectively.
- (2) Modifies the All-Call Privacy indicator to mark line status as PUBLIC, PRIVATE, or NOT_SET.
- (3) Expands the use of Per-Call Privacy to lines with service classes of:
 - Coin
 - Charge-A-Call
 - Two-Party
 - Hotel/Motel.
 - Two-Party with Multifrequency Ringing
- (4) Provides a new indicator associated with the screening index (SI).
- (5) Provides access or blocks access to Per-Call Privacy to a group of lines by an indicator associated with the screening index.
- (6) Provides a path to an uninterruptible announcement when the Per-Call Privacy toggle is denied or when a user who does not have access to PCP tries to invoke PCP.

The All-Call Privacy (ACP) line indicator denotes whether a line is public or private. The CPNP feature allows the ACP line indicator to be definitive. The new NOT_SET value for line status indicates that further checks are required to determine if calling party number is public or private. The precedence list for ACP when the CPNP feature is purchased is shown in Table 15-1.

NOTE: The cases are in descending order of precedence.

Table 15-1 CPNP Originating Privacy Precedence

CASE	LINE STATUS	SCREEN INDEX	SWITCH INDICATOR	PRIVACY RESULT
1	Public	Do Not Care	Do Not Care	Public
2	Private	Do Not Care	Do Not Care	Private
3	Not Set	Public	Do Not Care	Public
4	Not Set	Private	Do Not Care	Private
5	Not Set	Not Set	Public	Public
6	Not Set	Not Set	Private	Private

The Per-Call Privacy (PCP) toggle is used to change the current ACP status on a per-call basis. Per-Call Privacy access is allowed or blocked according to the precedence list invoked when the CPNP feature is purchased. The

precedence list for PCP when the CPNP feature is purchased is shown in Table 15-2 .

NOTE: The cases are in descending order of precedence.

Table 15-2 CPN Per-Call Privacy Precedence

CASE	SWITCH ACCESS OPTION	PCP SUBSCRIBED FOR LINE?	PCP ALLOWED FOR SI?	PCP ALLOWED FOR LINE?	PCP TOGGLE ALLOWED ?
1	LASSNULL	Do Not Care	Do Not Care	Do Not Care	No
2	UNAVAIL	Do Not Care	Do Not Care	Do Not Care	No
3	TEMP_UNAVAIL	Do Not Care	Do Not Care	Do Not Care	No
4	SUBSCRIPTION	Subscribed	Do Not Care	Do Not Care	Yes
5	SUBSCRIPTION	Not Subscribed	Not Allowed	Do Not Care	No
6	SUBSCRIPTION	Not Subscribed	Allowed	Not Allowed	No
7	SUBSCRIPTION	Not Subscribed	Allowed	Allowed	Yes
8	GEN_AVAIL	Subscribed	Do Not Care	Do Not Care	Yes
9	GEN_AVAIL	Not Subscribed	Not Allowed	Do Not Care	No
10	GEN_AVAIL	Not Subscribed	Allowed	Not Allowed	No
11	GEN_AVAIL	Not Subscribed	Allowed	Allowed	Yes

15.1.2 Economic Worth

The use of Per-Call Privacy is expanded to include the Coin, Charge-A-Call, Two-Party (TWO PTY, TWO PTY with multifrequency ringing), and Hotel/Motel classes of service. This allows individual telephone users access to privacy when placing phone calls away from their usual telephones.

Assignment of a feature via an SI allows the service provider to assign the feature to a group of lines with the same line class code.

15.1.3 Availability

This feature is generally available with 5E7 and later software releases.

NOTE: Consult your Lucent Technologies Account Executive for availability.

15.1.4 Feature Provision Basis

This secured feature is not enabled until the purchaser has made the necessary arrangements with Lucent Technologies. Information on feature enabling is provided upon ordering. Please contact your Lucent Technologies Account Representative for ordering information and Right-to-Use (RTU) fee associated with this feature.

15.2 USER PERSPECTIVE

15.2.1 User Profile

With this feature, an end-user requests privacy on a per-call basis to the finest level of granularity without an office parameter override.

15.2.2 User Operation

The end-user requests Per-Call Privacy by dialing a PCP dial code or pressing an ISDN feature button.

15.2.3 Operational Limitations

If an end-user's ACP is marked PRIVATE, all calls from this line are private regardless of the office or SI privacy indicators.

NOTE: The end-user is able to place public calls from a line marked private by dialing the Per-Call Privacy toggle

prior to completing the outgoing call.

If an end-user's ACP is marked PUBLIC, all calls from this line are public regardless of the office or SI privacy indicators.

NOTE: The end-user is able to place private calls from a line marked public by dialing the Per-Call Privacy toggle prior to completing the outgoing call.

If an end-user's line is marked NOT_SET, the presentation status for all calls from this line is determined by the screening index indicator. If the indicator is marked NOT_SET, the presentation status is determined by the value of the office privacy indicator.

For analog and ISDN terminating customer premises equipment (CPE), the called party has no control over whether the incoming call will cause a number display. The terminating CPE only displays (based on its own firmware) what is sent to it.

For a Charge-A-Call line, the user can make multiple credit card calls without needing to go on-hook between calls. If Per-Call Privacy is assigned to the line, the user must dial the PCP access code before each call that is placed in order to invoke PCP for the call.

The CPNP feature does not provide an announcement to inform the originator of the All-Call Privacy status of the line.

While the CPNP feature does add per-call privacy access to the Two-Party and Two-Party with Multifrequency Ringing classes of service, it does not do the same for FC_5PTY or FC_10PTY.

The use of per call privacy from Two-Party or Two-Party with Multifrequency Ringing is dependent on the setting of the GI2pani global parameter. If this parameter is set to DBNO [sending Operator Number Identification (ONI)], the per call privacy feature will not work from two-party lines. This parameter must be set to DBYES [sending Automatic Number Identification (ANI)] in order for the per call privacy feature to work from two-party lines.

15.2.4 Interactions

The existing treatment for interswitch SS7 calls is maintained. When the presentation status has been determined by the originating switch, the SS7 Address Presentation Restricted subfield is correctly set.

This feature does not affect or interact with the All-Call Privacy indicator used by trunks.

This feature is not offered to analog trunk private branch exchange (PBX) customers.

The existing PRI privacy indicator is ignored.

Calling Party Number Presentation (CPNP) is an originating special feature that defines several methods and precedence rules for making the calling party number private; it also allows or restricts the use of PCP on a class of service/screening index basis. The originating feature interactions with Analog Calling Name Delivery—Phase 2 (CNAM 2) are as follows:

- If CPNP feature is turned on in a switch, it can be used to modify the precedence among the All Call Privacy feature and the three new access codes as it does with PCP. The number privacy is updated based on the result obtained. If the user dials NAP NNP or NNDA from a line where use of these access codes is denied the switch routes to the uninterruptible announcement used for PCP under similar circumstances. The dialed name privacy code will be sent to the terminating switch.
- If CPNP is not available or turned off in a switch, the CPN privacy will be defined by the line privacy status - the action specified by NNDA, NNP, or PCP will then act on or override the CPN privacy status. The name presentation status defined by the code (NAP, NNDA, NNP) will be sent to the terminating switch.

- If CPNP is turned on all classes of service allowed to use PCP will be allowed to use NAP, NNP and NNDA. This includes coin, coinless public, hotel/motel, 2-party. If NAP, NNP NNDA are generally available in this case the switch should be able to restrict access on a class of service or screening index basis. Alternatively, if the privacy codes are not generally available, this feature should allow access on a class of service/screening index basis. The dialed access codes will override the office default for number
- If CPNP is turned off only the classes of service allowed to use PCP without CPNP will be allowed to use NAP NNP and NNDA. The dialed privacy codes will not override the office default for number. However, the dialed privacy code (NAP, NNP or NNDA) will be sent to the terminating switch for the usual determination of name privacy.

15.3 ENGINEERING

15.3.1 Special Planning Considerations

15.3.1.1 CPNP Recent Change Mapping Enhancement

The Calling Party Number Presentation (CPNP) Capability Recent Change (RC) Mapping Enhancement provides an automated mechanism to modify existing line data when the Calling Party Number Presentation Capability (CPNP) is installed in an office.

The CPNP Capability introduces a precedence hierarchy to determine the "privacy status" of the Calling Party's Number at the time of call origination. This precedence hierarchy allows the originating party's privacy status to be determined by either the per-line, per-Screening Index (SI), or office All Call Privacy (ACP) settings. The per-SI and per-office indicators may be used to control the default privacy status for "groups" of lines. The per-SI ACP value is used when the per-line ACP indicator has a value of "Not Set" and the per-SI ACP indicator has an explicit value of either "Public" or "Private". When the per-SI ACP indicator is also "Not Set", then the per-office indicator value is utilized for the originating line. If a service provider desires to control the default privacy setting for a line(s) on a per-SI or per-office basis, then they must ensure that the per-line ACP value for that line(s) is "Not Set". All lines built after the CPNP feature is activated will assume an ACP value of "Not Set" by default. However, the ACP indicator value for lines in existence prior to the activation of CPNP will be unchanged (for example, remain "Public" or "Private") by the CPNP feature's activation. The RC Mapping Program Enhancement for CPNP, when invoked, will perform this modification of the per-line ACP values from "Public" to "Not Set" in the specified office or SM.

In addition to the modification of the per-line ACP value, the RC Mapping Program Enhancement for CPNP performs a second function of updating the per-line Per-Call Privacy access indicator (PCP_ALW) to "Yes" (for example, access permitted) for lines of the Hotel/Motel, Coin, Charge-A-Call, and Two Party classes of service. Access to the Per-Call Privacy Change (PCP) capability is added for these classes of service by the CPNP capability. All new lines of these classes of service built after the activation of the CPNP capability will assume a per-line PCP access value of "Yes" (for example, access permitted) by default. However, the per-line PCP access indicator value is not modified for existing lines when the CPNP feature is activated; they will retain the pre-CPNP value of "No" (e.g. access denied) unless updated. The RC Mapping Program Enhancement for CPNP, when invoked, will perform the modification of the per-line PCP access indicator value from "No" to "Yes" for all lines of these classes of service in the specified office or SM.

The two functions of the RC Mapping program are performed simultaneously, and can not be invoked independently of one another.

15.3.1.2 Enhancement Availability

The Calling Party Number Presentation (CPNP) Capability Recent Change (RC) Mapping Enhancement is initially available via a software update to the 5E8 software release.

15.3.1.3 Enhancement Provisioning

There is no impact to the switch if the CPNP capability is not activated via the secured feature ID 50 (turned on) or if the RC Mapping Program is not explicitly invoked via recent change. If the CPNP capability is activated (ID 50), and the RC Mapping Program Enhancement for CPNP is enabled (via RC View 12.2, described in "Invoking the RC Mapping Enhancement", Section 15.3.1.4), the per-line default ACP status indicator value (PRIVACY) will be changed from "Public" to "Not Set" for all lines in the designated office or SM. Additionally, the per-line Per-Call Privacy Access indicator value (PCP_ALW) will be changed from "No" (access denied) to "Yes" (access permitted) for all Hotel/Motel, Coin, Charge-A-Call, and Two Party lines in the designated office or SM.

15.3.1.4 Invoking the RC Mapping Enhancement

To Invoke the RC Mapping Program Enhancement for CPNP for all operational SMs in the office perform, the following procedure:

- (1) Select RC 12.2.
- (2) Enter 'i' for insert mode.
- (3) Enter the following input data:
 1. CLUSTER NAME /CPNPUPD
 2. REMARKS ALL
 3. Leave all remaining fields blank.
- (4) Enter 'i' to insert the form.

To invoke the RC Mapping Program Enhancement for CPNP for a single SM in the office, perform the following procedure:

- (1) Select RC view 12.2.
- (2) Enter 'i' for update mode.
- (3) Enter the following input data:
 1. CLUSTER NAME /CPNPUPD
 2. REMARKS sm# *
* Enter just the numeric SM identifier (for example 17)
 3. Leave all remaining fields blank.
- (4) Enter 'i' to insert the form.

The RC Mapping Program Enhancement for CPNP performs the in-office data evolution in conjunction with the installation of the CPNP capability. The program executes only if the CPNP capability (secured feature ID 50) is active (on) in the SM or office and only if the indicated SM or office is not undergoing "retrofit" or "large terminal growth". Otherwise, an error message will be returned to the RC/V view used to invoke the program. The RC Mapping Program Enhancement for CPNP may be invoked via Recent Change View 12.2 from any remote or local RC channel for a single SM or for all SMs in an office. The program changes the "All Call Privacy" (ACP) line attribute (PRIVACY) to a value of "Not Set" for any lines which have a value of "Public". The PRIVACY attribute is not changed if it contains a value of "Private". The program also sets the line Per-Call Privacy Allowed (PCP_ALW) attribute to "Yes" for lines which have an originating class of service of: Coin (FC_COIN), Hotel/Motel (FC_HOTMOTL and PBXHOTMOT), Charge-A-Call (FC_CHGACALL), and Two-Party (FC_TWOPTY and FC_2PTY).

If a data base read/write error occurs while attempting to access/modify the line data for an SM, the data evolution

program will abort processing for that SM, and an error message will be returned to the Read Only Printer (ROP) indicating the SM number in which the failure was encountered. The program will then continue processing of the next SM, if any, in the office for which data evolution was requested. (Note if only one SM is specified at the time of invocation, rather than all SMs, processing will cease.)

If the program completes successfully, the RC/V view will end normally.

15.3.1.5 Output Message Responses

An attempt to invoke the RC Mapping Program Enhancement for CPNP using the wrong "Reserved" cluster name will result in the following output response message to the view:

```
117-14 STORED DATA CONFLICT
```

```
PRECONSTRUCTED CLUSTERS (NAME BEGINS WITH '/') CANNOT BE INSERTED
```

An attempt to invoke the RC Mapping Program Enhancement for CPNP when the CPNP feature (SF ID 50) is not active will result in the following output message response to the view:

```
117-6 ACTION CONFLICT
```

The CPNP feature has not been purchased.

An attempt to insert an invalid SM number in the remarks field or use of the word "all" instead of "ALL" results in the following output message:

```
117-8 INPUT DATA ERROR
```

For CPNP update REMARKS must be 'ALL' or valid operational SM number

A successful attempt to invoke the RC Mapping Program Enhancement for CPNP will result in the following message to the ROP:

```
SO-7901 yy-mm-dd hh:mm:ss ##
```

```
A REPT:RCACT RCV CPNP BEGINNING PROCESSING
```

```
SO-7901 yy-mm-dd hh:mm:ss ##
```

```
M RCV SUCCESS RCLSTR INSERTED /CPNPUPD TERM-ID=xxxxxxx
```

The following appears on the RC view, View 12.2 when the program is invoked:

RCV In Progress (minutes view has been running, updated every two minutes)

An attempt to invoke the RC Mapping Program Enhancement for CPNP which encounters data base failures will result in the following messages to the ROP (note - this example assumes that 2 of the SMs could not be updated):

```
SO-7901 yy-mm-dd hh:mm:ss ##
```

```
A REPT:RCV CPNP BEGINNING PROCESSING
```

```
SO-7901 yy-mm-dd hh:mm:ss ##
```

```
A REPT:RCACT RCV CPNP UPDATE FAILED ON SM=x
```

```
SO-7901 yy-mm-dd hh:mm:ss ##
```

```
A REPT:RCACT RCV CPNP UPDATE FAILED ON SM=x'
```

```
SO-7901 yy-mm-dd hh:mm:ss ##
```

```
M RCV FAILURE RCLSTR NOT INSERTED /CPNPUPD TERM-ID=xxxxxxx
```

The following message will be seen on the RC view when failures occur for an SM(s):

```
117-18 FAILURE TO COMPLETE OPERATION
```

The number of SMs not completely updated is #. The first one is SM x

Followed by 1 or more messages with diagnostics for the reason for failure on the first SM.

15.3.1.6 Operational Limitations

The RC Mapping Program Enhancement for CPNP should only be run once per office or SM. If failures occur on an SM, as indicated by the output messages, the program should be re run only on the SM(s) which did not

successfully complete the first time. This will speed the overall through put of the program and will avoid any inadvertent changes by subsequent runs of the program. (Note this is a recommendation only, the software does not enforce a once per-SM rule.)

The RC Mapping Program Enhancement for CPNP must examine data for every line in the requested office or SM, and make updates to the line data as appropriate. The program, therefore, requires a protracted run time. Based on test environment data it is anticipated that a 100,000 line office would require approximately 4 hours to process to completion. The program's execution speed will depend on several factors including: the number of lines which need updating (either the PRIVACY or PCP_ALW fields), the mix of analog and ISDN lines, the amount of "other" RC or maintenance activity occurring at the same time, and the call load for the SM. In order to speed the through-put of the program, it is recommended that the RC Mapping Program Enhancement for CPNP not be run while an SM's occupancy exceeds sixty percent.

15.3.1.7 Determination of Privacy

Customers must notify the service provider of their preference for the presentation status of their number. Setting the customer's line preference is accomplished via a service order.

15.3.2 Hardware Resources

If an uninterruptible announcement is to be provided when users dial the PCP access code and access is denied, the announcement must be installed by service provider personnel. The announcement system must be engineered to account for the additional announcement.

NOTE: The announcement is available to lines regardless of class of service.

15.4 ASSIGNMENT GUIDELINES

15.4.1 Forms and Views

15.4.1.1 Translation Guide Forms

A new office record (ESS 5543) is shown in Figure 15-1. The valid values for the SCR IDX, PCP ALW, and PRIVACY fields are given in "Recent Change Views", Section 15.4.1.2.

ESS 5543
VIEW #: 8.24
OFFICE:

SCREENING INDEX PARAMETER ASSIGNMENT **5ESS® 2000 SWITCH**

SCR IDX	PCP ALW	PRIVACY

SCR IDX	PCP ALW	PRIVACY

Figure 15-1 Screening Index Office Record

15.4.1.2 Recent Change Views

When the Calling Party Number Presentation feature is installed, the PRIVACY field on existing line views is not

required. This feature uses the PRIVACY field to indicate the presentation status value for All-Call Privacy. The PRIVACY field internally maps the input of three values, (blank, N, and Y) to NOT_SET, PUBLIC, and PRIVATE. When the CPNP feature is installed and active, the PRIVACY field defaults to "blank" (previously defaulted to N) for lines added after CPNP has been turned on. The Recent Change (RC) Line Views affected are as follows:

- View 1.6 (Composite Line)
- View 1.8 (BRCS Assignment - TN View)
- View 23.2 (Digital Subscriber Line)
- View 23.8 (DSL/BRCS Assignment)
- View A.2 (Multiple Line Query).

For the new recorded announcement, a new treatment value is added to the RTTYPE.d domain used by the TRMT field on View 10.1 (Fixed Route). The new value is **PCPDENY**.

A new recent change view (View 8.24) added by this feature is shown in Figure 15-2 . The valid values for each field are as follows:

- SCRIN IDX (screen index) field - 1 through 4095.
- PCP ALW (PCP allow) field - Y (allow) or N (do not allow), default = N.
- PRIVACY field - Y (privacy), N (public), or "blank" (NOT_SET).

NOTE: When set to Y, all calls are marked with a presentation status of private. When set to N, all calls are marked with a presentation status of public. When left blank, presentation status cannot be determined from this attribute on this form. However, the screen index privacy field determines presentation status only if the ACP line indicator is "Not Set".

```
5ESS(R) SWITCH
RECENT CHANGE  8.24
SCREENING INDEX PARAMETER ASSIGNMENT
```

```
*1. SCRIN IDX  _____
 2. PCP ALW    _
 3. PRIVACY    _
```

Figure 15-2 Recent Change View 8.24, Screening Index Parameter Assignment

When the CPNP feature has been installed, the following checks are made:

- (1) When a screen index is entered with an RC View 8.24, the same screen index must also be entered on an Line Class Code (LCC) form (RC View 4.1) when the line class code is built.
- (2) When PCP ALW = Y, the LCC form must have class of service set to ATND, INDIV, 4WINDIV, CHGCALL, ISDN, ISATND, 2PTY, TWOPTY, HOTMOTL, or COIN.
- (3) If the CPNP feature is not activated, PCP ALW must = N (public) and an entry cannot be made in the PRIVACY field.

NOTE: If the office deactivates the CPNP feature and the global parameter equals NO and the ACP status is marked as NOT_SET, the call processing code assumes the privacy status as being PUBLIC.

15.4.2 Assigning to Customer

Obtain assistance from the Lucent Technologies Secured Feature Administrator to enable this secured feature. In a new-start office, the SFA enables the feature through ODA. In an existing office, the SFA provides instructions, including the necessary password, for using RC View 8.22.

The new RC View 8.24 implements the association of privacy to a screening index. This view is used in conjunction with RC View 4.1 (Line Class Code) to assign privacy (per-call and all-call) to a group of lines through the screen index. The recommended RC procedure for assigning ACP or PCP is to use View 8.24 to assign privacy to the screening index, and then build the line class code on View 4.1.

15.4.3 Deleting Customer Service

Obtain assistance from the Lucent Technologies Secured Feature Administrator (SFA) to delete this secured feature. The SFA provides instructions, including the necessary password, for using RC View 8.22.

15.4.4 Assignment Limitations

If the All-Call Privacy indicator is NOT_SET and the CPNP feature is not active, the switch assumes the value of PUBLIC if the global office privacy indicator is set to DBNO.

15.5 SYSTEM OPERATION

The new All-Call Privacy function is used to determine the ACP status of a line based upon the revised CPNP privacy preference.

NOTE: For the order of precedence, refer to Table 15-1 .

A new checking function is used to determine the line's All-Call Privacy status. The calling functions point to the analog line data or ISDN line data used in determining privacy status. If the CPNP feature is active, the value of the line PRIVACY field is checked. When the field value is Y (private) or N (public), this status information is returned to the calling function. When the PRIVACY field is blank (not set), further checking is done to determine the ACP status.

The Screen Index PRIVACY field is checked next. When the field value is Y (private) or N (public), this status

information is returned to the calling function. When the PRIVACY field is blank (not set), further checking is done to determine the ACP status.

The switch privacy indicator is then checked. This value, Y (private) or N (public), is returned to the calling function as the ACP status.

The All-Call Privacy status flow diagram is shown in Figure 15-3 .

If the PCP feature is assigned to the originator's line, the privacy bit is toggled for the duration of the call. If the PCP feature is **not** assigned to the originator's line, further checks must be made to determine if the Per-Call Privacy request is allowed.

When a Per-Call Privacy (toggle) request is received, a check is made to determine if the CPNP feature has been purchased (assigned). The DN privacy global parameters are checked. Global parameters UNAVAILABLE, LASSNULL, and TEMP UNAVAIL cause a failure to be returned regardless of the CPNP purchase status.

The DN global parameters are checked for values of SUBSCRIPTION or GEN AVAIL.

NOTE: For the order of precedence, refer to Table 15-2 .

If the global parameter is SUBSCRIPTION or GEN AVAIL, the line is checked to determine if it is allowed to use PCP. If the line is allowed to use PCP, the originator's screen index is checked to determine if PCP is allowed. If the screen index is also allowed to use PCP, the call progresses normally. In either case, if PCP is not allowed, the call is routed to the new "PCP denied" announcement.

The Per-Call Privacy flow diagram is shown in Figure 15-4 .

15.6 ADMINISTRATION

15.6.1 Measurements

No new measurements are added for this feature. The existing calls to peg the use of a constructed feature and the successful activation or deactivation of the privacy feature are not changed.

15.6.2 Billing

Only the use of Per-Call Privacy results in generation of AMA records, and then only if Per-Call Privacy is billed on a usage-sensitive basis.

If the telephone number was entered for only one of the parties, that number is recorded in the AMA records for PCP. If a number was entered for both parties, the number recorded is the first number entered when the line was put in service.

Limitations existing for Coin lines and Coinless Public lines (Charge-A-Call lines) are as follows:

- If PCP is assigned or made available to a Coin line with usage-sensitive billing, AMA records for PCP are also made for invocations from Coin lines. The Revenue Accounting Office (RAO) then distinguishes Coin lines from others based on the number billed.
- If PCP is assigned or made available to a Coin line with usage-sensitive billing, billing for PCP is not added to billing for calls made from Coin lines. Billing for PCP is not added to credit card, toll, collect, or third-party billing for calls made.

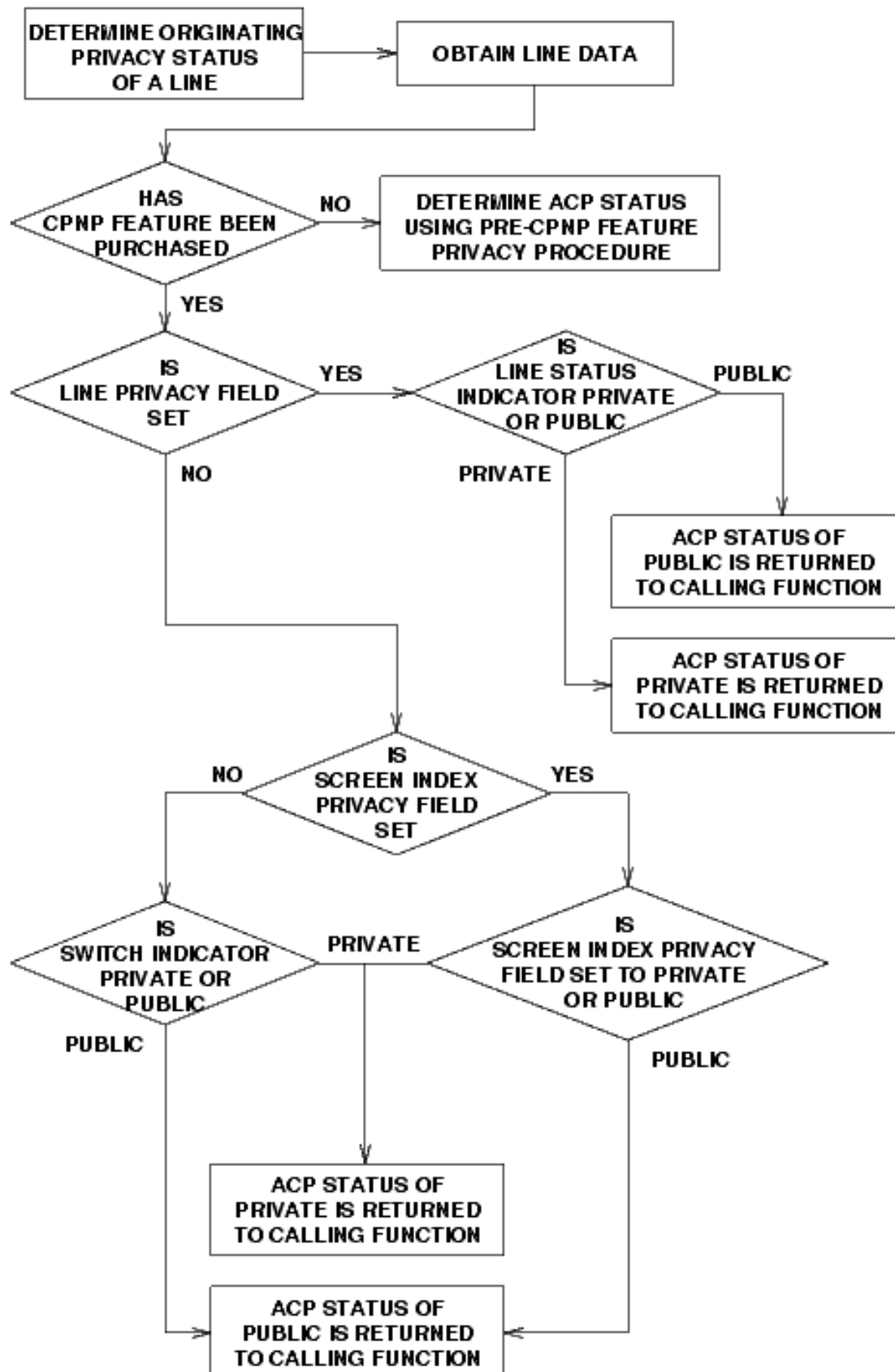
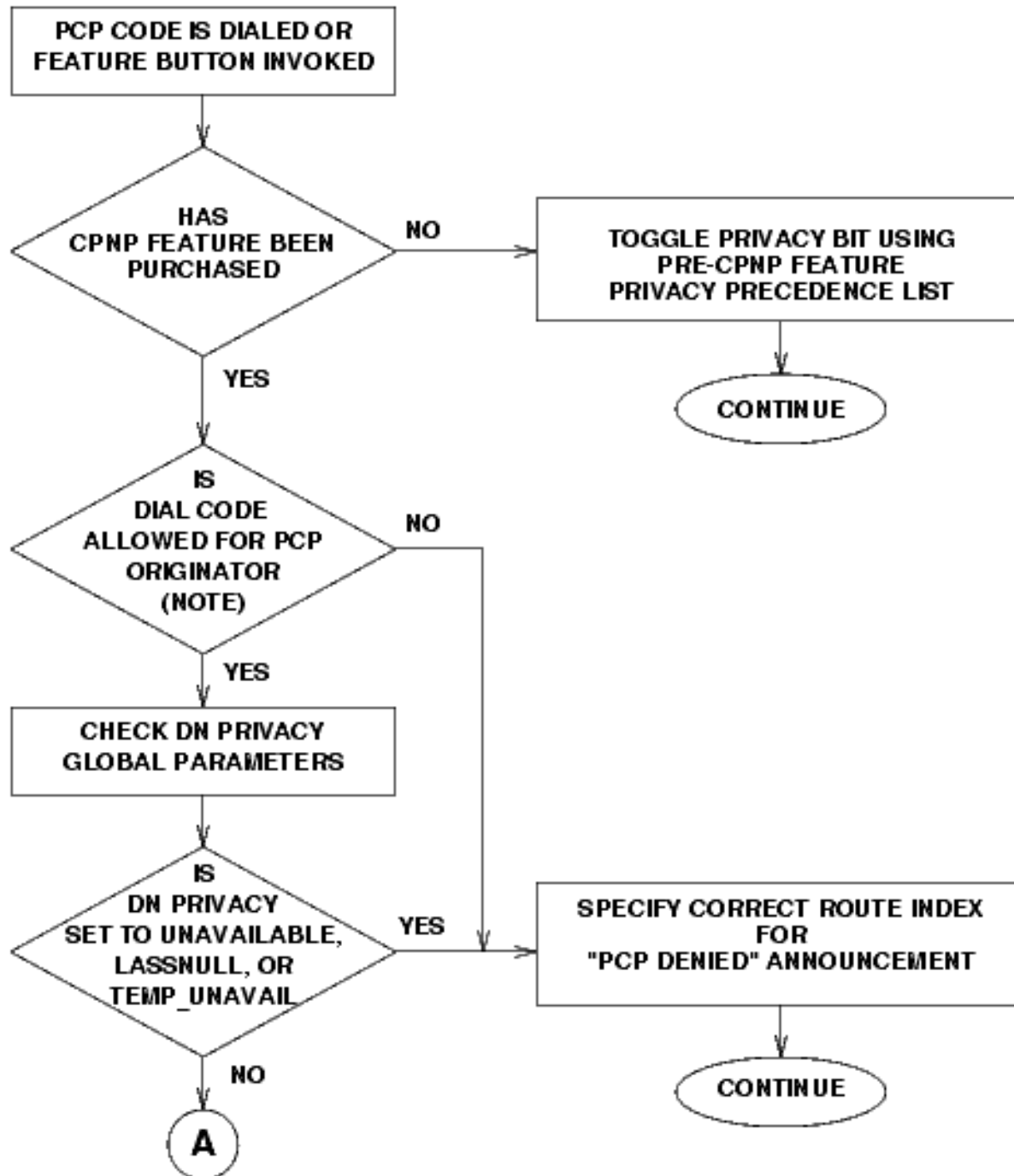


Figure 15-3 All-Call Privacy Status Flow Diagram



NOTE: INCLUDES ADDED COIN, CHARGE-A-CALL, HOTEL/MOTEL, TWO-PARTY, AND TWO-PARTY WITH MULTIFREQUENCY RINGING CLASSES OF SERVICE.

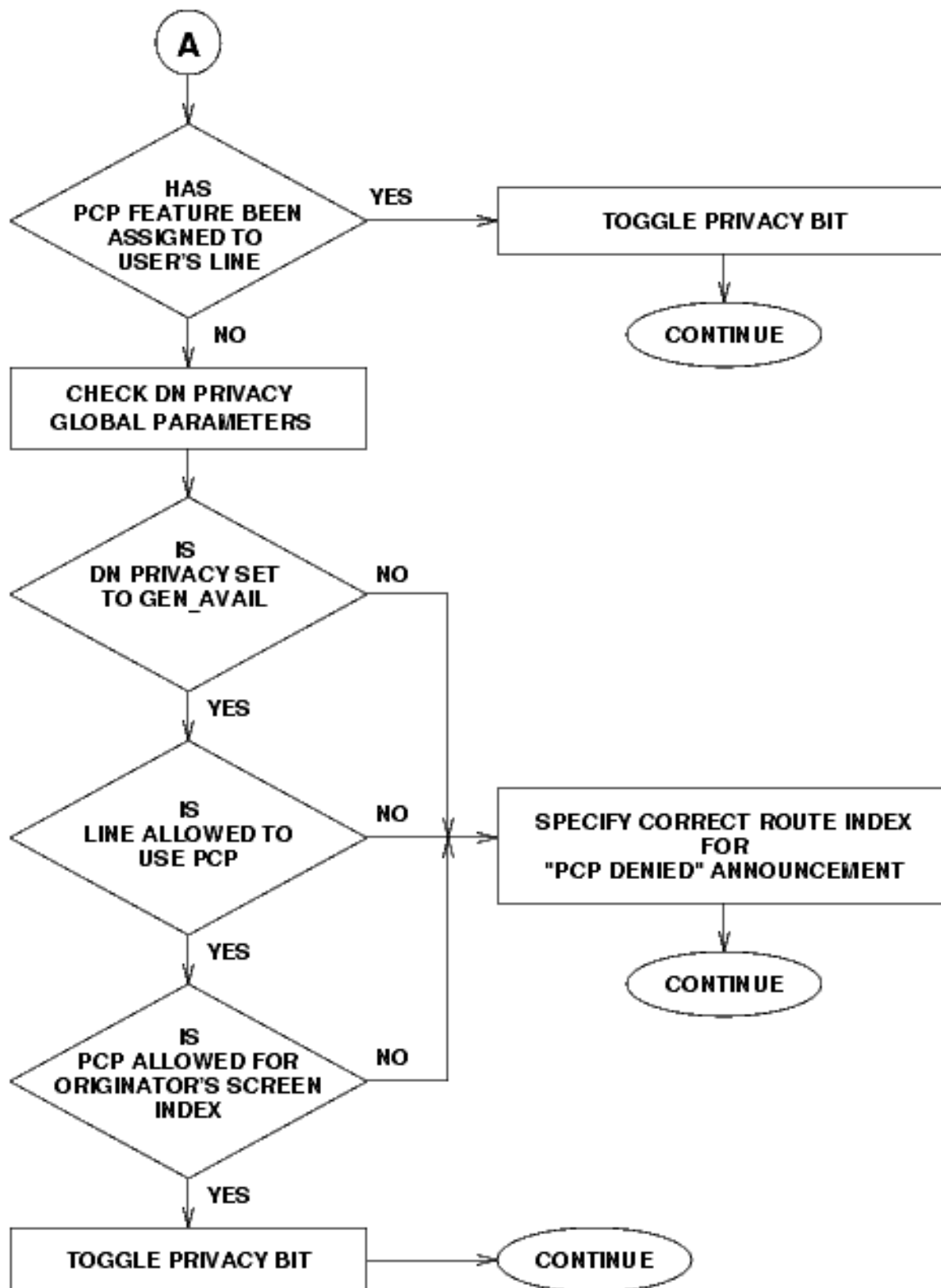


Figure 15-4 Per-Call Privacy Flow Diagram

16. LASS NPA SPLIT RESOLUTION

16.1 GENERAL

16.1.1 Definition

The LASS features provide validation and screening based on the directory numbers (DNs). When DN's change due to a numbering plan area (NPA) split, some of the LASS features fail to function as the customer desires. The LASS NPA Split Resolution feature (LNPAS) causes LASS DN validation and screening to use both the old NPA and the new NPA involved in an NPA split to insure continuity in LASS feature operations.

16.1.2 Cross-References

The following cross-reference is applicable to this feature:

- LSSGR or Lucent Technologies Feature Number: 99-5E-0839

16.1.3 Background

The term NPA split refers to the period of time when an NPA serving an area is being divided into two or more NPAs. An NPA split occurs when the demand for telephone numbers in an area served by the NPA is larger than the supply of numbers. The existing NPA is referred to as the **old NPA**, while an NPA that is being introduced is referred to as a **new NPA**. After the split, some of the NXXs in the area are in the old NPA and some of them are in the new NPA(s).

Validation and screening for LASS are normally done on a 10-digit DN. During an NPA split, this validation and screening is disrupted as offices gradually convert DN's to the new NPA. Further problems are experienced due to the permissive dialing period, a transition phase where subscribers are allowed to dial DN's that will be in the new NPA using either the new NPA or the old NPA. These difficulties are due to mismatches between NPA data in different offices and between dialed digits and office data, including LASS subscriber screening lists. Without the LNPAS feature, these mismatches can cause the Automatic Recall (AR) feature, Automatic Callback (AC) feature, and LASS Selective Features (LSF) and the Screen List Editing (SLE) capability to fail to work properly.

Before activating this feature, all end offices must be able to route using the new NPA. The STPs must also contain the new NPA.

16.1.4 Availability

The LNPAS feature is available with 5E8 and later software releases.

NOTE: Consult your Lucent Technologies Account Executive for availability.

16.1.5 Feature Provision Basis

This secured feature, which is provided on a per-office basis, is not activated until the purchaser has made the necessary arrangements with Lucent Technologies. Information on feature activation is provided upon ordering. Please contact your Lucent Technologies Account Representative for ordering information and the Right-to-Use (RTU) fee associated with this feature.

After this secured feature is activated, entries must be placed in the NPA split table for the office. This table contains an NPA split pair (old NPA, new NPA) for each NPA split affecting the office or any area with SS7 connectivity to the office. The LNPAS capability for those NPA splits is activated by enabling feature options. These options are as follows:

- **TCAP VALID**— This option is used in validating the DN in a TCAP query for AC/AR and SLE. If the TCAP NPA is in the NPA split table and a TCAP mismatch is enabled, the TCAP DN is considered valid if the TCAP DN is valid with either NPA from the NPA split table.
- **DIG SCRIN**— If the calling NPA is in the NPA split table and the Screening option is enabled, screening will use only the last 7 digits of the calling DN when searching a screening list. If these 7 digits match a DN on the screening list and the calling NPA and the screening list NPA are associated with the same NPA split, a match has been found and actions appropriate to the screening features are taken.
- **SLE DEL**— When a customer is deleting a number from the screening list, if the NPA of the number to delete is in the NPA split table and the SLE Delete option is enabled, SLE list delete uses both the old and the new NPA to check if the DN exists in the list.
- **SLE CHNG**— When a customer is using SLE to add a number to the screening list, if the NPA of the number to be added is in the NPA split table and the SLE CHNG option is enabled, SLE list add uses both the old and the new NPA to check if the DN already exists on the list. If the DN is on the list with the old NPA, and the user has attempted to add it with the new NPA, SLE list add updates the screening list entry and replaces the old NPA with the new NPA.

The feature options described previously are not active until they are enabled. The enabling is done locally and does not require assistance from Lucent Technologies. These options are enabled as follows:

These LNPAS feature office options are enabled/disabled using RC View 8.25, LASS NPA Split Resolution. This view is used for adding, deleting, or changing data in the office NPA Split table. With each NPA split pair are four options that can be enabled/disabled for the pair.

- Option 1— TCAP mismatch (TCAP VALID)
- Option 2— Screening (DIG SCRIN)
- Option 3 — SLE Delete (SLE DEL)
- Option 4 — SLE Addition (SLE CHANG)

These options can be set independently for each NPA split affecting the office.

16.2 USER PERSPECTIVE

16.2.1 User Profile

The LNPAS feature permits end-users to successfully invoke LASS features during an NPA split.

16.2.2 User Operation

The LNPAS feature does not affect user actions required for the AC, AR, LASS Selective Features (LSF), or the SLE capability. Entries on LSF screening lists that contain the old NPA, but refer to DNs in the new NPA, must be updated with the new NPA during or after the permissive dialing period.

NOTE: The period of time when either the old or new NPA is accepted is called the **permissive dialing period**.

16.2.3 Operational Limitations

Signaling System 7 (SS7) protocol is used for the TCAP required for the LNPAS feature.

16.2.4 Interactions

This feature has interactions with the following features:

- Automatic Callback Modular feature
- Automatic Recall Modular feature
- LASS Screening features
- Screen List Editing.

Automatic Callback— During an AC activation, the office of the person attempting to activate the feature (the originating office) retrieves the DN of the last incoming call from the Incoming Line History Block. The office then attempts to determine how the user would normally dial the ILHB DN as follows:

- (1) It first checks digit analysis to find the NPA that the office associates with the last 7 digits of the DN in the ILHB. If the NPA does not match the ILHB NPA, the NPA split table is examined to determine if they are associated with the same NPA split. If they are associated with the same NPA split, the switch attempts AC using 7 digits. If not, digit analysis is performed to determine the NPA associated with 1+7 digits.
- (2) If the NPA associated with 1+7 digits does not match the ILHB NPA, the NPAs split table is examined to determine if the two NPAs are associated with the same NPA split. If they are associated with the same NPA, the switch attempts AC using the 1+7 digits. If not, digit analysis is performed using all 10 digits from the ILHB.
- (3) If the 10 digits from the ILHB fail digit analysis, the AC attempt will fail.

If the originating office can determine how the user would normally dial the ILHB DN, a TCAP query is sent to the terminating office to determine the status of the terminating DN. The NPA in the TCAP query is examined to see if it is in the NPA split table. If the NPA is in the NPA split table and the TCAP mismatch option is enabled, both the NPA from the TCAP query and the associated NPA from the split table are used to check the AC/AR choke list for a DN match. If it is not on the choke list, both DNs are used to check the validity of the DN in the terminating office.

If the DN is a valid DN in the terminating office, a check is done to see if SCF, SCA, or SCR is active for the DN. If any of these features are active, the office checks if the NPA of the party originating the AC attempt is in the NPA split table. If it is and the screening option is set, both NPAs are used in searching for applicable screening lists. The TCAP reply indicates if screening would cause a call from the party originating the AC attempt to be forwarded or rejected.

Automatic Recall — When an AR is activated, a TCAP query is sent to the office of the Outgoing Line History Block DN (terminating office). The LNPAS interaction with the TCAP validation and screening functions that are performed in the terminating office for an AR are the same as described for AC.

LASS Screening Features — Whenever a DN is to be screened for the SCF, SCA, CAR, SCR, and SDA feature, the NPA split table is searched for the NPA of the DN to be screened. If it is found and the screening option is enabled, both NPAs from the split pair are used to search the screening list for the feature.

Screen List Editing — If the NPA for a number to be added to or deleted from a screening list is in the NPA Split Table and the SLE Change/Delete options are enabled, both the NPA of the number to be added/deleted and the associated NPA are compared to the screening list.

For a delete session, if either DN is found, the DN is deleted. If neither DN is found, the subscriber is informed that the DN is not on the screening list.

For an add session, if either DN is found, the subscriber is informed that this is a duplicate DN and the NPA in the screening list is changed to the dialed NPA, if the new NPA was dialed. If either DN is found, the SLE Add session is continued. If a number to be added is not found on the screening list and is determined to be interoffice, a TCAP query is sent to the office (terminating office) of the DN to be added to check its validity. The terminating office examines the NPA split table for the NPA of the DN to be added. If the NPA is found in the table and the TCAP mismatch option is enabled, both the NPA of the DN to be added and its associated NPA are used in determining the validity of the DN in the office. The Mismatch option is also used in determining whether a 10-digit interoffice DN may be added to a screening list.

16.3 ENGINEERING

16.3.1 Hardware Resources

Not applicable.

16.3.2 Software Resources

Not applicable.

16.4 ASSIGNMENT GUIDELINES

16.4.1 General

Bellcore notifies each service provider when an NPA split is planned. Before the offices within the NPA begin to update their data, the NPA split table must be populated and the correct office options must be activated. In addition, offices with CCS connectivity to the offices in the split must populate their split table and set the LNPAS options.

16.4.2 Forms and Views

16.4.2.1 Translation Guide Forms

Office Data Administration (ODA) supports a new LASS NPA Split form (see Figure 16-1). The form is customer-changeable.

```

npasplit                                5ESS(R) SWITCH
(5546)                                OFFICE DATA ADMINISTRATION
                                      CLASS NPA SPLIT RESOLUTION

*1. OLD NPA 708
*2. NEW NPA 630
  3. TCAP VALID (OPTION 1) Y
  4. DIG SCRN (OPTION 2) Y
  5. SLE DEL (OPTION 3) Y
  6. SLE CHNG (OPTION 4) Y

```

Figure 16-1 ODA Form for LASS NPA Split Resolution

16.4.2.2 Recent Change Views

RC View (see Figure 16-2) is provided.

5ESS(R) SWITCH
RECENT CHANGE 8.25
LASS NPA SPLIT RESOLUTION

*1. OLD NPA _____
*2. NEW NPA _____

3 OPTION 1 (TCAP VALID) _____
4 OPTION 2 (DIG SCRN) _____
5 OPTION 3 (SLE DELI) _____
6 OPTION 4 (SLE CHNG) _____

Figure 16-2 RC View 8.25, LASS NPA Split Resolution

16.4.3 Assigning to Customer

To activate this secured feature, contact the Lucent Technologies Secured Feature Administrator (SFA) for assistance. In a new start office, the SFA activates the feature through ODA. In an existing office, the SFA provides instructions, including the necessary password, for using RC View 8.22.

Enable the desired options on the LASS NPA Split Resolution Recent Change View, View 8.25.

Insert NPA pairs associated with NPA Split procedures to be completed, on the LASS NPA Split Resolution Recent Change View.

16.4.4 Deleting Customer Service

To deactivate this secured feature, contact the SFA for assistance. The SFA provides instructions, including the necessary password, for using RC View 8.22.

Disable the desired options on the LASS NPA Split Resolution Recent Change View.

Remove the NPA pairs, associated with completed NPA Split procedures, on the LASS NPA Split Resolution Recent Change View.

16.4.5 Verify Option Feature

Examine the NPA split table and feature options selected on the LASS NPA Split Resolution Recent Change View.

16.5 SYSTEM OPERATION

When the LNPAS feature is active, offices within the NPA split area incorporate the old NPA and new NPA into the NPA split table, and activate the correct office options into the ODA data. In addition, offices with CCS connectivity to the offices in the split must populate their split table and set the LNPAS options.

NOTE: If the TCAP mismatch option is activated, the LNPAS feature is applied to both generally available and subscription AC/AR/SLE DN validation. If the screening office option is activated, and the calling NPA is in the NPA split table, the LNPAS feature is applied to all the LSF features.

The NPA split table may contain up to 32 pairs of old and new NPAs. There are one or more NPA pairs for every

split occurring in an area with which the switch has a network interface agreement. An old NPA may be associated with more than one new NPA.

Figure 16-3 shows the logical flow diagram of this feature when a TCAP query requesting the status of a DN is received.

Figure 16-4 shows the logical flow diagram of this feature when a TCAP query requesting the validity of a DN is received.

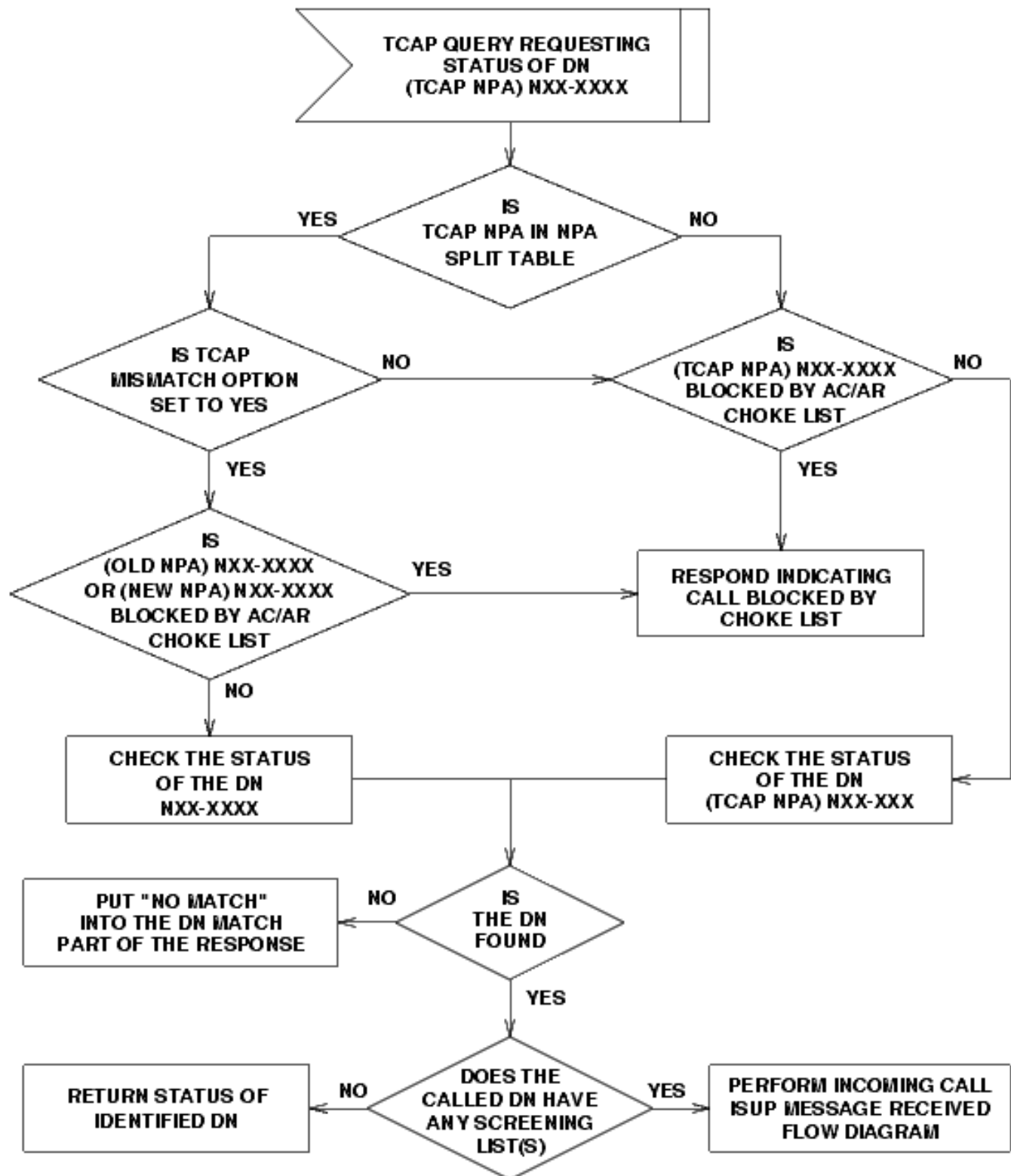
Figure 16-5 shows the logical flow diagram of this feature when an ISUP message which announces an incoming call is received.

Figure 16-6 shows the logical flow diagram of this feature when a subscriber in an SLE session dials a DN to be added to their screening list.

Figure 16-7 shows the logical flow diagram of this feature when a subscriber in an SLE session dials a DN to be deleted from their screening list.

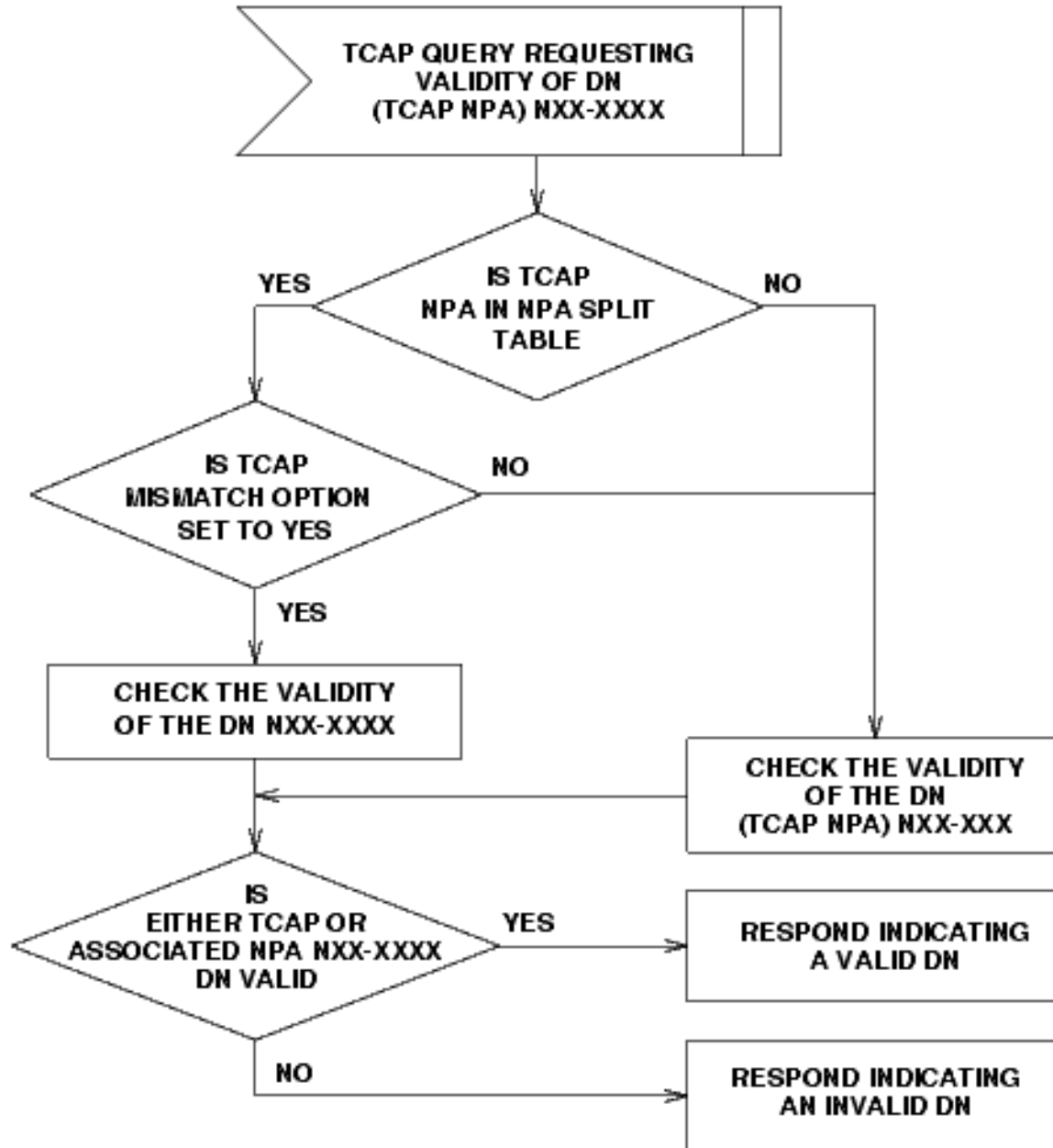
16.6 ADMINISTRATION

Not applicable.



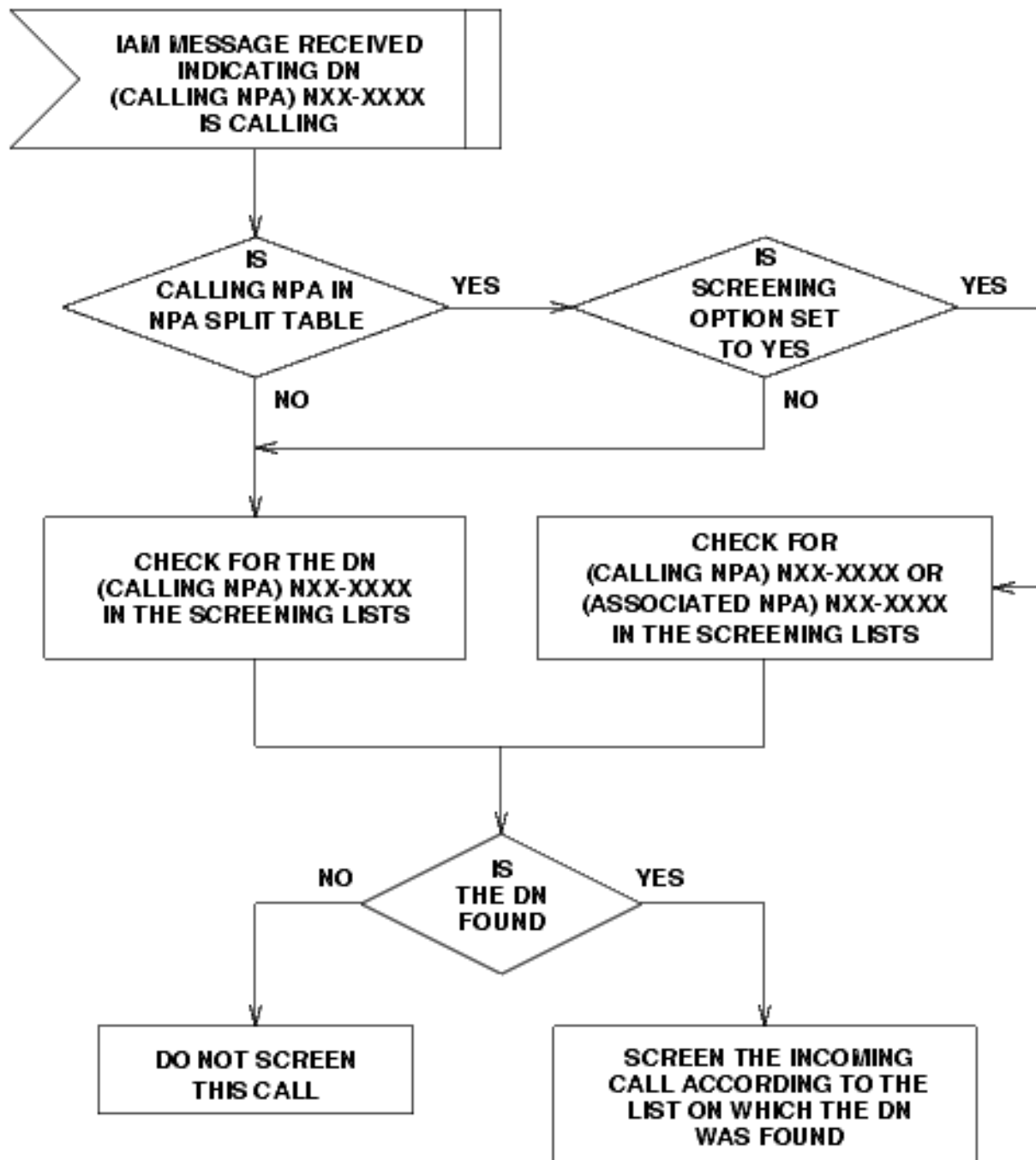
DIRECTORY NUMBER (DN)
 NUMBER PLAN AREA (NPA)
 TRANSACTION CAPABILITIES APPLICATION PART (TCAP)

Figure 16-3 TCAP Status Request Flow Diagram



DIRECTORY NUMBER (DN)
 NUMBER PLAN AREA (NPA)
 SCREEN LIST EDITING (SLE)
 TRANSACTION CAPABILITIES APPLICATION PART (TCAP)

Figure 16-4 TCAP Validity Request Flow Diagram



DIRECTORY NUMBER (DN)
INITIAL ADDRESS MESSAGE (IAM)
CLASS SELECTIVE FEATURE (LSF)
NUMBER PLAN AREA (NPA)

Figure 16-5 Incoming Call ISUP Message Received Flow Diagram

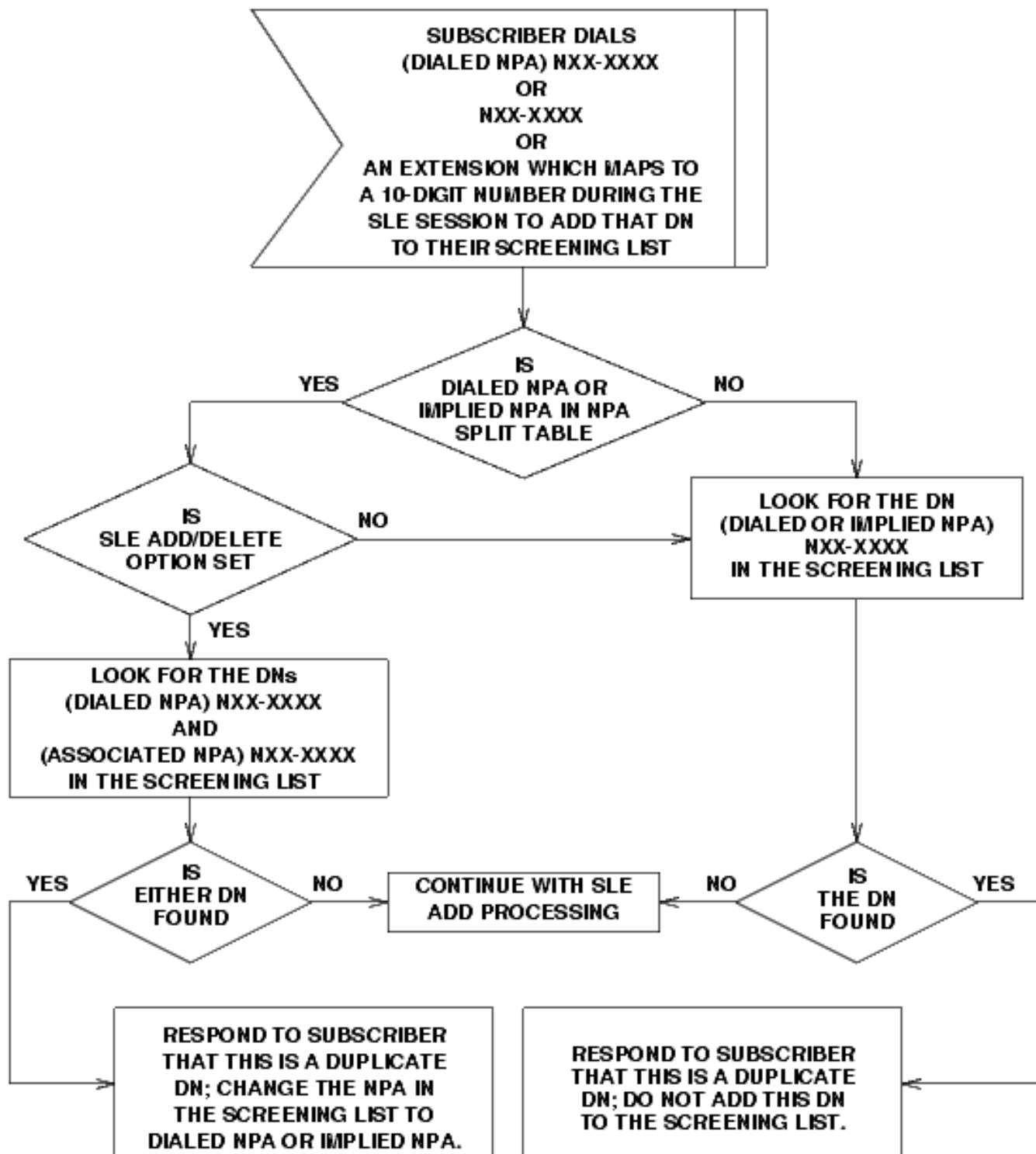


Figure 16-6 Adding to SLE Screening List Flow Diagram

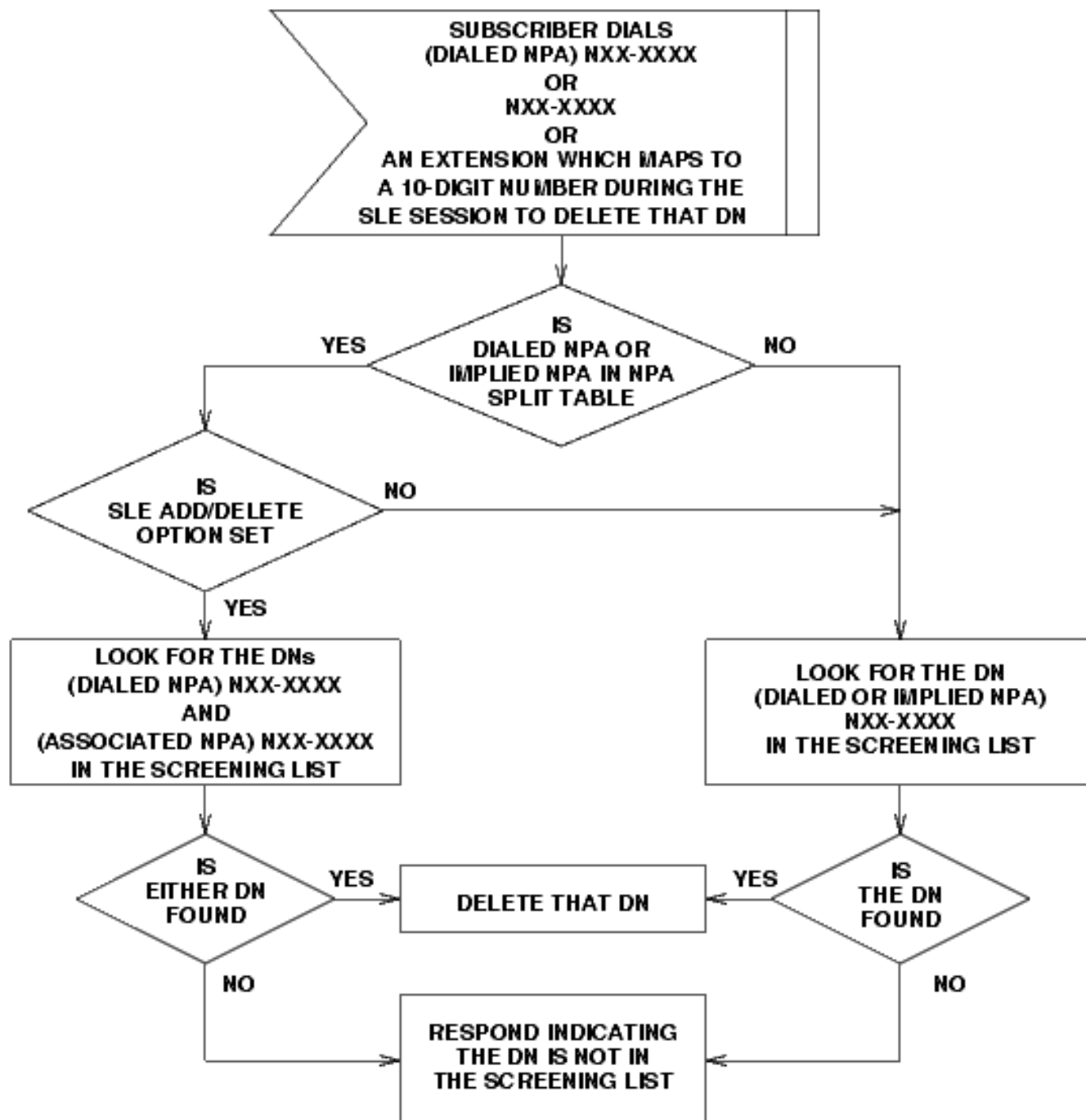


Figure 16-7 Deleting from SLE Screening List Flow Diagram

17. UNIDENTIFIED CALL REJECTION

17.1 GENERAL

17.1.1 Definition

The Unidentified Call Rejection (UCR) feature gives the called party the ability to reject calls if the calling number is marked private. The user only receives calls for which the identity of the calling party is available (the call terminates if the number is not available).

The UCR feature routes calls, with the calling party number marked as private, directly to an announcement. A typical 13A/14A/15A/16A announcement states, "You have attempted to reach a party who is not accepting calls marked private." Currently, when a caller invokes DN privacy to prevent his/her number from being revealed to the called party who has ICLID Calling Number Delivery, the called party is simply informed that the calling number is private. Calls for which the calling party number is not available or is not marked as private are not affected by this feature.

Without this feature assigned and active, if the calling party invokes directory number (DN) privacy to prevent their number from being revealed to the called party, a called party with Calling Number Delivery (CND) is informed that the number is private. The called party cannot identify the caller and choose whether to answer or not answer the call based on the calling DN.

17.1.2 Cross-References

The following cross-references are applicable to this feature:

- LSSGR or Lucent Technologies Feature Number: 99-5E-0790
- NSEP Code: REFER#2.

17.1.3 Availability

The UCR feature is a secured and optioned feature available in the 5E7 software release.

The UCR feature can be activated and deactivated by the use of dial codes. This allows the customer to control the status of UCR.

An additional option provides an option to record and charge for the UCR rejection announcement.

NOTE: Consult your Lucent Technologies Account Executive for availability.

17.1.4 Feature Provision Basis

The UCR feature is a secured and optioned feature, which is provided on a per-DN basis via a service order. The UCR feature is available for analog business and residential customers. The UCR feature is not activated until the purchaser has made the necessary arrangements with Lucent Technologies. Information on feature activation is provided upon ordering. Please contact your Lucent Technologies Account Representative for ordering information and the Right-to-Use (RTU) fee associated with this feature.

The UCR feature can be activated/deactivated using dialed codes. After the feature is purchased, it is assigned inactive and must be activated or enabled using the assigned dial code. The enabling is done locally and does not require any assistance from Lucent Technologies.

The recording and charging of UCR announcement is optional on a per-office basis and is not active until it has

been enabled. The enabling is done locally, and does not require assistance from Lucent Technologies. The option number for the recording and charging of UCR announcement is 550.

17.2 USER PERSPECTIVE

The UCR feature is a terminating LASS feature. The calling (originating) party has no control over the acceptance of the call at the terminating station with UCR active, if the calling number is marked private.

The UCR feature is assigned inactive and does not become active until a user dials the activation code.

17.3 USER OPERATION

17.3.1 Feature Activation

The LASS Unidentified Call Rejection (UCR) feature routes calls, with the calling party number marked as private, directly to an announcement. A typical 13A/14A/15A/16A announcement states, "You have attempted to reach a party who is not accepting calls marked private." Currently, when a caller invokes DN privacy to prevent his/her number from being revealed to the called party, the called party is simply informed that the calling number is private. This feature gives the called party the ability to reject calls if the calling number has been marked as private. Calls for which the calling party number is not available or is not marked as private are not affected by this feature. The Unidentified Call Rejection feature is available to business and residential analog users only.

User access to UCR is provided by separate dialed codes for activation and deactivation of the feature. To activate the UCR feature, the end-user dials the designated access code. An announcement confirms that the end-user has activated/deactivated the UCR feature. If an announcement cannot be provided, confirmation tone is returned.

NOTE: When a user dials the UCR activation code, and UCR is already active, an announcement confirms that UCR is active.

17.3.2 Operational Limitations

Assuming that UCR is not overridden by features of higher precedence [such as Selective Call Acceptance (SCA) or Selective Distinctive Alert (SDA)], only calls originated with a "public DN," or calls for which the calling party numbers are not available to the terminating switch, are able to bypass UCR screening. Calls for which the calling party numbers are not available are primarily incoming calls that do not have Signaling System 7 (SS7) connectivity with the terminating switch.

If UCR is overridden by a feature of higher precedence, call termination treatment is dictated by the feature of higher precedence. If UCR is not overridden by a feature of higher precedence, but is found to be not applicable to the call, and the calling line is idle, terminating treatment of alerting is applied, or the terminating treatment is dictated by a feature of lower precedence than UCR. If UCR is not overridden by a feature of higher precedence, but is found to be inapplicable to the call, and the calling line is busy, standard busy line terminating treatment (for example, busy tone) is returned.

A remote switching module (RSM) applies UCR treatment if the originator, terminator, and announcement interfaces are all located on the same RSM. If the call cannot be routed to the terminating line, RSM, or the announcement interface, then reorder tone is provided.

17.3.3 Deactivation

To deactivate the UCR feature, the end-user dials the designated access code and receives an announcement stating that the UCR feature has been deactivated. If the action cannot be successfully executed, the switch provides confirmation tone. The TFOS bit determines whether tone or announcement is provided.

NOTE: When a user dials the UCR deactivation code, and UCR is already inactive, an announcement confirms that

the UCR feature is inactive.

17.4 INTERACTIONS

Automatic Callback-Calling — Activations of ACBC toward a party with UCR active, if the ACBC number is marked as private, attempts immediate call setup regardless of the busy/idle line status of the UCR user. The ACBC user is given the UCR rejection announcement.

Attendant Camp-On — Unidentified Call Rejection takes precedence over Attendant Camp-On. If the number of the party who called the attendant for a call is marked private, the call is rejected by UCR regardless of the busy/idle line status of the user and regardless of whether the attendant invoked Attendant Camp-On. Call Waiting treatment is not applied for the call.

Unidentified Call Rejection cannot be assigned to an attendant.

Advanced Services Platform — The UCR feature can be assigned to lines which are terminating triggers for ASP. If UCR is assigned to a DN which is a terminating trigger for ASP, triggering must occur before the call is screened by UCR. The response on triggering may result in the call being redirected to another party. If so, UCR would not be invoked unless active for the ultimate party. For further information and for the latest details on LASS features and ASP interactions, Please see the following documents:

235-190-125 Advanced Services Platform Release 0 and 0.1A

235-190-126 Advanced Services Platform Release 0.1B

Attendant Six-Way Conference — A call to an additional party by the conferencing party in an attendant six-way conference must be screened by UCR based on the calling party number available (the number of the conferencing party). Only calls which alert the called party can be answered and added to a conference. If a call is rejected by UCR, it cannot be added. Unidentified Call Rejection takes precedence over Call Forwarding Busy Line (CFBL). Regardless of the busy/idle line status of the user, if the calling party number is marked private, the call is rejected by UCR. The call is not forwarded by CFBL.

Automatic Callback — Intraswitch activations by Automatic Callback (AC) users with their number marked as private toward a party with UCR attempts immediate call setup regardless of the busy/idle line status of the UCR user. The AC user is given a UCR announcement. The UCR announcement indicates that the called party is not accepting calls from parties with private numbers.

The UCR feature has no effect on interswitch activations of AC. The UCR feature is not checked immediately. The AC delayed processing can occur if the called party is busy, even if the party has UCR. When the called party becomes idle, the call is set up. The calling party is then routed to the UCR rejection announcement if his/her number is marked private.

Call Forwarding Busy Line-Incoming Only — Unidentified Call Rejection takes precedence over Call Forwarding Busy Line-Incoming Only (CFBLIO). Regardless of the busy/idle line status of the user, if the calling party number is marked private, the call is rejected by UCR. The call is not forwarded by CFBLIO, even if the calling party is outside the user's terminal group.

Call Forwarding Incoming Only — Unidentified Call Rejection takes precedence over Call Forwarding Incoming Only (CFIO). If the calling party number is marked private, the call is rejected by UCR. The call is not forwarded by CFIO, even if the calling party is outside the user's terminal group.

Call Forwarding Over Private Facilities — Unidentified Call Rejection takes precedence over Call Forwarding Over Private Facilities (CFPF). If the calling party number is marked private, the call is rejected by UCR. The call is not forwarded by CFPF.

Call Forwarding Variable — Unidentified Call Rejection takes precedence over Call Forwarding Variable (CFV). If

the calling party number is marked private, the call is rejected by UCR. The call is not forwarded by CFV.

Call Forwarding in a (Within) Group Only — Unidentified Call Rejection takes precedence over Call Forwarding in a (Within) Group Only (CFIAG). If the calling party number is marked private, the call is rejected by UCR. The call is not forwarded by CFIAG.

Calling Party Number Presentation — The Calling Party Number Presentation (CPNP) feature has an indirect interface with the UCR feature. The UCR feature blocks all phone calls marked private and routes the calling party to an announcement. Calls marked private and originating in an office with the CPNP feature are blocked if they are terminating in an office with the UCR feature.

Call Waiting Incoming Only — Unidentified Call Rejection takes precedence over Call Waiting Incoming Only. If the calling party number for a call is marked private, the call is rejected by UCR regardless of the busy/idle line status of the user. Call Waiting treatment is not applied for the call. If the calling party number is not marked private, normal CWIO treatment applies.

Call Transfer Individual All Calls — A call to a third party by the transferring party is screened by UCR based on the calling party number available (the number of the transferring party). Only calls which alert the called party can be answered and transferred to another party. If a call is rejected by UCR, it cannot be transferred.

Computer Access Restriction — Unidentified Call Rejection is not invoked for Computer Access Restriction (CAR) if it is active for the same DN. An incoming call with the calling party number marked private is screened by CAR. If the calling party is on the CAR screening list, the call is offered normally; if the number is not on the screening list, CAR nonacceptance treatment applies.

Dial Transfer to Tandem Tie Lines — A calling party number is not available for calls terminating over a tie line; therefore, UCR does not reject any calls.

Emergency Ringback — Unidentified Call Rejection overrides emergency ringback. When a 911 attendant recalls a UCR user, the user receives ringback alerting even if the calling party number for the call is marked private.

Four- and Eight-Party Lines — Four- and eight-party lines are denied Unidentified Call Rejection. Calls originating from them will not be sent the calling party number.

Fully Restricted Originating and Terminating — For a call to a DN with UCR active and is fully restricted terminating, if the calling party is not within the called party's terminal group, or is an attendant for the group, error treatment for the station restrictions applies (one of these error treatments is Call Forwarding which applies normal forwarding treatment). These restrictions apply even if the calling party is marked private.

Home Intercom — Home intercom calls between two extension lines does not invoke UCR.

ISDN Attendant Emergency Override — The ISDN Attendant Emergency Override feature takes precedence over UCR. The attendant can use this feature to complete a call to a UCR user even if the calling party number is marked private.

Hunt Group Members — The UCR feature cannot be assigned to hunt group members.

Limited Intragroup ICLID (LIGI) — The LIGI feature is an office feature which marks all interterminal group calls private. If the LIGI is active in an office and UCR was assigned to a customer, only intraterminal group calls would be completed. Therefore, the LIGI and UCR features are mutually exclusive.

Line Time Slot Bridging — The UCR feature can be assigned to LTSB lines with 1-DN and calls directed to the DN are screened by UCR. The UCR cannot be assigned to LTSB lines with 2-DNs.

Multiple DNs — Unidentified Call Rejection takes precedence over Multiple DNs per Line with Distinctive Ringing. If the call is not rejected by UCR, normal MDNL treatment applies. The call can be offered with distinctive ringing due

to the MDNL, depending on which DN the call is intended for. Any incoming call to the master DN or the secondary DN is screened by UCR.

Precedence and Preemption — Precedence and Preemption calls which have higher than routine precedence are not screened by UCR. These calls are not rejected by UCR even if the calling party number is marked private.

Private Option For the Last Incoming Number — Unidentified Call Rejection rejects a call if the calling party number available with the call is marked private. It is possible that the number was not marked private when the call was first offered, but is marked private due to the POLIN feature.

Ringback Queuing — Unidentified Call Rejection screening is not invoked for ringback queuing.

Selective Call Acceptance — Unidentified Call Rejection is not invoked for a call if Selective Call Acceptance (SCA) is active for the same called DN. That is, an incoming call for which the calling party number is marked private is screened by SCA and is not rejected by UCR. If the calling party number is on the SCA screening list, the call is offered normally. If the number is not on the screening list, SCA nonacceptance treatment applies. The call is either forwarded to a third party or is routed to an uninterruptible announcement. The UCR is never invoked for a call if SCA is active, regardless of what other features may also be assigned to the called DN or line. The SCA feature alone determines whether the call is accepted or not. For example, if the user has SCA and the Selective Call Forwarding feature in addition to UCR, calls are either accepted or not accepted by SCA alone. Neither SCF nor UCR are invoked. The SCA feature has precedence over SCF. If the user turns SCA off, then calls are first screened by SCF. If calls are not forwarded by SCF, then UCR is invoked.

Selective Call Forwarding — If the called DN has both Unidentified Call Rejection and Selective Call Forwarding (SCF) active, incoming calls are first screened against the SCF screening list.

- If the calling party number is on the screening list, the call is forwarded to the SCF forward-to number. It is not rejected by UCR, even if the calling party number is marked as private.
- If the calling party number is not on the screening list, UCR is invoked. If the number is marked private, UCR rejects the call before providing the uninterruptible UCR announcement to the caller. The called party is not alerted.

Selective Call Rejection — If the called DN has both Unidentified Call Rejection and Selective Call Rejection (SCR) active, incoming calls are first screened against the SCR screening list.

- If the calling party number is on the screening list, the call is rejected by SCR; that is, the calling party is provided the uninterruptible SCR announcement. The call is not rejected by UCR, even if the calling party number is marked as private.
- If the calling party number is not on the screening list, UCR is invoked. If the number is marked private, UCR rejects the call by providing the uninterruptible UCR announcement to the caller. The called party is not alerted.

Selective Distinctive Alert — If the called DN has both Unidentified Call Rejection and Selective Distinctive Alert (SDA) active, incoming calls are first screened against the SDA screening list.

- If the calling party number is on the screening list, SDA treatment applies. That is, the call is offered with distinctive ringing if the user is idle or with distinctive call waiting tone, if applicable. The caller is given busy treatment if the user is busy and call waiting does not apply. The call is not rejected by UCR, even if the calling party number is marked as private.
- If the calling party number is not on the screening list, UCR is invoked. If the number is marked private, UCR rejects the call by providing the uninterruptible UCR announcement to the caller. The called party is not alerted.

The SDA screening list is checked even if the user is busy and even if the user has a call waiting feature but already has a call waiting.

Three-Way Calling — A call to a third party of a three-way call by the conferencing party must be screened by UCR based on the calling party number available (the number of the conferencing party). Only calls which alert the called party can be answered and added to a conference. If a call is rejected by UCR, it cannot be added.

Two-Party Lines with ANI/ONI — Two party lines can have UCR. The number displayed for two-party ANI/ONI depends on ANI/ONI.

17.5 ENGINEERING

17.5.1 Hardware Resources

The uninterruptible announcements required for the UCR feature are installed by service provider personnel. A total of three announcements or a combination of tones and announcements are required for this feature. The UCR feature requires additional use of a 13A, 14A, 15A, or 16A announcement frame to provide these uninterruptible announcements to the calling party when UCR is active and the calling party's number is marked private, and to provide dial code confirmation.

17.5.2 Software Resources

Not applicable.

17.6 ASSIGNMENT GUIDELINES

17.6.1 Forms and Views

17.6.1.1 Translation Guide Forms

The following translation guide forms are used to assign the UCR feature:

- Form 5713 (Secured Feature System Assignment) - The corresponding RC view is 8.22.
- Form 5301-1 (Fixed Route Type) - The corresponding RC view is 10.1.
- Form 5300-2 (Prefix/Feature Digit Interpreter) - The corresponding RC view is 9.2.
- Form 5601-1,2 (Individualized Dialing Plan Dialed Code) - The corresponding RC view is 9.13.
- Form 5109-1,2,3 (Line Assignment) - The corresponding view is 1.6.

17.6.1.2 Recent Change Views

The following RC views are used to assign the UCR feature, enable/disable the UCR feature, and to provide recording and charging for UCR announcement option.

- RC View 1.6 (Composite Line Assignment) is used to assign the UCR feature to the line.
- RC View 8.22 (Secured Feature Upgrade) provides feature security, and sets the transparency feature optioning bit used to enable/disable the recording and charging for UCR announcement option.
- RC View 10.1 [Fixed Routing (Routing)] is used to define the fixed route index for the dial code announcement, and the routing treatment for the call rejection announcement.

- RC View 9.2 [Prefix/Feature Digit (Office Dialing)] is used to define the UCR activate/deactivate feature access dial codes and ACTION field.
- RC View 9.13 [IDP Dialed Code Assignment (Individual Dialing)] is used to define the UCR activate/deactivate feature access dial codes and ACTION field.

17.6.2 Assigning to Customer

To activate this secured feature, contact the Lucent Technologies Secured Feature Administrator (SFA) for assistance. In a new start office, the SFA activates the feature through ODA. In an existing office, the SFA provides instructions, including the necessary password, for using RC View 8.22.

Recording and charging for the UCR announcement is an option; determine if the customer wants to provide this option.

The procedure to enable each option for an office is as follows:

- (1) Select RC View 8.22.
- (2) Enter **u** for the update mode.
- (3) In the FEATURE ID field, enter the following:
 - **550**, for the recording and charging of UCR announcement option.
- (4) In the MODULE field, enter **OFC** (office).
- (5) The PASSWD field must be blank.
- (6) Leave all remaining fields blank.
- (7) Enter **u** to update the data.

For an office dialing plan, select RC View 9.2 to define the access code for this feature. The access code is switch owner defined in the DIGITS TO INTERPRET field. Also, UCRACT (activate) or UCRDCT (deactivate) is specified in the ACTION field.

For an individual dialing plan, select RC View 9.13 to define the access code for this feature. The access code is switch owner defined in the INC DIGITS field. Also, UCRACT (activate) or UCRDCT (deactivate) is specified in the ACTION field.

For all software releases, to define the routing and charging treatment for the UCR announcement, select RC View 10.1. Specify either **UCRDENY** in the TRMT (treatment) field.

Recent Change View 10.1 can also be used to define the dial code announcement used for feature activation/deactivation.

For all software releases, after the feature has been assigned to the office, assign the feature to the customer using RC View 1.6.

17.6.3 Deleting Customer Service

To deactivate this secured feature, contact the SFA for assistance. The SFA provides instructions, including the necessary password, for using RC View 8.22.

The procedure to disable the recording and charging option is as follows:

- (1) Select RC View 8.22.
- (2) Enter **u** for the update mode.
- (3) In the FEATURE ID field, enter the following:
 - **550**, for the recording and charging of UCR announcement option.
- (4) In the MODULE field, enter **OFC** (office).
- (5) The PASSWD field must be blank.
- (6) In the ACTIVE field, enter **N** (no).
- (7) Leave all remaining fields blank.
- (8) Enter **u** to update the data.

17.6.4 Verify Option Feature

The procedure to verify an option for one SM is as follows:

- (1) Select RC View 8.22.
- (2) Enter **r** for review mode.
- (3) In the FEATURE ID field, enter the following:
 - **550**, for the recording and charging of UCR announcement option.
- (4) In the MODULE field, enter an SM number (1 to 192).

NOTE: Do not use **OFC** in the MODULE field for the verify procedure.
- (5) If the ACTIVE field is **Y**, the option is enabled for the SM specified. If the ACTIVE field is **N**, the option is disabled for the SM.

NOTE: Repeat this procedure for each option/SM combination to be verified.

17.6.5 Assignment Limitations

The following classes of service are denied access to UCR, consistent with Selective Call Rejection restrictions:

- Two-Party
- Multiparty
- Coin (including coinless public)
- Private Branch Exchange (PBX) (trunk appearance)

- Trunks
- Private Facilities
- Attendant.

The UCR feature cannot be assigned to Integrated Services Digital Network (ISDN) lines.

The UCR feature cannot be assigned as part of a Business and Residence Custom Services (BRCS) feature group.

The UCR feature cannot be assigned to multiline hunt group members.

The recording and charging of the UCR announcement option is available on a per-office basis only (that is, all SMs).

17.7 SYSTEM OPERATION

Screening for the UCR feature occurs in the terminating switch. Prior to terminating a call, the 5ESS®-2000 switch determines if UCR is active. This screening takes place in the terminating switching module (SM) prior to creating a terminating terminal process. The calling party is examined to determine if they have the privacy restricted indicator set. If the indicator is set, a check is made to determine if the called party has UCR assigned. If UCR is assigned, the call is routed to an announcement informing the calling party why the call was not accepted. For example, the announcement could say, "You have attempted to reach a party which is not accepting calls marked private."

This calling party can choose to make his/her directory number public and attempt the call again.

If the call is rejected due to UCR, the incoming line history block (if it is allocated) is not updated with the calling party's number.

When a switching module is in stand-alone operation, UCR continues to route calls normally. Normal operation is UCR routing calls for which the calling party number is marked as private to an uninterruptible announcement. If the announcement cannot be provided, calls for which the calling party number is marked as private result in reorder tone being given to the caller. The user is not alerted to the call.

17.8 ADMINISTRATION

17.8.1 Billing

No new AMA recording is required. Only flat-rate billing is supported for UCR.

The default billing treatment for calls to 13A,14A,15A,16A-type announcements applies for calls rejected by UCR (that is, no bill is created).

The secured feature is not enabled until the purchaser has made the necessary arrangements with Lucent Technologies. Contact your Lucent Technologies Account Representative for ordering information and the Right-To-Use fee associated with this feature.

Enabling of office option 550 results in answer supervision upon connection to a UCR rejection announcement with subsequent Automatic Message Accounting (AMA) recording and charging of the calling party for the announcement connection time.

18. OUTPUT LASS LINE HISTORY BLOCK (OHB)

18.1 GENERAL

18.1.1 Definition

The Output Local Area Signaling Services (LASS) Line History Block (LHB) transparency feature provides a means by which the service provider personnel can request incoming or outgoing LHB information for LASS features. Data gathered using this feature will provide valuable information for troubleshooting LASS customer problem reports.

There are two line history blocks: the incoming line history block (ILHB) and the outgoing line history block (OLHB). The ILHB contains the directory number (DN) of the last incoming call to a particular terminal, and stores information for Automatic Callback (AC), Customer Originated Trace (COT), and the LASS Selective Features (LSF). The OLHB contains the dialed digits of the last outgoing call from a particular terminal, and stores information for the Automatic Recall (AR) feature.

18.1.2 Cross-References

The following cross-references are applicable to the Output LASS LHB feature:

- LSSGR or Lucent Technologies feature number: 99-5E-1003.

18.1.3 Background

This transparency feature is in response to a customer request for the 5ESS[®]-2000 switch to provide a capability similar to one provided on the 1A ESS[™] switch. This 1A ESS[™] Switch feature allows the service provider personnel to output the LHB for LASS customers with a single input message (VF:OESVY or VF:DNSVY).

18.1.4 Availability

This transparency feature is available in the 5E8 and later software releases.

18.1.5 Feature Application

This feature applies to both analog and Integrated Services Digital Network (ISDN) lines.

18.2 USER PERSPECTIVE

18.2.1 User Profile

This feature is used by service provider personnel.

18.2.2 Customer Premises Equipment

Since this feature is used by the service provider rather than by end-users, no special customer premises equipment (CPE) is needed.

18.3 USER OPERATION

18.3.1 General

The LHB information can be requested for a specified DN or office equipment (OE) number.

The OP:ILHB input message can be used to query the ILHB.

The OP:OLHB input message can be used to query the OLHB.

The ILHB or OLHB information can be requested using the following:

- A 10-digit DN,
- An OE number and a party.

The OE can be one of the following:

- Integrated digital carrier unit (IDCU) line equipment number (ILEN)
- Integrated services line card equipment number (LCEN)
- Line equipment number (LEN)
- Integrated SLC[®] equipment number (SLEN).

The party value can be one of the following for an ILEN, LEN, or SLEN:

- I = Individual line.
- T = 2-party tip.
- R = 2-party ring.
- 0-9 = Multiparty (4-, 5-, 8-, or 10-party lines).

The party value can be one of the following for an LCEN:

- I,0 = Point-to-point.
- 0-7 = MultiPoint.

Party has a default value of 0. This will allow the option of choosing whether or not to enter the party associated with the OE for individual, multiparty (when the party is 0), point-to-point, or MultiPoint (when the party is 0) lines.

Although LASS features allow only individual as a valid party for analog lines (ILEN, LEN, or SLEN), and point-to-point and MultiPoint as valid parties for ISDN lines (LCEN), this feature will allow a request for LHB information on all the previous parties. This information could be beneficial in finding that a DN not assigned to a LASS feature has erroneously been assigned an LHB.

The OP:ILHB output message reports the ILHB or an error message in response to a request for ILHB information.

The OP:OLHB output message reports the OLHB or an error message in response to a request for ILHB information.

For further information on the OP:ILHB and OP:OLHB output messages, refer to 235-600-750, *Output Message Manual*.

18.3.2 Activation

18.3.2.1 Activating the Feature

No feature activation is needed.

18.3.2.2 Invoking the Feature

This feature is invoked by entering the OP:ILHB or OP:OLHB input message.

18.3.2.3 Flow Diagrams

Not applicable.

18.3.3 Deactivation

This feature is not deactivated as such. If the contents of the LHB are not desired, the OP:IHLB or OP:OLHB message should simply not be input.

18.3.4 Restriction Capability

Not applicable.

18.4 COMPATIBILITIES

Not applicable.

18.5 INTERACTIONS

18.5.1 Line Time Slot Bridging

Internally Bridged Dual Service Package 1 (99-5E-3338), available as a software update to the 5E11 software release and with the 5E12 and later software releases, Internally Bridged Dual Service Package 2 (99-5E-3739), available as a software update to the 5E12 software release and with 5E13 and later software releases, and Internally Bridged Dual Service Package 3 (99-5E-4184), available with the 5E13 and later software releases, are LTSB feature interaction modifications designed to enhance the current 5ESS[®]-2000 Switch LTSB feature by allowing more features to be assigned to and used on 1-DN LTSB lines. For more information, see 235-190-103 *Business and Residence Feature Descriptions*, Line Time Slot Bridging.

18.6 ENGINEERING

18.6.1 Special Planning Considerations

This transparency feature does not require the transparency feature optioning system (TFOS) identifier (ID). The service provider can query the LHB for a specified DN or OE at any time by entering either the OP:ILHB or OP:OLHB input command.

18.6.2 Hardware

No special hardware is needed for this feature.

18.6.3 Software

Not applicable.

18.7 ASSIGNMENT DEPENDENCIES AND LIMITATIONS

18.7.1 Dependencies

Not applicable.

18.7.2 Limitations

The following limitations apply for the Output LASS Line History Block feature:

- The ILHB and OLHB apply to LASS features only. An error message stating that IHLB or OHLB information is not available will print on the receive-only printer (ROP), switching control center system (SCCS), and maintenance log when a request is made for a DN or OE that is not allowed for LASS features.
- The ILHB and OLHB information is printed only for valid and assigned DNs or OEs. Whenever ILHB or OLHB information is requested on the ROP for an invalid DN or OE, a response is provided in the output message.
- This feature allows querying the LHB using a DN or OE. The multiline hunt group (MLHG) and member number cannot be specified in the input request.
- This feature does not allow querying the LHB for a range of DNs or OEs.

18.8 SERVICE ORDER PERSPECTIVE

This transparency feature is not an end-user feature; therefore, no service order is needed.

18.9 FEATURE IMPLEMENTATION

18.9.1 ODA Implementation

This feature has no impact on office data administration (ODA).

18.9.2 Recent Change Procedures

This feature has no impact on recent change.

18.9.3 Deleting Customer Service

Not applicable.

18.9.4 Changing a Subscriber's Service

Not applicable.

18.10 FEATURE OPERATION

This feature allows service provider personnel to query the IHLB or OHLB for information pertaining to LASS features. Data gathered with this feature is valuable in trying to solve LASS customer problem reports.

The service provider can query the LHB for a specified DN or OE at any time by entering either the OP:ILHB or OP:OLHB input command.

18.11 ADMINISTRATION

18.11.1 Measurements

This feature has no impact on measurements.

18.11.2 Billing

Because this feature is used by the service provider rather than by end-users, no automatic message accounting (AMA) records are generated for this feature.

19. AUTOMATIC RECALL AND CALLBACK WITH PRIVATE NUMBER INDICATION FOR AMA

19.1 GENERAL

19.1.1 Definition

The Automatic Recall and Callback with Private Number Indication for AMA (Return Call AMA) is a special feature that provides the 5ESS®-2000 switch with the ability to indicate the privacy status of the destination number in Automatic Message Accounting (AMA) record when a Local Area Signaling Service (LASS) customer invokes Automatic Callback (AC) or Automatic Recall (AR). This allows billing organizations to decide whether to exclude the called number from the billing record sent to the originating customer (Message Detail Recording via Revenue Accounting Office).

This feature causes the fifth Binary Coded Decimal (BCD) character of the study indicator field, as defined in Table 8 of LSSGR, in the call processing AMA record to be set to a value of 2 or 3. The value of 0 is used if the call is not AC/AR. The value of 2 is set when AC/AR is used and the called DN used is not marked private. The value 3 is set if the called DN used by AC/AR is marked private. Refer to Table 19-1.

Table 19-1 Table 008 - Study Indicator

BCD CHARS	MEANING
1	0=NOT USED 1=Point-to-Point 2=Subscriber Line Usage Study (SLUS) 3=Point-to-Point and SLUS
2	0=Not Used 1=Complaint Observed 2=Unanswered Call Recording 3=Complaint Observed and Unanswered Call Recording
3	0=Not Used 1=Validation Test 2=Study Generated Record 3=Validation Test and Study Generated Record
4	0=Not Used 1=Test Call
5	0=Not Used 2=AC/AR used, non private DN called 3=AC/AR used, private DN called
6	0=Not Used
7	0=Not Used 1=No Class of Charge 2=No Charge Call 3=Holding Time Study 4=Expanded 4 Digits 5=Expanded 5 Digits 6=Expanded 6 Digits 7=Expanded 7 Digits 8=Corrected Undetermined No. of Digits 9=More than 7 Digits, No Correction
8	SIGN (hex C)

19.1.2 Cross-Reference

The following cross-references are applicable to the Automatic Recall and Callback with Private Number Indication for AMA (Return Call AMA):

- LSSGR or Lucent Technologies feature number: 99-5E-1073
- NSEP/5SEP code: Not available.

19.1.3 Availability

The Automatic Recall and Callback with Private Number Indication for AMA feature is available in the 5E8 and later software releases. This is a secured feature and is not activated until the purchaser has made the necessary arrangements with Lucent Technologies. Information on feature activation is provided upon ordering. Please contact your Lucent Technologies Account Representative for ordering information and the Right-to-Use (RTU) fee associated with this feature.

19.1.4 Feature Application

This feature is provided on a per-office basis.

19.2 USER PERSPECTIVE

19.2.1 User Profile

This feature provides information to the service provider. The AC/AR subscriber will see no difference in feature operation.

19.2.2 Customer Premises Equipment

This feature has no impact on Customer Premises Equipment.

19.3 USER OPERATION

19.3.1 General

The Regional Accounting Office (RAO) or other down-stream billing operations systems need to recognize the new BCD character settings for the Study Indicator Table 008 in the AMA record.

19.3.2 Activation

19.3.2.1 Activating the Feature

Information on feature activation is provided upon ordering. Please contact your Lucent Technologies Account Representative for ordering information and the Right-to-Use (RTU) fee associated with this feature.

19.3.2.2 Invoking the Feature

This feature is automatically invoked upon activation.

19.4 INTERACTIONS

There are no interactions identified for this feature.

19.5 ENGINEERING

19.5.1 Hardware Resources

Not applicable for this feature.

19.5.2 Software Resources

Not applicable for this feature.

19.6 ASSIGNMENT DEPENDENCIES AND LIMITATIONS

The study indicator field is not produced for records that are classified as high runner; therefore, the use of the AC/AR may cause different AMA records to be produced with this feature.

19.7 FEATURE OPERATION

19.7.1 General

The fifth Binary Coded Decimal, *study indicator* field, in the call processing AMA record is marked when either or both the Automatic Recall (AR) and Automatic Callback (AC) features are activated on a call. The service provider may choose to modify current subscriber billing procedures based on this information.

19.7.2 Measurements

This feature has no impact on Measurements.

19.7.3 Billing

The detailed billing to the end-user may be affected if the service provider uses the new information to delete called DN's, resulting from AC/AR calls, that are marked as private.

There are no new AMA records produced for this feature.

20. CUTOVER ALTERNATE ROUTING

20.1 GENERAL

20.1.1 Definition

The Cutover Alternate Routing feature will alternately route calls to inactive directory numbers (DNs) when the 5ESS®-2000 switch is in the PRECUT or POSTCUT state even when the DNs are unassigned.

The following calls are alternately routed if the called DNs thousands group (RC View 11.2, TN THOUSANDS GROUP) is inactive during cutover (RC View 8.1 OFFICE PARAMETERS field CUTTRANS is Y).

- Calls to DNs where the DN is not within the range of DNs served by the switch (that is, no hundreds group entry is defined for the DN on RC View 4.14, HUNDREDS GROUP ASSIGNMENT).
- Calls to DNs where the DNs hundreds group is entered on the HUNDREDS GROUP ASSIGNMENT view but the DN is unassigned (that is, the DN is not assigned to a port on LINE, MLHG, or ISDN/DSL ASSIGNMENT RC views).

20.1.2 Cross-Reference

The following cross-references are applicable to the Cutover Alternate Routing feature:

- LSSGR or Lucent Technologies feature number: 99-TP-1001

20.1.3 Background

The 5ESS®-2000 switch cutover procedures are described in 235-105-200. Currently, the 5ESS®-2000 switch requires that the office dependent data (ODD) for the lines to be cutover be fully and correctly populated for **ALL** lines before activating cutover.

The cutover data for each thousands group (currently accessible via RC View 11.2) contains the NXX, thousands digit, precut line state, postcut line state, and automatic route indicator (ARI).

20.1.4 Availability

This is a Transparency feature available in the 5E8 and later software release.

20.2 USER PERSPECTIVE

With this feature, the service provider personnel do not have to populate ODD for all thousands groups being cutover when cutover is activated for gradual cutovers by the thousands group.

20.3 INTERACTIONS

Automatic Callback (AC), Automatic Recall (AR), and Screen List Editing (SLE) for the Selective features interact with cutover as follows:

- If the AC/AR Line History Block (LHB) or SLE DN/Remote Telephone Number (RTN) does not have an entry in HUNDREDS GROUP ASSIGNMENT view, is INACTIVE in TN THOUSANDS GROUP cutover data, and the ALT RTE points to a trunk group to another office, then a Transaction Capability Application Part (TCAP) query will be sent to the office to determine the status of the DN if required by the specific LASS feature.

- If the AC/AR LHB or SLE DN/RTN does not have an entry in the HUNDREDS GROUP ASSIGNMENT view, is INACTIVE in TN THOUSANDS GROUP cutover data, and the ALT RTE points to an error treatment (like reorder or announcement), then an error treatment specific to the LASS feature will be returned to the user (that is, long-term denial for AC/AR and error announcement indicating that the DN/RTN cannot be used for SLE).
- If the AC/AR LHB or SLE DN/RTN is not assigned (on LINE, MLHG, or ISDN/DSL ASSIGNMENT views), is INACTIVE in TN THOUSANDS GROUP cutover data, and the ALT RTE points to a trunk group to another office, then a TCAP query will be sent to the office to determine the status of the DN if required by the specific LASS feature.
- If the AC/AR LHB or SLE DN/RTN is not assigned (on LINE, MLHG, or ISDN/DSL ASSIGNMENT views), is INACTIVE in TN THOUSANDS GROUP cutover data, and the ALT RTE points to an error treatment, then an error treatment specific to the LASS feature will be returned to the user.
- For AC/AR, if the LHB DN is assigned, is INACTIVE in either the TN THOUSANDS GROUP or SWITCHING MODULE (RC View 11.1) cutover data, and the ALT RTE points to a trunk group to another office, then a TCAP query will be sent to determine the status of the DN.
- For AC/AR, if the LHB DN is assigned, is INACTIVE in either the TN THOUSANDS GROUP or SWITCHING MODULE cutover data, and the ALT RTE points to an error treatment, then AC/AR long-term denial will be returned to the user.
- If an automatic route selection or OUTWATS with simulated facilities group call is made using AR (that is, one of these calls last updated the outgoing LHB) and the DN is INACTIVE, AR long-term denial will be returned to the user.
- If the SLE DN/RTN is assigned, then the DN/RTN will be considered valid for use by SLE and will be added to the screening list or entered as the RTN for forwarding regardless of the cutover status of the port.
- If a TCAP is launched and the STP directs it to an incorrect switch (that is, the DN is INACTIVE on the queried switch), then an error treatment specific to the LASS feature will be returned to the user.

20.4 FEATURE IMPLEMENTATION

For details on implementing this feature, please refer to 235-105-200, *Precutover and Cutover Procedures* document.

20.5 ADMINISTRATION

20.5.1 Measurements

Not applicable for this feature.

20.5.2 Billing

Not applicable for this feature.

21. ANALOG CALLING NAME DELIVERY - PHASE 2

21.1 GENERAL

21.1.1 Definition

The Analog Calling Name Delivery-Phase 2 (CNAM 2) feature provides for the delivery of the calling name to the called analog subscribers possessing special customer premises equipment (CPE). It also provides for originating invocation of name and/or number privacy features to specify the originator's per-call preference for having his or her name and/or number private or public to the called party.

CNAM 2 provides the following major enhancements over CNAM 0 and some additional capabilities. The first enhancement enables the call originator to invoke three new privacy dial codes (three new privacy features for both analog and ISDN lines) besides Individual Calling Line Identification (ICLID) Per-Call Privacy (PCP). The three new privacy features associated with CNAM 2 are Name Privacy (NAP), Name and Number Privacy (NNP), and Name and Number Display Allowed (NNDA). Thus, the originators can specify on a per-call basis their desire about their name and number privacy.

The second enhancement provides for usage-sensitive billing of the originator (for invocation of privacy features) and terminator (delivery of name and/or number information). Usage-sensitive billing for the originator is provided. Terminating usage-sensitive billing is generally available in the 5E9 software release. Terminating usage-sensitive billing counts are provided for customers subscribed to CNAM only, or usage-sensitive CNAM and flat-rate Calling Number Delivery (CND), or usage-sensitive CNAM and usage-sensitive CND.

The following six counts are tracked:

- Name is delivered
- Name is not delivered or private
- Number/Name is delivered
- Number/Name is not delivered
- Number delivered and Name not delivered
- Number not delivered and Name is delivered

Another enhancement enables the 5ESS[®]-2000 switch to throttle back on its queries to the Signaling System 7 (SS7) Network Names Data Base (NNDB) when the SS7 network is congested. When an NNDB query response is received by the 5ESS[®]-2000 switch, it may have an Automatic Call Gapping (ACG) component telling the 5ESS[®]-2000 switch to throttle future queries.

The CNAM 2 adds some additional capabilities, including a "CNAM only" feature that does not require ICLID CND. Also, traffic measurements are provided on the originating side of the call to count the times callers invoke the three new CNAM privacy dial codes. Two traffic measurements on the terminating end count the total Transaction Capabilities Application Part (TCAP) queries and the TCAP queries that timed out.

NOTE: Information on the Calling Name for ISDN BRI feature can be found in 235-190-104 5ESS[®]-2000 Switch ISDN Feature Descriptions.

21.1.2 Cross-Reference

The following cross-references are applicable to the Analog Calling Name Delivery Phase 2 feature:

- LSSGR or Lucent Technologies feature number: 99-5E-0834.a
- NSEP/5SEP code: LAANCNA

21.1.3 Background

The CNAM 2 builds upon CNAM Phase 0 and includes new name and number privacy features, network management controls, billing at the originating end, and traffic measurements. It also offers a "Calling Name (CNAM) only" feature, whereas CNAM - Phase 0 offered CNAM only when paired with the ICLID CND feature. With CNAM 2, a customer may subscribe to "CNAM only", to ICLID CND only, or to both CNAM and ICLID CND. As mentioned earlier, usage-sensitive billing for the terminating CNAM service will be available with the 5E9 software release and later releases.

21.1.4 Availability

The CNAM component that provides the privacy features is not secured. It will be available to the Local Exchange Carrier (LEC) customer on installation of the display features. The CNAM component providing the calling name to the called party is secured, and is not activated until the purchaser has made the necessary arrangements with Lucent Technologies. Information on feature activation is provided upon ordering. Please contact your Lucent Technologies Account Representative for ordering information and the Right-to-Use (RTU) fee associated with this feature.

21.2 USER PERSPECTIVE

21.2.1 User Profile

Provisioning for the new privacy codes introduced for CNAM 2 is the same as for Per-Call Privacy (PCP).

Terminating CNAM 2 is available to both residential and business analog customers. However, business customers will only be able to subscribe on a per-line basis. Only one name field can be populated in the data base per originating DN. The operating company may choose to populate this name field with either the company name or individual's name.

Refer to "Limitations", Section 21.6, for limitations on types of lines CNAM can be originated from/or terminated to.

21.2.2 Customer Premises Equipment (CPE)

The end-user must have the appropriate Analog Calling Name Display CPE that can interface with the Multiple Data Message Format (MDMF) signaling used by the CNAM feature for displaying the name.

21.3 USER OPERATION

21.3.1 General

Terminating CNAM 2 is being made available to analog users with their choice of either flat-rate or usage-sensitive billing. It is possible that the end-user may have different billing methods for CNAM and CND (For example, usage-sensitive CNAM and flat-rate CND).

CNAM allows a terminating analog subscriber to receive the name of the calling party before answering a call. From the end-user perspective, this feature operates exactly like CND, except that the information delivered is the calling name.

A terminating analog user who wishes to see both the calling name and the calling number can do so by subscribing to CNAM and to CND. The /Lxxxx (ICLID) features are available on a subscription basis; they are not generally

available for the office. Only one /LIxxx feature may be assigned to a line. The /LIxxx features include preconstructed features for stand-alone CNAM, CND, and, combinations of both. If an existing customer has ICLID CND and they want CNAM, the existing ICLID CND feature for the customer is deleted and replaced by an ICLID CNAM feature that has both the CNAM and CND functionality.

The /DIxx (originating privacy) feature can be subscribed or generally available in the office. A user can have both /LIxxx and /DIxx assigned to the line; however, you do not have to have both. The users are allowed to dial multiple dial codes; the last dialed code takes precedence. If the user has usage-sensitive billing and dials the same code twice, they will only be charged once.

21.3.2 Activation

21.3.2.1 Activating the CNAM 2 Feature

As stated in "Availability", Section 22.1.2, the CNAM component that provides the privacy feature is not secured and is available to the Local Exchange Carrier (LEC) on installation of the display features. The CNAM component providing the calling name to the called party is secured, and is not activated until the purchaser has made the necessary arrangements with Lucent Technologies. Once this component has been purchased, activation of the CNAM 2 feature is accomplished by using Recent Change View 8.22. Please contact your Lucent Technologies Account Representative.

Next, verify that CNAM is installed. (Refer to "Assignment Verification", Section 21.7.3.)

This feature adds four new preconstructed CNAM features to Recent Change (RC) View 12.44 (Line Identification Feature Definition). Both the existing ICLID CND and the new preconstructed CNAM feature are defined in the Office Record 5966 for RC View 12.44.

The four new preconstructed CNAM features are as follows:

- /LIRMA, which provides CNAM-only functionality without ICLID CND
- /LIRMDU, which provides usage-sensitive calling name only
- /LIRDNMU, which provides usage-sensitive calling name and usage sensitive CND
- /LIRDAMU, which provides usage-sensitive calling name flat-rate CND.

NOTE: Only one /LI feature is allowed per line.

Table 21-1 shows the preconstructed line identification feature definition record and the features that were added for this feature. For a complete Line Identification Feature Definition Record (5966) please refer to 235-118-2xx, *Recent Change Reference* manual, and to 235-118-2xx, *Recent Change Procedures* manual.

Table 21-1 Line Identification Feature Definition Form

FEATURE	REMARKS	FEATURE OPTIONS					
		ACT/DEACT TYPE	CALL NBR DELIV PRIM	CALL NBR DELIV ALL	CNAM	CNAM AMA	AMA REC
/LIRDNM U (5E8)	NAME/NUM, USE SENS, ACT/DCT	CODE/COD E	N	Y	Y	Y	Y
/LIRDAM U (5E8)	NAME/NUM, NAME USE SENS ACT/DCT	CODE/COD E	N	Y	Y	Y	N
/LIRMA	CALLING NAME	AUTO/NON	N	N	Y	N	N

(5E7)	DELIVERY ONLY	E					
/LIRMDU	NAME ONLY USE	CODE/COD	N	N	Y	Y	N
(5E8)	SENS, ACT/DCT	E					
(1) ACTTYPE This field indicates the type of activation. If the activation type is set to CODE, the user can turn the feature on. (2) DEACT TYPE This field indicates the type of deactivation. If the deactivation type is set to CODE, the user can turn the feature off. (3) CALL NBR DELIV PRIM This field shows whether incoming call information should only be sent to the terminal where the called TN is the primary TN. (4) CNAM If CNAM is "Y", this is a CNAM feature. (5) CNAM AMA This field specifies the type of billing. If CNAM AMA is "Y", CNAM billing is usage sensitive. If CNAM AMA is "N", billing is done on a flat-rate basis. (6) AMA REC This field specifies the type of billing. If AMA REC is "Y", CND billing is usage-sensitive. If AMA REC is "N", billing is done on a flat-rate basis.							

The three new privacy dial code actions (CNPUSE, NNPRV, and NNPUb), require that new dial codes be assigned to the actions that will allow the end-user access to these actions. This can be provided for the office dialing plan (ODP) in RC View 9.2, or for the individualized dialing plan (IDP) in RC View 9.13. To provide the new actions, the "PDIT/IDP" entry must be inserted along with the new "DIGITS TO INTERP" and the corresponding "ACTION".

The actions correspond to the following functionalities:

- CNPUSE = Name Privacy Toggle (NAP)
- NNPUb = Name and Number Delivery Allowed (NNDA)
- NNPRV = Name and Number Privacy (NNP)

Allowing access to the new actions is provided as access to the existing DN privacy dial code Per-Call Privacy (PCP). This may require the updating of several RC views.

Recent Change View 8.18 shows the PCP access parameter. This field can be either SUBSCR or GENAVAIL. If any other value is provided, the dial codes for Calling Number and Calling Name will be denied access. This view is keyed by office (ALL) which indicates the office parameter or SM (1-192), and the SM has precedence over the office setting.

If the PCP access parameter is GENAVAIL, then it is not necessary to assign a /DIxx feature to the line. The feature provided in the Local Area Signaling Service (LASS) office RC View 8.21 allows individual access to the dial codes.

If the PCP access parameter is SUBSCR, then a line may have access to the feature by assigning one of the existing /DIxx features via RC View 1.8 for analog lines, or RC View 23.8 for ISDN lines. It is also possible for the office to purchase the Calling Party Number Presentation (CPNP) feature to allow a line to obtain access to the dial codes. If the CPNP feature is active, and no /DIxx feature is assigned to an individual line, then the line is allowed to access the dial codes just as if the PCP access parameter is GENAVAIL.

It is also possible to option the accessibility of the dial codes on a per line basis. For analog lines, the "PCP ALW" field in RC View 1.6 and for ISDN lines, the "PCP ALW" field in RC View 23.2 must be set to **Y** (yes) to allow access. A value of **N** (no) will restrict access to the dial codes for CNAM and CND.

The dial codes can also be restricted on a screening index basis by updating or inserting RC View 8.24 on the desired screening index. The "PCP ALW" field on 8.24 can be set to either Y or N to allow or restrict access on the screening index. To restrict on this field, the "PCP ALW" field on View 1.6 must first be set to Y. If RC View 1.6 field "PCP ALW" is set to N, the value for "PCP ALW" on RC View 8.24 will have no effect on accessibility of dial codes.

The CNAM 2 feature requires a new Direct Signaling Application type. RC View 8.17 is used to enter a signaling type named "ACND" and its corresponding Translation Type Number and Subsystem Number. This information is required to route the TCAP queries. To define the new signaling application type, RC View 8.17 should be entered in the "INSERT" mode with a key of "ACND." The appropriate "TRANSLATION TYPE" and "SUBSYSTEM NUMBER" for the CNAM DS Application should then be entered. The Translation Type and Subsystem Number are coordinated by the service providers and the CNI/STP. If a new Subsystem Number is selected for CNAM DS Application, RC View 15.10 should be populated. A level 4 initialization of the CNI (input message init:cni,lv4) is necessary after populating RC View 15.10 with a new Subsystem Number.

NOTE: The actual CNAM Subsystem Number (provided by STP) must be used when entering the RC for the ACND DS_APPLICATION view. There are RC cross checks to ensure that Subsystem Numbers are unique.

21.3.2.2 Activating the Block Query with Private Number (BQPN) Option

There is the capability to block a query to the NNDB and is controlled at the terminating switch by a TFOS option called Block Query with Private Number (BQPN). In CNAM 2, the BQPN option is honored only if the calling number is marked private and no name indicator is present (that is, no name privacy code was dialed). The BQPN option can be deployed in the disabled state (the default), thus allowing TCAP queries for private DNs; in that case, the NNDB determines the private/public status of the calling name.

To activate the BQPN option in all operational SMSs, do the following:

- (1) Select RC View 8.22.
- (2) Enter **u** for update mode.
- (3) In the FEATURE ID field, enter 541.
- (4) In the MODULE field, enter OFC (office).
- (5) In the PASSWD field, (Leave Blank).
- (6) In the ACTIVE field, enter **Y** (yes).
- (7) Leave all remaining fields blank.
- (8) Enter **u** to update the form.

21.3.2.3 Invoking the Feature

The originating part of the feature is invoked when a caller with the proper Display and Privacy (DISP) feature dials a CNAM privacy dial code before dialing the called DN. The new per-call CNAM privacy codes are as follows:

- NNP = Name and number privacy (both name and number private)
- NAP = Name privacy (toggles the default name privacy status retrieved from the NNDB)
- NNDA = Name and number delivery allowed (both name and number public)

These privacy codes are provided, as for ICLID DN Privacy, within the definition of the display and privacy preconstructed modular feature (for example, /DIDLX, /DIDNP, /DIGA preconstructed features). No new display features (/DIxxx) are defined. So with CNAM 2, the caller may have all-call or per-call blocking and unblocking of number only, name only, or name and number.

21.3.3 Deactivation

21.3.3.1 General

To deactivate the CNAM 2 feature via Recent Change View 8.22, please contact your Lucent Technologies Account Representative.

21.3.3.2 ACG Network Control

There is no activation or deactivation needed for the ACG control. The switch will always process an ACG control when receiving one.

21.3.4 Global Assignment

If a large number of lines are to be changed at once, global recent change may be used to speed up the administration of the required changes (that is, a block of DN's or OE's could be selected for the same change). Please refer to 235-118-2xx, *Recent Change Procedures*, and to 235-118-2xx, *Recent Change Reference*, for further details on its use.

21.4 INTERACTIONS

21.4.1 Automatic Callback

If the call setup indicates that the user has dialed a name privacy code, this information will be stored in the Incoming Line History Block. This stored name privacy indicator and the default value from the data base, if appropriate, will be used to determine whether to display the name at the time of ringback. In addition, the received name privacy information will be stored in the Outgoing Line History Block (OLHB) when Automatic Callback (AC) activation is completed for use in case of a subsequent Automatic Recall (AR) attempt. It should be noted that if the caller dials NNP or NNDA, the number privacy will also be affected.

21.4.2 Automatic Callback-Calling (ACBC)

For outgoing calls by an ACBC subscriber, no name information will be stored. If the call is established later, the called party's name will be displayed upon ringback using the name data base privacy indicator received during the query. If the user activating ACBC also subscribes to CND, the called party's number will be displayed during ring-back.

21.4.3 Automatic Recall

For outgoing calls from a subscriber to both CNAM and AR, no called name information will be stored in the OLHB. When a CNAM subscriber activates AR, the called party's name will not be delivered to the CNAM subscriber's station set if the call is set up immediately. If the call is established later, the name data base will be queried at the time of ringback.

NOTE: The number is assumed to have been validated by the AR software, and is not revalidated before performing the name query. The called party's name information will be delivered upon ringback using the name data base privacy indicator received during the query. If the user activating AR also subscribes to CND, the called party's number will be delivered during ringback.

If the terminating party on a call set up by AR subscribes to CNAM, the terminating party will see the calling party's name information as for any other call. To ensure the accurate delivery of the name information to the terminating party, the name privacy code dialed by the AR subscriber will be stored (and updated, as appropriate) in the OLHB to allow for an accurate delivery of the name information to the terminating party of the AR call.

21.4.4 Call Forwarding

21.4.4.1 Call Forwarding Variable (CFV)

For CFV types, the base party will not receive the calling name information for incoming calls.

For CFV types, if the remote (*forward-to-DN*) party has CNAM, the calling party's name will be delivered to the remote party's display device, provided that the calling number is available at the remote party's switch and the privacy/presentation indicators allow display of the calling name.

21.4.4.2 Call Forwarding Over Private Facilities (CFPF)

In the case of CFPF, since Private Facilities are not supported by SS7, the calling party number will not be available to the remote station and, therefore, an out of area indication for name will be delivered.

21.4.4.3 Call Forwarding Busy Line (CFBL)

For CFBL, if the base party is idle, they will receive the calling name information. If the base party is busy, they will not receive the calling name information. If the remote (*forward-to DN*) party has CNAM, the calling party's name information will be delivered, provided that the calling number is available at the remote party's switch and the privacy/presentation indicators allow display of the calling name.

21.4.4.4 Call Forwarding Do Not Answer (CFDA)

For CFDA, if the base party has CNAM and CFDA features active, the base party will receive the calling name information if the base party is alerted. If the call is not answered in the specified number of rings and the remote party has CNAM, the calling party's name will be delivered to the remote party, provided that the calling number is available at the remote party's switch and the privacy/presentation indicators allow display of the calling name.

21.4.5 Call Hold

If a CNAM subscriber with Call Hold is a controller of a two-story or three-way call and receives a call waiting tone, the CNAM subscriber may flash and dial the Call Hold code to answer the call or go on-hook and wait for ringback. When the user flashes to answer the call waiting call, the waiting party's name will not be sent to the CNAM subscriber. However, if the user goes on-hook to wait for ringback from the call waiting party, the calling party's name and/or number will be delivered. If the call waiting party has dialed a CNAM privacy dial code, the dial code will be unanswered in this case. Ringback information is only displayed for unanswered call waiting parties.

21.4.6 Call Transfer

When a call is transferred, the transferring party's name information will be delivered to the transferred-to party when they are alerted if they are subscribed to CNAM. The transferred party's name will not be delivered to the transferred-to party. For example, if A calls B and B transfers the call to C, B's name will be delivered to C. No new information will be delivered to C when the transfer is complete.

21.4.7 Call Waiting Terminating

When this feature is invoked on an analog line with CNAM, Call Waiting operates in the normal way. If the user flashes to accept the waiting call, the waiting party's name will not be sent to the CNAM subscriber. If the CNAM

subscriber goes on-hook to wait for a ringback due to a waiting call, the calling party's name will be delivered during ringback. If they are also subscribed to CND, the number will also be delivered. (Refer to "Limitations", Section 21.6.)

21.4.8 Calling Party Number Presentation (CPNP)

If CPNP feature is turned on in a switch, it will be used to modify the precedence among the All-Call Privacy feature and two of the new access codes as it does with PCP. The number privacy will be updated based on the result obtained. If the user dials NAP, NNP or NNDA from a line where the use of these access codes is denied, the switch will route to the uninterruptible announcement used for PCP under similar circumstances. The dialed name privacy code will be sent to the terminating switch.

If the CPNP feature is not available or turned off in a switch, originating privacy as defined by any privacy status settings for the line will be enforced. The action specified by NNP, NNDA, or PCP will then act on or override the number privacy status. The name presentation status defined by the code (NAP, NNDA, or NNP) will be sent to the terminating switch.

The name privacy is not affected by CPNP. The dialed privacy code (for name) will always be sent to the terminating switch for the usual determination of name presentation status.

21.4.9 Distinctive Ringing

Any ringing pattern that supports CND will also support CNAM. The patterns that will support CND and CNAM on the 5ESS®-2000 switch are: standard ringing (pattern A), and patterns B, C, D, and G (used for MDNL and Home Intercom). The patterns that will not support CND and CNAM on the 5ESS®-2000 switch are: pattern P (used for Precedence and Preemption), reverive ringing, and emergency ringing.

The name information will be transmitted in the first silent interval of a distinctive ringing pattern that is long enough to send the data (at least 3 seconds). If that first silent interval begins more than three seconds after the start of the first power ring, the switch will not send the data.

21.4.10 Individual Calling Line Identification (ICLID)

The interaction between CNAM and CND is dependent on the privacy of the calling number if the name presentation indicator is not available, and if the BQPN switch option is set to "yes." In this case, if the DN is private, the name is also private. If the DN is public, the privacy indicator in the data base is used for name delivery.

If the user dials NNP or NNDA, the privacy of the calling number is affected and will, therefore, dictate what is delivered for the ICLID service.

21.4.11 Line Time Slot Bridging (LTSB)

For one DN LTSB lines subscribing to a Usage Sensitive Billing version of ICLID and/or Calling Name Display, the Internally Bridged Dual Service Package 1 (99-5E-3338) feature permits the 5ESS®-2000 switch to create one billing record (structure code 09015, call type 332) when Calling Party Number and/or Calling Name information is delivered to the lead and non-lead line. One record covers the delivery of the information to both the lead line, and the non-lead line.

Note that implementation is such that if the non-lead line is active on a call and caller ID on call waiting is provided, then the 5ESS®-2000 switch will not create this billing record for the call that causes the waiting.

Internally Bridged Dual Service Package 1 (99-5E-3338), available as a software update to the 5E11 software release and with the 5E12 and later software releases, Internally Bridged Dual Service Package 2 (99-5E-3739), available as a software update to the 5E12 software release and with 5E13 and later software releases, and Internally Bridged Dual Service Package 3 (99-5E-4184), available with the 5E13 and later software releases, are

LTSB feature interaction modifications designed to enhance the current 5ESS®-2000 Switch LTSB feature by allowing more features to be assigned to and used on 1-DN LTSB lines. For more information, see 235-190-103 *Business and Residence Feature Descriptions*, Line Time Slot Bridging.

21.4.12 Multiline Hunt Group (MLHG)

This includes all hunting types (circular, multiple position, precedence regular, regular, and uniform call distribution), except hunting for ISDN attendants. Like CND, CNAM can be assigned on a per-member basis for an MLHG. All privacy features can be assigned on a per-member basis.

NOTE: The LEC should be aware that CNAM can introduce a delay in ringing the called line that is dependent on the speed of responses to name queries. Certain MLHGs may be particularly sensitive to such delays.

21.4.13 Multiple DNs per Line With Distinctive Ringing (MDNL)

Originations are only considered to come from one master DN. Thus, a call from a multiple DN user to a CNAM user delivers the name associated with the master DN, not a dependent DN. Name information will be delivered on all calls to an MDNL termination that has CNAM assigned regardless of the number dialed.

21.4.14 Private Option for Last Incoming Number (POLIN)

Since Screen List Editing does not provide voiceback of name information, and analog users will not get number/name delivery on AC/AR ringback unless they subscribe to CND/CNAM, POLIN currently has no interaction with CNAM. POLIN will not block delivery of CNAM if the user is subscribed. POLIN will not affect the inclusion of the new name privacy indicators into the ILHB.

21.4.15 Three-Way Calling (TWC)

The TWC allows a customer to add a third party to an existing conversation. The conference controllers name will be delivered to each terminating party that is subscribed to CNAM, as long as it is available and public.

21.4.16 Unidentified Call Rejection (UCR)

The UCR routes calls with a private calling number to an uninterruptible 13A,14A,15A,16A-type denial announcement. A called party that subscribes to UCR and CNAM will not receive any calls where the number is private and, therefore, will not receive name information on those calls. Subscription to UCR will be checked before audible ringing is returned to the caller. Calls with private numbers will be rejected before the TCAP query is attempted.

21.5 ENGINEERING

21.5.1 Hardware Resources

The SM should be engineered with a pumpable Digital Service Unit Model 2 (DSU2) - Local Digital Service Unit (LDSU). A sufficient number of Tone Transceiver (TTR) circuits should be engineered on the LDSU to output the CNAM data. The number of TTR circuits to be engineered is dependent on the penetration of CNAM and other features requiring TTR circuits on the SM.

21.5.2 Software Resources

Not applicable.

21.6 ASSIGNMENT DEPENDENCIES AND LIMITATIONS

The following limitations apply to originating CNAM 2:

- PCP information is not saved if dialed before the ACBC code. Therefore, NAP, NNP, and NNDA information is not saved either.
- Originating CNAM 2 is supported by only the following classes of service: Individual, ISDN Attendant, ISDN, Two-Party, Coin, Charge-A-Call (chgacall), Hotel/Motel (HOTMOTL), Analog Attendant (ATTENDANT), and 4-Wire Individual (4WIRE-INDV).
- As with ICLID PCP, the following line types are not allowed to access the privacy features: ISDN PRI, denied origination, trunks, and private facilities.

The following limitations apply to terminating CNAM 2:

- It is possible to assign terminating CNAM features to ISDN lines, shared analog lines, or to B911 lines, but no name information will be delivered.
- When controllers of three-way calls are call waited and go on-hook for ringback, no name or number is delivered.
- No name or number is delivered on a ringback given the following call scenario: A multiway subscriber is call waited. The subscriber flashes to connect to the new caller. The subscriber goes on-hook and is rung back by the held party.
- Neither the calling DN or the calling name can be displayed if the called party's line terminates on a SLC[®] series 5 carrier system.
- Terminating CNAM 2 is supported on analog lines.
- If either the name delivered count or the name not delivered count exceeds 255 in one 24-hour billing period, a billing record is generated for the terminating caller and the counts get zeroed.
- For CND, three subscribers worth of data is packaged and loaded in the SM AMA buffer for daily billing; but for CNAM, one subscribers worth of data is loaded into the SM AMA buffer.

The following limitations apply to ACG:

- A maximum of 32 ACG controls can be active at any time. Additional controls will be ignored when 32 are active.
- Only six-digit SCP-overload ACG controls are allowed. Any other types are ignored.

21.7 FEATURE OPERATION

21.7.1 General

The CNAM 2 feature provides for the delivery of the calling line name to the called analog subscribers with CPE. The calling party's name is stored in a Network Names Data Base (NNDB) external to the switch. The queries from the switch and the responses from the data base use the Transaction Capabilities Application Part (TCAP) of the Signaling System 7 (SS7) protocol. The data base stores only one name per directory number (DN).

The queries from the switch are routed to the NNDB by the Signal Transfer Points (STPs) based on the calling DN and the translation type assigned to this service. The success of the queries depends on the information stored in

the NNDB. It is assumed that the name data bases will be deployed on a local or regional basis and will contain the names associated with all the DNs in the served area. Once SS7 Network Interconnect is deployed, numbers from outside the Local Access and Transport Area (LATA) may be retrieved.

For invoking the originating part of this feature, refer to "Invoking the Feature", Section 21.3.2.3.

The terminating aspect of the feature is invoked when a call terminates to a line having a CNAM terminating feature assigned. The CNAM features are defined, as with ICLID CND features, within the Line Identification (LID) preconstructed modular feature. A TCAP query is made to obtain the calling name associated with the calling DN. This query occurs before power ringing is applied to the terminating line. During the first long silent interval of the ringing cycle, a request is made to send the calling name and number information to the analog display CPE. The information is sent to the CPE using Frequency Shift Keying (FSK) signaling in the Multiple Data Message Format (MDMF) protocol.

For CNAM 2, a new CNAM specific TCAP timer is available using Recent Change View 8.21.

In order to receive the response to the TCAP query prior to power ringing on the terminating line, the CNAM feature may sometimes lengthen the power ring delay. The maximum delay in ringing the called line is dependent on either the time it takes to complete the query, or the value of the TCAP response timer, whichever is smaller.

NOTE: When the CNAM TCAP timer is 3 seconds or less, there is no customer perceived delay to power ringing. If the CNAM TCAP timer value is set to greater than 3 seconds, the customer can experience a delay of as much as 3 seconds before the start of power ringing. The delay can be as large as the difference between the CNAM TCAP timer value and 3. For example, a CNAM TCAP timer value of 5 could result in a delay of as much as 2 seconds. This delay is caused by waiting for the TCAP response before power ringing.

The TCAP Improvements for a Switch Spanning Multiple LATAs feature permits lines (or groups of lines) to be assigned a LATA NUMBER different from the default LATA NUMBER associated with the office. This feature allows a LATA NUMBER to be associated with a subscriber. The assigned LATA NUMBER will be used to select the appropriate signaling link based on the Signal Transfer Point (STP) for LASS services or will be used to populate the SSP 800 TCAP query to the Service Control Point (SCP). This feature is available in the 5E11 software release. For more information and a complete description of this feature, refer to 235-190-120, *Common Channel Signaling Service Features*.

21.7.2 Signaling Interfaces

21.7.2.1 Analog

The CND currently uses the single data message format (SDMF) for the higher layers of the switch-to-CPE protocol. The SDMF is used for end-users that only subscribe to CND.

If an end-user subscribes to CNAM and CND, the multiple data message format (MDMF) is used for the higher layers of the switch-to-CPE protocol to allow for the name information to be sent to the CPE.

21.7.2.2 Digital

Calling Party Numbers may be received over an ISDN basic rate or primary rate interface connection in the calling party number information element. If the switch option to screen these numbers is set, the 5ESS[®]-2000 switch will check the following fields before using the number for CNAM queries:

- The type of number and numbering plan identification field must be set to "national number in ISDN numbering plan", or "local number in telephony numbering plan". If it is neither, the network provided number is used.
- The digits field must contain 10 or 7 digits. If it is 7 digits, the switch prefixes the NPA.

- The number must be determined to be valid by screening it against a number or list of numbers that is considered appropriate for the interface.

If the number received in the calling party number information element does not meet the criteria described earlier, and if a default number is available for the interface, the 5ESS®-2000 switch will use the default number to do the CNAM query.

21.7.2.3 SS7

The originating end office includes the Generic Name (GN) parameter in the Initial Address Message (IAM) whenever the caller dials a code associated with name privacy, (that is, NAP, NNP, or NNDA). The allowable length of this parameter is variable, from 3 to 18 octets. However, no name characters are included, so that the length of the parameter generated is 3 octets: parameter name, parameter length, and one octet containing the type of name, availability, and presentation indicators.

21.7.3 Assignment Verification

The procedure to verify that CNAM 2 has been activated is as follows:

- (1) Select RC View 8.22.
- (2) Enter **r** for review mode.
- (3) In the FEATURE ID field, enter 40.
- (4) In the MODULE field, enter an SM number (1 to 192).

NOTE: Do not use **OFC** in the MODULE field for the verify procedure.

- (5) If the ACTIVE field is **Y**, the CNAM 2 feature is activated for the SM specified. If the active field is **N**, the CNAM 2 feature is deactivated for the SM.

NOTE: Repeat this procedure for each SM to be verified.

To verify the BQPN status in an SM, complete the following steps:

- (1) Select RC View 8.22.
- (2) Enter **r** for review mode
- (3) In the FEATURE ID field, enter 541
- (4) In the MODULE field, enter an SM number (1 to 192)
- (5) If field 4 (ACTIVE) is equal to Y, then BQPN is enabled in the SM specified; Otherwise, if ACTIVE is equal to N, BQPN is disabled in the SM.

NOTE: Repeat this procedure for each SM to be verified, as desired. Do not use OFC in field 2 (MODULE) for this verify operation.

21.8 ADMINISTRATION

21.8.1 Measurements

This feature adds five additional peg counts to TRFC30, Section 76. They are as follows:

- (1) CNAMNNP The number of times a caller dials the NNP code.
- (2) CNAMNAP The number of times a caller dials the NAP code.
- (3) CNAMNNDA The number of times a caller dials the NNDA code.
- (4) CNQRYTO The number of TCAP queries that timed out before completion.
- (5) CNQRYS The number of TCAP queries sent to the CCS network.

Refer to 235-070-100, Appendix 1, *Traffic and Plant Measurements*, document for further information.

21.8.2 Billing

21.8.2.1 Originating

When a caller successfully dials a new CNAM privacy access code (NNP, NAP, or NNDA), a billing record using Structure Code 01030 is generated if the caller has access to a display (DISP) feature that is defined with telephone number (TN) PRIVACY set to Y (RC View 12.43). As in the ICLID Directory Number Privacy (DNP) case of a caller dialing the Per-Call Privacy (PCP) code, there is a maximum of one billing record generated per privacy code per call. For example, if a caller dials the NNP code, then the NNDA code, then NNP again, this feature generates two billing records: one for the initial NNP code and another for the NNDA code. No billing record is generated for the second NNP code dialed on the call.

21.8.2.2 Terminating

The service provider has the ability to assign CNAM to customers on a usage-sensitive or flat-rate basis.

When a customer is subscribed to usage-sensitive CNAM an AMA record with Structure Code 00110 of Call Type 264 and CLASS Feature Code 082 is written. It should be noted that unlike the ICLID feature which has three DN's records per Structure Code 09015, CNAM uses a single structure code per record. The following two "traffic like" counts are in the 00110 record:

- The number of times the calling name was delivered to the CPE.
- The number of times the calling name was "unavailable."

NOTE: "Unavailable" either means that out of area Out-of-Area (O) was delivered to the CPE indicating that the calling name or number was unavailable or Private (P) was delivered to the CPE indicating that the calling name or number had privacy (default or per-call) set.

When a customer is subscribed to usage-sensitive CNAM and usage-sensitive CND, a Structure Code 00110 appended with Module Code 049 with Call Type 264 and CLASS Feature Code 087 is written. No Structure Code 09015 ICLID record will be generated for the subscriber. The strategy was to create one record, instead of two, with both CNAM and CND information. The following two "traffic like" counts are in the 00110 Structure Code.

- The number of times that both calling name and calling number are delivered to the CPE.
- The number of times that both calling name and calling number are "unavailable."

The following two "traffic like" counts are in the Module Code 049 which is appended to Structure Code 00110.

- The number of times that the calling name was delivered to the CPE and the calling number was "unavailable."
- The number of times that the calling name was "unavailable" to the CPE and the calling number was delivered to the CPE.

The previous counts are strictly used in AMA recording, and do not appear on any traffic reports. Generation of the counts occurs when the customer has the feature(s) active regardless of whether the display is turned on or off. Deactivation of the feature will disable these counts automatically.

NOTE: The AMA counts are collected and an AMA record is written, if there is at least one non-zero count. The AMA record is generated once during a scheduled daily collection cycle at approximately 3:12 a.m. or the record can be generated just prior to an overflow condition.

If a full system initialization occurs, the billing counts accumulated since the last collection cycle will be zeroed.

21.8.3 Audits

A new audit CNAMDATA was added to the CNAM 2 feature with version 2.1 of the feature. The ICLIDIDX and CNDDATA audits are related to the CNAM 2 feature also. Refer to 235-600-400, *Audits Manual*, for additional information.

22. PRIVATE OPTION FOR LAST INCOMING NUMBER

22.1 GENERAL

22.1.1 Definition

For users who have not subscribed to either Individual Calling Line Identification (ICLID) Calling Number Delivery or Intra switch/Inter switch CPN/BN Optioning feature, the Private Option for Last Incoming Number (POLIN) feature ensures that the calling party number is not revealed and is always treated as private by the following features:

- (a) LASS Automatic Callback (One-Level Activation)
- (b) Two-Level Activation of Automatic Callback
- (c) LASS Automatic Recall
- (d) LASS Screen List Editing
- (e) Inspect for ISDN Terminals

The number is treated as private by these features even if the calling party had not marked the number as private.

Although providing the calling party number to the user is not the primary function of these features, they currently reveal the number on activation or use unless it was marked as private by the calling party. For example, users of Screen List Editing can choose to have the number of the last calling party voiced-back to them.

Because the primary function of both ICLID CND and Intraswitch/Interswitch CPN/BN Optioning is to provide information on the calling party, the POLIN feature has no effect if either one has been assigned to the called party. Therefore, it is important that service providers ensure that they are not made available to the general public.

For example, this feature does not prevent display of the calling party number on ringback to analog users of Automatic Callback who have also subscribed to ICLID CND.

22.1.2 Availability

The POLIN feature is a secured and optioned feature available in the 5E6 and later software releases.

22.1.3 Feature Provision Basis

This secured feature, which is provided on a per-switch basis, is not activated until the purchaser has made the necessary arrangements with Lucent Technologies. Information on feature activation is provided upon ordering. Please contact your Lucent Technologies Account Executive for ordering information and the Right-to-Use (RTU) fee associated with this feature.

When activated, this feature applies on a per-switch basis to all users served by the office.

Note that activating or deactivating this feature has no effect on the contents of the incoming line history blocks.

Once this feature is activated, the number in the incoming line history block is not revealed to the user by One-Level Activation Automatic Callback, Automatic Recall, or Screen List Editing even if it was revealed before the feature was activated.

That is, this feature takes effect immediately. This applies also on generic retrofits or updates.

Therefore, once this feature is deactivated, the number in the incoming line history block is revealed to the user by

One-Level Activation Automatic Callback, Automatic Recall, or Screen List Editing if it had not been marked as private by the calling party, even if it was not revealed before the feature was deactivated.

22.2 USER PERSPECTIVE

22.2.1 User Profile

For users who have not subscribed to either ICLID CND or CPN/BN, POLIN provides the number of the last incoming call be considered private in all cases, even if the calling party had not marked the number as private. The following features are affected:

- LASS Automatic Callback (AC) (One-Level Activation)

Analog users of this feature are not affected by POLIN. Display of the calling party number is only possible if the users also subscribe to ICLID CND.

When a user at an ISDN terminal with display capability activates AC, the display message provided will not indicate the number of the calling party, even if the calling party had not marked the number as private. The user will be given a "private number" display message.

When a user at an ISDN terminal with display capability is given ringback alerting because the called party has become idle, the number of the called party (which had been obtained from the incoming line history block) will not be displayed, even if the called party had not marked the number as private on the initial call. The user will be given a "private number" display message.

- Two-Level Activation of Automatic Callback

Both analog and ISDN users of this feature are affected by POLIN.

When the Two-Level Activation of Automatic Callback feature is used, normally the number of the last incoming call is voiced back and displayed when the user accesses the feature. With POLIN, the number will not be revealed. The private number message will be given.

The user will still be given the opportunity to dial "1" to invoke Automatic Callback.

- LASS Automatic Recall (AR)

Analog users of this feature are not affected by POLIN. Display of the calling party number is only possible if the users also subscribe to ICLID CND.

When an ISDN user of AR is given ringback alerting because the called party has become idle, if the user answers the ringback, then a call is set up. The number of the called party (originally obtained from the incoming line history block) is stored in the outgoing line history block. With POLIN, the number stored in the outgoing line history block will not be displayed to a user at an ISDN terminal with display capability when Automatic Recall is activated, even if the calling party had not marked the number as private. The display message will indicate a private number.

- LASS Screen List Editing

When an analog or ISDN user has the number of the last incoming call transferred to a screening list, the number will not be voiced-back or displayed to the user in any case, even if the calling party had not marked the number as private. The user will be given a "private number" announcement. For ISDN users with display capability, the display message will indicate a private number.

- Inspect for ISDN Terminals

This feature is only available to ISDN users.

When Inspect is used to inspect an alerting call appearance at an ISDN terminal, normally the calling party number for the call is displayed. With POLIN, the number will not be displayed unless the user has either ICLID CND or CPN/BN assigned. A private number message will be shown.

The LASS Customer-Originated Trace (COT) feature as well as the Two-Level Activation of Customer-Originated Trace feature is not affected. The COT feature does not voice back or display the number of the last incoming call to the user, either with one-level or two-level activation. The COT records the calling party number in a trace message, regardless of whether it is marked as private or not. However, the trace message is not available to the user.

22.2.2 Feature Activation

To activate secured features contact, the Lucent Technologies Secured Feature Administrator for assistance. In a new start office, the Secured Feature Administrator activates a secured feature through ODA. In an existing office, the Secured Feature Administrator provides instructions including the necessary password (PASSWD) for using this recent change view to activate the features. Some examples of secured features are Two-Level Activation of Automatic Callback/Customer-Originated Trace, POLIN, UCR, Removal of the COT Agency, Analog Calling Name Delivery (CNAM), Calling Number Presentation (CPNP), and LASS NPA Split Resolution (LNPAS).

22.3 ASSIGNMENT GUIDELINES

22.3.1 Forms and Views

22.3.1.1 Secured Feature Upgrade (RC View 8.22)

The Secured Feature Upgrade View (View 8.22) provides feature security and the Optioned Features View (View 8.32) is used to set the transparency feature optioning (TFOS) bit used to provide LASS special features assignment.

To activate secured features, contact the Lucent Technologies Secured Feature Administrator for assistance.

After the feature is activated, the TFOS bit is set to provide access to options used to enable special features. Setting the TFOS bit does not require assistance from the Lucent Technologies feature administrator, but it depends on a feature on the 5ESS®-2000 switch. The TFOS bit determines if a customer has the POLIN feature. The feature parameter attributes associated with this view consist of the following:

- **FEATURE ID** — This parameter is the Secured Feature identification number or the feature option (TFOS) number. The feature option number is numbered from 500-627. The feature option number of limited Two-Level Activations of AC is 532, 533 for COT limited Two-Level Activations, 534 for POLIN, 504 for LIGI, 550 for the recording and charging of Unidentified Call Rejection announcement, 541 for the Block Query with Private Number (BQPN) option of the Analog Calling Name Delivery feature, 546, 547, and 548 for the options of NPA split resolution feature, and 536 for the capability to interface with the Lucent Technologies Screen List Editing (SLE) or Bellcore SLE announcements and displays.
- **MODULE** — This parameter identifies the type of processor. It can be a number 1 through 192 for SM, 193 for an AM, CMP, AUD, RDY, or OFC for the entire office. For Two-Level Automatic Callback, COT, POLIN and UCR, enter OFC. There is no default value.
- **PASSWD** — This is the secured feature access password. Obtain the password from the Lucent Technologies Secured Feature Administrator. When using an option in the FEATURE ID parameter, this parameter is null.
- **ACTIVE** — This parameter is used to determine if the specified feature is active. Enter **Yes** or **No**. The default value is "N."

The secured feature is not enabled until the purchaser has made the necessary arrangements with Lucent Technologies. Contact your Lucent Technologies Account Representative for ordering information and the Right-To-Use fee associated with this feature.

22.3.1.2 Display Message View

Recent Change View 8.65, Display Message, is used to customize ISDN display messages. The attributes associated with this view are as follows:

- **DISP TYPE** — This parameter indicates the display message type. Valid entries are AC, INSP (inspect), COT, and SLE.
- **DISP ID** — This parameter indicates the display identification number. This number is the same as the announcement number (1 through 189). Valid entries are numbers from 1 to 255.
- **MESSAGE** — This parameter is the 1 to 40 character message that is displayed.

22.4 INTERACTIONS

22.4.1 Automatic Callback

The LASS Automatic Callback (AC) feature allows users to call back the most recent calling party.

22.4.1.1 Automatic Callback (One-Level Activation)

22.4.1.1.1 Analog Users

POLIN does not affect display on ringback of the last incoming caller's number for analog users of One-Level Activation Automatic Callback who also have ICLID CND assigned.

When the user receives ringback alerting due to AC, the display message given to the user by ICLID will reveal the number of the last incoming call if it had not been marked as private by the calling party. When POLIN is invoked, if a user at an ISDN station with display capabilities activates AC, the display message provided will not indicate the number of the calling party, even if the calling party had not marked the number as private.

22.4.1.1.2 ISDN Users

22.4.1.1.2.1 Delayed Processing

When the user at an ISDN terminal with display capability activates Automatic Callback (One-Level Activation) by dialing an access code, if the called party is found to be busy and delayed processing begins, the number of the last calling party is not displayed if the user does not subscribe to ICLID CND or CPN/BN. This is true even if the calling party had not marked the number as private. The user is given the existing "private number" display message.

The confirmation announcement currently provided when AC is activated does not voice-back the number.

It is assumed that if a user has CND or CPN/BN assigned, display of the last incoming number on ringback is allowed.

When the user at an ISDN terminal with display capability and with an AC activation feature button activates Automatic Callback by pressing the button, if the called party is found to be busy and delayed processing begins, the number of the last calling party is not displayed if the user does not subscribe to ICLID CND or CPN/BN. This is also true even if the calling party had not marked the number as private.

22.4.1.1.2.2 Immediate Processing

When the user at an ISDN terminal with display capability activates Automatic Callback (One-Level Activation) by dialing an access code, if the called party is found to be idle and immediate processing begins, the number of the last calling party is not displayed by the Outgoing Called Line Identification (OCLID) feature if the user does not subscribe to ICLID CND or CPN/BN, even if the calling party had not marked the number as private. The user is given the existing "private number" display message.

If OCLID is not assigned, then no display message is given in the case of immediate processing.

Note that the OCLID feature is not needed when the ringback is answered by the user and a call is set up, after delayed processing. The display message provided with the ringback remains the same.

When the user at an ISDN terminal with display capability and with an AC activation feature button activates One-Level Activation Automatic Callback by pressing the button, if the called party is found to be idle and immediate processing begins, the number of the last calling party is not displayed by the OCLID feature if the user does not subscribe to ICLID CND or CPN/BN, even if the calling party had not marked the number as private. The user is given the existing "private number" display message.

If OCLID is not assigned, then no display message is given in the case of immediate processing.

22.4.1.1.2.3 Ringback

When the user at an ISDN terminal with display capability receives ringback alerting after activating One-Level Activation Automatic Callback, the number of the called party is not displayed if the user does not subscribe to ICLID CND or CPN/BN, even if the party had not marked the number as private on the initial call.

The called party number is the number the user was attempting to call back. The user initially received a call from this party.

Note that ICLID Calling Number Delivery need not be assigned to an ISDN user in order for the called party's number to be displayed on ringback.

22.4.1.2 Automatic Callback (Two-Level Activation)

22.4.1.2.1 Analog Users

Two-Level Activation takes precedence over the POLIN feature. If a Two-Level activated AC feature is active along with POLIN, POLIN is ignored.

If ICLID is active on the line, the POLIN feature does not work.

When POLIN is in effect, the number of the last incoming call will not be voiced back to an analog user if the user has not subscribed to ICLID CND. When the user dials the Two-Level Activation access code for AC, the announcement given to the user before he/she activates AC will indicate that the number of the last incoming call is private, even if it had not been marked as private by the calling party.

On AC ringback, users who have subscribed to ICLID CND will see the number of the automatically-called party displayed if it had not been marked private by the party. This feature does not affect this display.

22.4.1.2.2 ISDN Users

When POLIN is in effect, the number of the last incoming call will not be voiced back to an analog user if the user has not subscribed to ICLID CND. When the user dials the Two-Level Activation access code for AC, the announcement given to the user before he/she activates AC will indicate that the number of the last incoming call is

private, even if it had not been marked as private by the calling party.

The impacts described previously for one-level Activation of AC also apply with Two-Level Activation. This feature does not affect this display.

Note that ICLID Calling Number Delivery need not be assigned to an ISDN user in order for the called party's number to be displayed on ringback.

22.4.2 Automatic Callback-Calling

Automatic Callback-Calling (ACBC) allows a user to hang up and dial an activation code to activate ACBC after reaching a busy station.

Automatic Callback-Calling, although similar in operation to AR, functions only on intraterminal group calls.

The ACBC feature can only be invoked if the user has dialed the digits for the called party and found the party to be busy. This feature will not function if invoked immediately after the ringback for AC has been answered and the call is set up. Therefore, there is no need for POLIN to block the display of the ILHB number by the ACBC.

22.4.3 Automatic Recall

The LASS Automatic Recall (AR) feature allows users to redial the most recently called party.

22.4.3.1 Analog Users

POLIN does not affect display on ringback of the last outgoing party's number for analog users of Automatic Recall who also have ICLID Calling Number Delivery assigned. When the user receives ringback alerting due to AR, the display message given to the user by CND will reveal the number of the last outgoing call.

22.4.3.2 ISDN Users

When a user at an ISDN terminal with both Automatic Callback and Automatic Recall is given AC ringback alerting because the called party has become idle, the number of the called party, (originally obtained from the incoming line history block) is stored in the outgoing line history block when the user answers the ringback and a call is set up.

This number is not displayed when the user later activates Automatic Recall if the number had not been displayed as part of the Automatic Callback activation, even if the party had not marked the number as private. The user is given the existing "private number" display message. This applies to the AR display which is given with immediate processing by OCLID, delayed processing, and ringback alerting.

If the number had been displayed by Automatic Callback, then it is also displayed by Automatic Recall.

This feature does not affect AR if the last outgoing number was not obtained from the AC activation.

The POLIN feature does not affect the display received on ringback of the last outgoing party's number for an analog user of AR who has the ICLID calling number delivery assigned. When the user receives ringback alerting due to AR, the display message given to the user by ICLID reveals the number of the last outgoing call.

22.4.4 Individual Calling Line Identification Calling Number Delivery (Analog)

Individual Calling Line Identification (ICLID) Calling Number Delivery transmits data on an incoming call to the terminating station set.

The POLIN feature does not affect display of calling party numbers by ICLID CND. If the calling party number is not marked private when the call is offered, it will be displayed.

When AC or AR is invoked and the called party becomes idle and ringback alerting is given, the last incoming caller's number will be revealed if the user also has ICLID CND assigned. This feature will not prevent the number from being displayed. The CND feature should not be assigned if the number is not to be displayed.

22.4.5 Individual Calling Line Identification Directory Number Privacy

Individual Calling Line Identification (ICLID) Directory Number Privacy allows the calling party to prevent delivery of the originating DN to the terminating station set.

The Private Option for Last Incoming Number feature does not affect calls where the calling party number is already marked private.

22.4.6 Inspect for ISDN Terminals

When Inspect is used to inspect an alerting call appearance at an ISDN terminal, normally the calling party number for the call is displayed. With POLIN, the number will not be displayed.

22.4.7 Intraswitch/Interswitch Calling Party Number/Billing Number Optioning to Terminating User

This feature allows the terminating PRI or BRI user to request delivery of the calling party number or billing number on an *exclusive* or *preferred* basis on every call for circuit-switched voice/data calls.

Service providers choose not to offer this feature if calling party numbers that are not marked as private are not to be provided. If CPN/BN is assigned to an ISDN user, POLIN has no effect. It is assumed that because the user has the CPN/BN feature assigned, display of the last incoming number on ringback is allowed.

22.4.8 ISDN ICLID Calling Number Delivery

This feature provides calling party data on calls originated from both analog and digital lines on the same 5ESS®-2000 switch for ISDN subscribers and attendants. The ICLID feature is an enhancement to the ISDN intraswitch ICLID feature, which is available only to ISDN users with display station sets.

The POLIN feature does not affect display of calling party numbers by ISDN ICLID Calling Number Delivery on incoming calls. If the calling party number is not marked private when the call is offered, it is displayed by this feature.

22.4.9 ISDN Outgoing Called Line Identification

The ISDN Outgoing Called Line Identification (OCLID) feature provides a user originating a call with information about the called party and the facility or destination. Facility and call destination information are provided via the ISDN ICI call types.

When the user at an ISDN terminal with display capability activates Automatic Callback, if the called party is found to be idle and immediate processing begins, the number of the last calling party is not displayed by this feature if the user does not subscribe to ICLID CND or CPN/BN, even if the calling party had not marked the number as private. The user is given the existing "private number" display message.

When the user at an ISDN terminal with display capability and with an AC activation feature button activates One-Level Activation Automatic Callback by pressing the button, if the called party is found to be idle and immediate processing begins, the number of the last calling party is not displayed if the user also has the Outgoing Called Line Identification feature, even if the calling party had not marked the number as private. The user is given the existing "private number" display message.

When a user at an ISDN terminal with both Automatic Callback and Automatic Recall is given AC ringback alerting because the called party has become idle, the number of the called party, (originally obtained from the incoming line

history block) is stored in the outgoing line history block when the user answers the ringback and a call is set up.

This is not displayed when the user later activates Automatic Recall if the number had not been displayed as part of the Automatic Callback activation, even if the party had not marked the number as private. The user is given the existing "private number" display message. This interaction applies to AR displays given with immediate processing by OCLID, delayed processing and ringback alerting.

If the number had been displayed by Automatic Callback, then it will be displayed by Automatic Recall.

22.4.10 Screen List Editing

22.4.10.1 Analog Users

When a Screen List Editing user at an analog station attempts to add the number from the incoming line history block to a screening list, the existing "private-number" (PRVADDED) announcement is given if the number is available and is not already on the list. This announcement indicates that the number added is a private entry. The count of private entries and of total entries is incremented by one.

If the ILHB number is already on the list as a private entry, the existing private-number error announcement (ALRDYPRV) is given.

If the ILHB number is already on the list as a non-private entry, the existing error announcement which voices back the number is given.

The user at a touch-tone station dials "*" "0,1" to add the number of the last incoming call to a list.

If the ILHB number is not available, the existing NON_HIST error announcement is given.

Service providers may customize the announcement so that different wording is provided; however, the meaning of the announcement should not be altered.

If the SLE user adds a private last incoming number to a list and then attempts to add the same number to the list by dialing it, the user hears an announcement stating that the number to be added is already on the list. This announcement voices back the number (which was dialed).

This also occurs if the user attempts to add a private last incoming number to a list when the same number is already on the list as a public entry.

This treatment complies with the "CLASS Feature: Screening List Editing" section of Bellcore TR-TSY-000220, Issue 1, dated April, 1989.

When a Screen List Editing user at an analog station deletes a number from a screening list using the number in the incoming line history block, the existing "private-number" announcement (PRV_RMVD) is given if the number is available and matches a number already on the list as a private entry. This announcement indicates that the number removed is a private entry. The count of private entries and of total entries is decremented by one.

If the ILHB number is already on the list as a non-private entry, the confirmation announcement (PUB_RMVD) which voices back the number is still returned.

If the ILHB number is not on the list, the existing "private-number" error announcement (NTONLSTH) is given.

The user at a touch-tone station dials "*" "0,1" to delete a private list entry using the number of the last incoming call.

If the ILHB number is not available, the existing NON_HIST error announcement is given.

Note that the service provider may customize the announcements to be given so that different wording is provided.

The service provider should not alter the meaning of the announcement.

Note that if the SLE user uses the private last incoming number to delete a list entry, and the list entry is not private, the confirmation announcement will voice back the number.

This also occurs if the user attempts to delete a private list entry by dialing it.

This treatment follows Section 3.1.2.4.2 of Bellcore TR-TSY-000220, "CLASS Feature: Screening List Editing", Issue 1, April, 1989.

When a number is considered private due to POLIN, the announcement provided by Screen List Editing when the user has the list entries read back will not reveal the number.

22.4.10.2 ISDN Users

For Screen List Editing users at ISDN terminals with display capability, the interactions given previously for analog users regarding adding a list entry apply. In addition, the display message provided along with the confirmation announcement on adding a list entry does not include the number if it is not voiced back in the corresponding announcement. The private number display message is provided.

For Screen List Editing users at ISDN terminals with display capability, the interactions given previously for analog users regarding deleting a list entry apply. In addition, the display message provided along with the confirmation announcement on deleting a list entry does not include the number if it is not voiced back in the corresponding announcement. The private-number display message is provided.

When a number is considered private due to POLIN, the previous interactions apply for analog users regarding list review. Additionally, the display message provided by Screen List Editing, along with the announcement when the user has the list entries read back does not reveal the number, unless the user has either ICLID CND or CPN/BN assigned.

22.4.11 Unidentified Call Rejection

Unidentified Call Rejection (UCR) is a secured and optioned feature. The UCR feature routes calls to an uninterruptible announcement if the calling party number of an incoming call to an analog user is marked as private.

Unidentified Call Rejection rejects a call if the calling party number available with the call is marked private. It is possible that the number was not marked private when the call was first offered, but was subsequently marked private due to the Private Option for Last Incoming Number feature.

22.5 ADMINISTRATION

22.5.1 Measurements

No new measurements are added for this feature.

22.5.2 Billing

No new billing is required for this feature.

23. ANNOUNCEMENT AS ERROR TREATMENT FOR LASS ACCESS CODES

23.1 GENERAL

23.1.1 Definition

The Announcement as Error Treatment for LASS Access Codes feature routes an analog user to an uninterruptible announcement when they dial any LASS access code and the user is denied access to the LASS feature.

The Announcement As Error Treatment feature is provided for the following LASS feature access codes:

- Automatic Callback (AC)
- Automatic Recall (AR)
- Computer Access Restriction (CAR)
- Customer Originated Trace (COT)
- Selective Call Acceptance (SCA)
- Selective Call Forwarding (SCF)
- Selective Call Rejection (SCR)
- Selective Distinctive Alert (SDA).

Currently, the 5ESS[®]-2000 switch gives reorder tone when a user that is denied access dials a LASS access code.

The Announcement as Error Treatment for LASS Access Codes feature is a transparency feature having the option of operating in a 1A ESSTM switch mode or a 5ESS[®]-2000 switch mode.

On the 5ESS[®]-2000 switch, only analog users will be provided access to this transparency feature. The ISDN users will not be given the announcement.

23.1.2 Cross-References

The following cross-reference is applicable to the Announcement as an Error Treatment for LASS Access Codes feature:

- LSSGR or Lucent Technologies feature number: 99-TP-1006

23.1.3 Availability

The Announcement as Error Treatment for LASS Access Codes transparency feature is available initially with the 5E9 software release.

23.1.4 Feature Application

The Announcement as Error Treatment for LASS Access Codes feature is provided as an option on a per switch basis.

23.2 USER PERSPECTIVE

23.2.1 User Profile

Prior to the implementation of this transparency feature, the user would receive a reorder tone if the user attempted to access a LASS feature that the user did not have the proper 'permissions' to access (for example, the user was not paying for this LASS feature). With the implementation of this transparency feature, the user will be routed to an announcement for the previous condition. This announcement can advertise the LASS feature offering of the service provider. The announcement may tell the user to find out how the proper 'permissions' can be obtained.

23.2.2 User Operation

When a customer dials a valid access code for a LASS feature, and the customer is denied access to the feature for any reason, they are routed to an uninterruptible announcement. A single announcement is provided regardless of which LASS feature the customer attempted to access.

The announcement is provided if the feature is available on the switch; otherwise, reorder tone will be provided.

23.2.3 Activating the Feature

Activating this feature simply involves indicating a non-zero value for the route index parameter designed for the Announcement as Error Treatment for LASS Access Codes feature. This feature can be activated on a per switch basis.

23.2.4 Invoking the Feature

This feature is automatically invoked when a non zero route index is specified for the error treatment route index parameter. The announcement should be provided as an option. The default option should be to provide reorder tone when the feature is installed.

23.2.5 Deactivating the Feature

Deactivating this feature simply involves indicating a zero value for the error treatment route index parameter designed for this feature. This feature can be deactivated on a per switch basis.

23.3 FEATURE IMPLEMENTATION

The Announcement as an Error Treatment for LASS Access Codes transparency feature allows service providers to determine if reorder tone or an announcement is to be provided to the customer when they dial a LASS access code in error. The announcement should be provided as an option. The default value should be to provide reorder tone when the feature is installed and delivered to the customer. The customers can be provided the capability to change the default option to the announcement if they choose to do so.

23.3.1 ODA Implementation

Allowing service providers to determine if reorder tone or an announcement is to be provided to the customer when they dial a LASS access in error. This is accomplished by specifying that a non-zero route index routes the user to the error announcement. No special checks are made by call processing or RC code to guarantee that a non-zero route index does in fact point to an announcement or tone. However, ODA will make these checks.

23.3.2 Recent Change Procedures

Recent change capabilities allow users to select whether an announcement or reorder tone should be given on a per switch basis. The Announcement as an Error Treatment for LASS Access Codes transparency feature is

administered through the ERROR TREAT RTI field on the LASS Office Parameters recent change view, View 8.21. Filling in a non-zero route index causes the 5ESS[®]-2000 switch to route to the specified source which is assumed to be a 13A,14A,15A or 16A announcement; if the value of the route index is zero, reorder tone will be given.

The route index can be treated the same way as other LASS 13A/14A/15A/16A announcements specified on RC/V 8.21 with respect to billing.

23.4 FEATURE OPERATION

If the user is denied access to a LASS feature, [for example, Automatic Callback (AC), Automatic Recall (AR), Computer Access Restriction (CAR), Customer Originated Trace (COT), Selective Call Acceptance (SCA), Selective Call Forwarding (SCF), Selective Call Rejection (SCR), and Selective Distinctive Alert (SDA)]. After the user dials a valid LASS feature access code, the user will either be routed to an announcement or given reorder tone. The service provider can specify which treatment to give the user via administration of the route index for LASS error announcement of RC View 8.21 (LASS Office Parameters). Filling in a non-zero route index will cause the switch to route to that resource (which will be assumed to be a 13A,14A,15A, or 16A announcement); otherwise, if the value is zero, reorder tone will be given. For example, if the LASS feature is denied because of Individual Dialing Plans (IDP) restrictions, such as Customer Access Treatment (CAT) code or DPAT restrictions, the call could be routed to reorder.

23.5 ADMINISTRATION

23.5.1 Measurements

The existing 13A/14A/15A/16A announcement measurements are pegged by the Announcement as an Error Treatment for LASS Access Codes feature.

23.5.2 Billing

No new billing is required for this feature.

24. AUTOMATIC CALLBACK BLOCK TO PRIVATE NUMBER

24.1 GENERAL

24.1.1 Definition

Automatic Callback (AC) is a Local Area Signaling Services (LASS) feature. The AC feature allows the user to call back the number of the last call that alerted the user.

The AC Block to Private Number feature allows a switch to block attempts to invoke AC towards a private number by routing the customer to a switch-changeable rejection announcement.

This feature is a special feature and is secured. It requires a special purchase and a password for usage.

The AC Block to Private Number feature was developed so that customers can comply with requests by the regulatory commission to block the use of AC to return calls to private numbers.

24.1.2 Cross-References

The following cross-reference is applicable to the AC Block to Private Number feature.

- LSSGR or Lucent Technologies feature number: 99-5E-1169

24.1.3 Availability

The AC Block to Private Number feature is available in the 5E9(1) and later software releases.

24.1.4 Feature Application

The AC Block to Private Number feature is provided as an option on a per-switch basis.

There is a per-switch option to either block or not block AC calls to private numbers.

24.2 USER OPERATION

If the end-user, which has access to the AC feature, and is on a switch where the AC Block to Private Number feature is active, receives a call where the calling number is marked as a private number in the user's ILHB, the user will not be allowed to use AC to return the call. Upon attempting an AC activation towards this private number, the end user will be routed to a new switch-changeable rejection announcement or as a switch option to an existing announcement or to reorder tone.

A check of the Incoming Line History Block (ILHB) determines whether the last incoming call was private. If the call was private (and the AC Blocked to Private DN feature is active), AC cannot be used to return the last incoming call. The call will result in a new switch-changeable rejection announcement or reorder.

When a customer dials a valid access code for a LASS feature, and the customer is denied access to the feature for any reason, they are routed to an uninterruptible announcement. A single announcement will be provided regardless of which LASS feature the customer attempted to access.

Service providers have the option of providing an existing announcement or reorder tone instead of the new rejection announcement.

24.2.1 Activating the Feature

Activating this feature simply involves purchasing the AC Block to Private Number feature, setting the LASS office parameter AC BLOCK TO PRVT to active, and indicating a non-zero value for the route index parameter designed for the AC Block to Private Number feature, if desired. Service providers have the option of providing an existing announcement or reorder tone instead of the new rejection announcement.

This feature can be activated on a per switch basis.

24.2.2 Invoking the Feature

This feature is automatically invoked if the office parameter AC BLOCK PRVT indicates active state. When a non zero route index is specified for the rejection announcement, the call is given reorder.

24.2.3 Deactivating the Feature

Deactivating this feature simply involves setting the office parameter AC BLOCK PRVT to inactive. This feature can be deactivated on a per switch basis.

24.3 INTERACTIONS

24.3.1 Automatic Callback (AC) Modular Feature (CSV)

When the AC Blocked to Private Number feature is active, an end-user with access to AC will not be able to use AC to return a call to a private number. The end-user will instead be routed to a new switch changeable rejection announcement (or as a switch option to an existing announcement or to reorder tone).

24.3.2 Private Option for Last Incoming Call (POLIN)

The POLIN feature causes an incoming call to be marked as private in the ILHB (whether or not it would have been so marked without the POLIN feature active). Thus, if the POLIN feature and the AC Blocked to Private Number feature are both active, all incoming calls will be marked as private and the AC feature cannot be used to return calls. Note that the POLIN feature has no effect on a line where Individual Calling Line Identification (ICLID) or Calling Party Number/Billing Number (CPNBN) is active.

24.3.3 Analog Calling Name Delivery (CNAM), Phase 0 & 2

There is no interaction of Calling Name Delivery features with the AC Blocked to Private Number feature since use of a Calling Name Delivery Privacy option on an incoming call will not affect the status of the Calling Number field in the ILHB (assuming that a Calling Number Privacy option is not also involved).

24.4 SERVICE ORDER PERSPECTIVE

This feature is a secured feature. When this secured feature is not installed and activated, AC will work as it did before installation of this feature, (that is, a user will be able to use AC to return calls to private numbers). In addition to the secured feature mechanism, this feature has an office option which can be changed by the craft to activate or deactivate this feature. A new switch changeable announcement should be provided for the rejection announcement, to which a user will be routed when attempting to use AC to return a call to a private number, while the AC Blocked to Private Number feature is active. Answer supervision will not be returned for calls routed to this announcement. Disconnect treatment is provided after the announcement has been played. As a switch option, an existing announcement or reorder tone can also be provided instead of the new rejection announcement. In the event that the announcement cannot be provided (for example, due to switch overload), the switch will provide reorder tone.

24.5 FEATURE IMPLEMENTATION

The AC Block to Private Number feature, allows service providers to route attempts to callback private number to a rejection announcement or optionally an existing announcement or reorder tone. The announcement should be provided as an option. The default value should be to provide reorder tone when the feature is installed and delivered to the customer. The customers can be provided the capability to change the default option to the announcement if they choose to do so.

24.5.1 ODA Implementation

Allowing service providers to determine if reorder tone or an announcement is to be provided to the customer when they attempt to activate AC to a private number is an option available to the customer. This can be accomplished by specifying that a non-zero route index routes the user to the error announcement, and a zero route index routes the call to reorder. No special checks are made by call processing or RC code to guarantee that a non-zero route index does in fact point to an announcement or tone. However, ODA will make these checks.

24.5.2 Recent Change Procedures

Recent change capabilities allow users to select whether an announcement or reorder tone should be given on a per switch basis and to determine if the AC Block to Private Number feature is active. The feature is administered through the AC BLOCK TO PRVT field on the LASS Office Parameters recent change view, View 8.21.

The office parameter, AC BLOCK RTI, is the route index parameter for the error announcement. Filling in a non-zero route index causes the 5ESS[®]-2000 switch to route to the specified source which is assumed to be a 13A, 14A, 15A, or 16A announcement; if the value of the route index is zero, reorder tone will be given. Note that a new announcement is not necessarily required for this feature; an existing announcement can be used.

The route index can be treated the same way as other LASS 13A/14A/15A/16A announcements specified on RC/V 8.21 with respect to billing

The Secured Feature Upgrade View (View 8.22) provides feature security, and the Optioned Feature View (View 8.32) sets the transparency feature optioning bit used to determine if a customer has the AC Block to Private Number feature. The feature parameter attributes associated with this view consists of the following:

- **FEATURE ID** — This parameter is a number used to identify the feature. The feature number is 111 for the AC Block to Private Number feature. There is no default value. This attribute is used to set the TFOS bit and the secured feature bit used to provide activation of the feature.
- **MODULE** — This parameter identifies the type of processor. It can be a number 1 to 192 for SM, 193 for an AM, CMP, AUD, RDY, or OFC for the entire office. For LIGI and POLIN, enter OFC. There is no default value.
- **PASSWD** — This is the secured feature access password. Obtain the password from the Lucent Technologies Secured Feature Administrator.
- **ACTIVE** — This parameter is used to determine if the feature is active. Enter Y (yes) or N (no). The default value is N.

The secured feature is not enabled until the purchaser has made the necessary arrangements with Lucent Technologies. Contact your Lucent Technologies Account Representative for ordering information and the Right-To-Use fee associated with this feature.

24.6 FEATURE OPERATION

If an end-user who has access to AC receives a call, a check of the secured feature ID is performed to ensure the AC Block to Private Number feature is assigned. The office parameter AC BLOCK TO PRVT (RC View 8.21) determines if the feature is active.

Secured feature ID 111 is used for the Automatic Callback to Private Number feature. AC BLOCK TO PRVT will be allowed to be set to Y only if feature ID 111 is on. A check of the secured feature ID to ensure the feature has been purchased is performed by the 5ESS[®]-2000 switch. If the feature has not been purchased, the 5ESS[®]-2000 switch will not block AC to a private number.

If the feature has been purchased, the ILHB is examined to determine whether the calling number is marked as a private number. If the call was private (and the AC Blocked to Private DN feature is active), AC cannot be used to return the last incoming call.

Upon attempting an AC activation towards this private number, the end-user will be routed to a new switch-changeable rejection announcement or as a switch option to an existing announcement or to reorder tone. Answer supervision will not be returned for calls routed to this announcement. Disconnect treatment will be provided after the announcement has been played. As a switch option, an existing announcement or reorder tone can also be provided instead of the new rejection announcement. In the event that the announcement cannot be provided (for example, due to switch overload), the switch will provide reorder tone.

In addition to the secured feature mechanism, the office parameter, AC BLOCK TO PRVT, can be changed by the craft to activate or deactivate this feature.

The active/inactive status (including the secured feature status and office active/inactive status) of the AC Blocked to Private Number feature will be carried forward during a generic retrofit/update.

24.7 ADMINISTRATION

24.7.1 Measurements

A new traffic measurement provides a count of the number of times an AC request was denied due to the number in the ILHB being marked as private. This measurement AC "BLKD" is provided in the TRFC30 Section 76 report (LASS Measurements). The AC BLKD count is pegged once for each time an AC attempt is blocked. The accumulating counter will be zeroed after collection of the data.

24.7.2 Billing

No new billing is required for this feature. For AC billing, refer to 235-190-300, *Billing Features and Specification*.

25. LINE TIME SLOT BRIDGING AND AUTOMATIC CALLBACK /AUTOMATIC RECALL COMPATIBILITY

25.1 GENERAL

25.1.1 Definition

The Line Time Slot Bridging (LTSB) feature allows for either:

- Two independent analog lines associated with a single DN (LTSB-1 DN)
- Two independent analog lines with separate DNs associated with each other (LTSB-2 DN).

In either case, the lines must be served by the same switch. The LTSB can be used to provide an off-premises extension. It also supports conversion from Universal to Integrated *SLC*® Carrier as well as cable transfers.

NOTE: Internally Bridged Dual Service Package 1 (99-5E-3338), available as a software update to the 5E11 software release and with the 5E12 and later software releases, Internally Bridged Dual Service Package 2 (99-5E-3739), available as a software update to the 5E12 software release and with 5E13 and later software releases, and Internally Bridged Dual Service Package 3 (99-5E-4184), available with the 5E13 and later software releases, are LTSB feature interaction modifications designed to enhance the current *5ESS*®-2000 Switch LTSB feature by allowing more features to be assigned to and used on 1-DN LTSB lines. For more information, see 235-190-103 *Business and Residential Feature Descriptions*, "Line Time Slot Bridging."

Automatic Callback and Automatic Recall are LASS features.

- Automatic Callback allows the user to call back the number of the last call to have alerted the user.
- Automatic Recall allows the user to recall the number of the last call made.

The LTSB and AC/AR Compatibility feature allows access to both AC and AR from LTSB lines with 1 DN (off-premises extensions). Access from a line is provided either by assigning AC or AR to the line or by offering AC or AR on a generally-available basis for the entire switch.

The two LTSB lines will be treated independently regarding activations of AC or AR.

This feature does not allow access to AC or AR from LTSB lines with 2 DNs (two bridged lines), either via subscription or when these features are made generally available.

This feature does not affect the interaction of any other features with Line Time Slot Bridging.

This feature allows access to both AC and AR as described in this feature document, and also allows access from LTSB lines with 1 DN as described in 235-190-103 *Business and Residential Feature Descriptions* document.

25.1.2 Cross-References

The following cross-references are applicable to the Line Time Slot Bridging and Automatic Callback/Automatic Recall Compatibility feature:

- LSSGR or Lucent Technologies feature number: 99-5E-1445
- NSEP/5SEP code: Not available.

25.1.3 Availability

This feature is available with the 5E6(1) and later software releases.

25.1.4 Feature Application

This feature is provided on a per analog line basis.

25.2 USER PERSPECTIVE

25.2.1 User Profile

The end user of this feature is a residential or business user (through subscription or general availability access) of the AC and/or AR features. The LTSB feature can be assigned to provide a user with an off-premises extension and also can be used to support cable transfers. The end-users will have no knowledge of the LTSB feature being assigned to their lines during a cable transfer. There is no action required by the end user.

25.2.2 Customer Premises Equipment

The end users have analog station sets. No CPE incompatibilities or interface changes due to this feature, have been identified.

25.3 USER OPERATION

This feature is transparent to the end user.

25.4 INTERACTIONS

25.4.1 Automatic Callback (AC) Modular Feature (CSV)

Once the conditions exist for an AC ringback (camped on party and activating party idle) on a 1-DN LTSB line, only the line that activated the feature will be rung back, not both lines. If either the lead or associate LTSB line is off hook, the DN is not considered idle and ringback will not occur. The other line cannot answer the ringback or bridge on to the ringback. A call attempt from the other line while the line is being rung back will result in busy treatment until the ringback is complete. Once a call is established due to AC, normal LTSB interactions for an outgoing call apply.

A terminating call to a 1-DN LTSB line with access to AC will update the ILHB associated with each of the LTSB lines.

25.4.2 Automatic Recall (AR) Modular Feature (CSV and CSD)

Once the conditions exist for an AR ringback (camped on party and activating party idle) on a 1-DN LTSB line, only the line that activated the feature will be rung back, not both lines. If either the lead or associate LTSB line is off hook, the DN is not considered idle and ringback will not occur. The other line cannot answer the ringback or bridge on to the ringback. A call attempt from the other line while the line is being rung back will result in busy treatment until the ringback is complete. Once a call is established due to AR, normal LTSB interactions for an outgoing call apply.

An originating call from a 1-DN LTSB line with access to AR will update only the OLHB associated with that line (not the OLHB of the other 1-DN LTSB line).

25.5 ENGINEERING

25.5.1 Hardware Resources

No additional hardware resources are required.

25.5.2 Software Resources

No additional software resources are required.

25.6 ASSIGNMENT DEPENDENCIES AND LIMITATIONS

If 1-DN LTSB is used to effect a cable transfer of lines which have access to AC or AR, the subscriber may experience some unexpected behavior after the cable transfer is completed. This is because when the cable transfer is completed, the subscriber will be connected to a different physical port and have a different ILHB and/or OLHB. Depending upon the call activity that took place while the transfer was in progress (subscriber's line was the lead member of a 1-DN LTSB pair), there may be one instance of unexpected (for example, long-term denial or camping on to an unexpected DN) behavior if an AC or AR activation is requested immediately following the completion of the cable transfer. Also, if the user was camped on during the cable transfer (such as, while the subscriber's line was the lead member of a 1-DN LTSB pair), and the cable transfer was completed before ringback occurred, the subscriber will not receive ringback.

25.7 FEATURE OPERATION

25.7.1 Cable Transfer of a User Assigned AR, Transparent to End User

The Customer can be either a residential or business customer. The following is a typical scenario:

- There is a residential or business customer, A, and a party B that A is attempting to call.
- Each party has an analog CPE. There are no new hardware/firmware needs. The switch needs to have modified software to allow for AR to be accessed from 1-DN LTSB lines.
- The customer A has the AR feature assigned.
- Party A calls party B. The service provider assigns LTSB to A as part of a cable transfer procedure. Party A successfully uses AR to recall party B.
- Party A calls party B, talks with B, and then hangs up.
- The service provider assigns LTSB to A as part of a cable transfer procedure.
- Party A uses AR to recall party B.
- Since party B is involved in another phone call, A is given confirmation announcement and hangs up.
- Party B becomes idle and A is given ringback.
- A answers ringback and is connected with B.

25.7.2 Cable Transfer of a User with General Availability Access to AC, Transparent to End User

The customer can be either a residential or business customer. The following is a typical scenario:

- There is a residential or business customer, A, and a party B that placed a call to A. Each party has an analog CPE. There are no new hardware/firmware needs. The switch needs to have modified software to allow for AC to be accessed through general availability by 1-DN LTSB lines.

- The customer A has general availability access to the AC feature.
- Party B calls party A. The service provider assigns LTSB to A as part of a cable transfer procedure. Party A successfully uses AC to call back party B.
- Party B calls party A, talks with A, and then hangs up.
- The service provider assigns LTSB to A as part of a cable transfer procedure.
- Party A uses AC to call back party B.
- Since party B is involved in another phone call, A is given confirmation announcement and hangs up.
- Party B becomes idle and A is given ringback.
- A answers ringback and is connected with B.

25.7.3 Cable Transfer of a User with General Availability Access to AR, AR Invocation Rejected

The Customer can be either a residential or business customer. The following is a typical scenario:

- There is a residential or business customer, A, and party B that A is attempting to call. Each party has an analog CPE. There are no new hardware/firmware needs. The switch needs to have modified software to allow for general availability access to AR by 1-DN LTSB lines.
- The customer A has general availability access to the AR feature.
- The service provider assigns LTSB to A as part of a cable transfer procedure. Party A calls party B. The cable transfer is completed and party A is given long-term denial treatment in attempting to use AR to recall party B.
- The service provider assigns LTSB to A as part of a cable transfer procedure.

The port connected to party A is the lead 1-DN LTSB port, and the port to be transferred to is the associate 1-DN LTSB port.

- Party A calls party B, talks with B, and then hangs up.
- Party A successfully uses AR to recall party B.
- The service provider completes the cable transfer.

This involves changing the assignment of the lead member from the old to the new port, making the physical cable transfer, and converting the new port (now connected to party A) to an individual line.

Party A now has the Outgoing Line History Block (OLHB) associated with the new physical port which has no entry (assuming no calls were made from this port while it was a member of the 1-DN LTSB pair).

- Party A again attempts to use AR to recall party B.
- Party A is given long-term denial treatment since there is no entry in its OLHB.

NOTE 1: In the previous scenario, if there had been an outgoing call to party C made from the new port while this new port was the associate member of the LTSB pair, the second AR attempt could result in a call to party C.

NOTE 2: Previous to the development of the LTSB and AC/AR Compatibility feature, LTSB could not have been used for a cable transfer. However, when a physical cable transfer is executed without LTSB, party A could also receive long-term denial treatment or an unexpected result for an AR attempt, since the user would have access to a different OLHB (associated with the new port).

25.7.4 Cable Transfer of a User Assigned AC, AC Ringback Fails, AC Invocation Rejected

The Customer can be either a residential or business customer. The following is a typical scenario:

- There is a residential or business customer, A, and a party B that has called A. Each party has an analog CPE. There are no new hardware/firmware needs. The switch needs to have modified software to allow for AC to be accessed from 1-DN LTSB lines.
- The customer A has the AC feature assigned.
- Party B calls party A. The service provider assigns LTSB to A as part of a cable transfer procedure, completes the cable transfer and removes the LTSB feature. An AC camp-on activated during the cable transfer does not result in ringback after the cable transfer is completed. Party A is given long-term denial treatment in attempting to use AC to call back party B.
- Party B calls party A, talks with A, and then hangs up.
- Party A successfully uses AC to camp on to party B (B is involved in another call).
- The service provider assigns LTSB to A as part of a cable transfer procedure.

The port connected to party A is the lead 1-DN LTSB port, and the new port (to be transferred to) is the associate 1-DN LTSB port.

- After B goes on-hook, A is given ringback, goes off-hook.
- B is rung, answers the call.
- A and B talk and then go on-hook.
- Party A successfully uses AC to camp on to party B (B is involved in another call).
- During the interval when the cable transfer is in progress (LTSB assigned), A receives no incoming calls.
- The service provider completes the cable transfer and removes the LTSB feature.

This involves changing the assignment of the lead member from the old to the new port, making the physical cable transfer, and converting the new port (now connected to party A) to an individual line.

Party A now has the Incoming Line History Block (ILHB) associated with the new physical port which has no entry since there were no calls made to this port after it was assigned an ILHB.

- Party B goes on-hook, but party A (which is now an individual line connected to the new port) does not receive ringback since the camp-on was associated with the original port.
- Party A attempts to use AC to again call back party B.
- Party A is given long-term denial treatment since there is no entry in its ILHB.

NOTE: Previous to the development of the LTSB and AC/AR Compatibility feature, LTSB could not have been used

for a cable transfer. However, when a physical cable transfer is executed without LTSB, party A could also receive long-term denial treatment or an unexpected result for an AC attempt, since the user would have access to a different ILHB (associated with the new port). Also, a camp-on associated with the original port will not receive ringback if the cable transfer is completed before the ringback begins (camp-on is associated with the original port).

25.8 FEATURE IMPLEMENTATION

This feature will permit assignment through subscription or general availability access of AR and/or AC to 1-DN LTSB lines. It will also allow for a line with access to AR and/or AC to become a 1-DN LTSB line. The procedures for assigning AR, AC, and LTSB will remain the same.

25.8.1 Cable Transfer for Line with AC and AR Features

The cable transfer involves a central office and an Integrated *SLC*[®] Carrier System.

A craftperson is involved in this cable transfer.

An analog CPE could be used by the craft person to test the new line.

The LTSB needs to be assigned to a line with access to the AR and AC features.

Only analog lines are involved.

A craftperson uses the 1-DN LTSB feature in executing a cable transfer of an analog subscriber with access to AR and AC from a central office to an Integrated *SLC*[®] Carrier System. The following is a typical scenario:

- The craftperson uses RC/V to create a 1-DN LTSB bridge between a subscriber connected to a line in the central office and a line on an Integrated *SLC*[®] Carrier System. The subscriber has subscription access to AC and general availability access to AR.
- The craftperson checks out the line on the *SLC*[®].
- After the checkout has been successfully completed, the craftperson uses RC/V to remove the LTSB feature from the lines after configuring the LTSB lines (changing designated lead member) so that the user will continue to have access to all the features which were accessible before LTSB was assigned. At approximately the same time, the physical transfer is carried out.

NOTE: Previous to the development of this feature, the craftperson would have been blocked from configuring lines with access to AC or AR into LTSB lines.

25.8.2 Originating/Incoming Treatment

Once the conditions exist for an AC/AR ringback (camped on party and activating party idle) on a 1-DN LTSB line, only the line that activated the feature will be rung back, not both lines. If either the lead or associate LTSB line is off hook, the DN is not considered idle and ringback will not occur. The other line cannot answer the ringback or bridge on to the ringback. A call attempt from the other line while the line is being rung back will result in busy treatment until the ringback is complete. Once a call is established due to AC/AR, normal LTSB interactions for an outgoing call apply.

25.8.3 Service Provider

The Local Exchange Carrier personnel are able, by use of RC/V, to assign AC/AR to 1-DN LTSB lines by assigning AC/AR to the DN or by allowing AC and/or AR on a generally available basis. Both of the LTSB lines will have their

own ILHB/OLHB. The craft will be able to convert an individual line which has AC/AR assigned, or has generally available access to AC/AR to the lead member of a 1-DN LTSB pair. From the craft perspective, the LTSB conversion procedures will be the same whether or not AC/AR are assigned. After conversion both members of the LTSB pair will have the same AC/AR access as the lead port had before the conversion. Each of the LTSB lines will have its own ILHB and/or OLHB.

NOTE: Any features assigned to the port which becomes the associated LTSB member will be removed during the process of setting up a 1-DN LTSB pair. Any ILHB and/or OLHB assigned to the associated port will have no entry when the 1-DN LTSB pair is set up.

When a line (A) which has access to AC/AR is converted to the lead member of a 1-DN LTSB pair, the contents of its existing ILHB/OLHB will be unchanged by the conversion. The ILHB/OLHB assigned to the associate member will initially not have any entry. When the lines being converted from a 1-DN LTSB pair to individual lines have access to AC/AR, the contents of the existing ILHB(OLHB) assigned to the lead member (A) will be unchanged by the conversion.

NOTE: When LTSB is used in a cable transfer procedure on a line A, after the cable transfer is complete, A will be associated with a different physical port with a different ILHB/OLHB. This may result in unexpected results when AC/AR is invoked. After the conversion to individual lines, the port which was the associated port will no longer have an ILHB/OLHB or access to any features.

When a line (A) which has access to AC/AR is converted to the lead member of a 1-DN LTSB pair, any AC/AR campon associated with A will remain active after the conversion and apply only to the lead member, not to the associate member (B). When a line (A) which is the lead member of a 1-DN LTSB pair with access to AC/AR is converted an individual line, any AC/AR campon associated with A will remain active after the conversion and apply only to line A. After the conversion, line B will no longer have access to AC/AR and any campons initiated towards line B before the conversion (where ringback has not occurred at the time of the conversion to individual lines) will not result in a ringback.

NOTE: When LTSB is used in a cable transfer procedure on a line A, after the cable transfer is complete, A will be associated with a different physical port and campons activated before the physical transfer will not result in ringback.

When the LTSB and AC/AR Compatibility feature is initially installed, the existing LTSB lines will need to be manually changed by the craft using RC/V to allow general availability access. An automated procedure needs to be made available for craft execution to allow generally available access to AC and AR for all 1-DN LTSB lines on the switch when the LTSB and AC/AR Compatibility feature is initially installed.

25.9 ADMINISTRATION

25.9.1 Measurements

Not applicable for this feature.

25.9.2 Billing

Not applicable for this feature.

26. CALLING PARTY NUMBER PRESENTATION FOR PBX HOTMOT

26.1 Definition

The Calling Party Number Presentation (CPNP) for PBX HOTMOT (PBX Hotel-Motel) feature allows Hotel-Motel PBX lines to use the Per-Call Privacy (PCP) access code.

26.2 Cross-References

The following cross-references are applicable to the Calling Party Number Presentation for PBX HOTMOT feature:

- LSSGR or Lucent Technologies feature number: 99-5E-0789.a
- NSEP/5SEP code: Not applicable.

26.3 Availability

This is an addition to the existing CPNP feature. Please refer to the existing CPNP feature documentation in "CALLING PARTY NUMBER PRESENTATION", Section 15, for additional information on CPNP.

27. ALTERNATE LANGUAGE LASS ANNOUNCEMENT CAPABILITY

27.1 GENERAL

27.1.1 Definition

The Alternate Language Local Area Signaling Services (LASS) Announcement Capability feature offers LASS Digital Services Unit Model 2 - Recorded Announcement Frame (DSU2-RAF) interactive announcements in either of two languages on a per-line basis. The LASS Selective Features that support this special feature are: Selective Call Acceptance (SCA)/Computer Access Restriction (CAR), Selective Call Forwarding (SCF), Selective Call Rejection (SCR), Selective Distinctive Alert (SDA), 2-Level Automatic Callback (AC) and 2-Level Customer Originated Trace (COT).

A per-line subscription option provides the LASS announcements in either the *main* language (e.g., English) or the *alternate* language (e.g., Spanish). The service provider determines which language is the *main* language for the office.

The Alternate Language LASS Announcement Capability feature is a secured feature that must be activated with the appropriate password using the standard 5ESS[®]-2000 switch secured feature procedures.

This feature is offered only for the 5ESS[®]-2000 switch.

27.1.2 Cross-References

The following cross-references are applicable to the Alternate Language LASS Announcement Special Feature.

- LSSGR or Lucent Technologies feature number: 99-5E-2331
- NSEP/5SEP code: N/A

27.1.3 Background

Prior to the development of this feature, recorded announcements were available only in English.

27.1.4 Availability

This feature is available as a software update to the 5E9(1) software release and is generally available in the 5E9(2) and later software releases.

27.1.5 Feature Application

The Alternate Language Announcement is provided on a per-line basis.

27.2 USER PERSPECTIVE

27.2.1 User Profile

The end-user may be either a residential or business customer who,

- wishes to modify the Screen List Editing (SLE) screening list, or
- accesses 2-Level Automatic Callback (AC), or
- accesses 2-Level Customer Originated Trace (COT).

27.2.2 Customer Premises Equipment

There are no customer premise equipment requirements.

27.3 USER OPERATION

27.3.1 General

The end-user may request that the service provider install all interactive LASS announcements in either the *main* language defined for the 5ESS[®]-2000 switch (e.g., English) or the *alternate* language (e.g., Spanish). Interactive announcements include Screen List Editing (SLE), 2-Level Customer Originated Trace and 2-Level Automatic Callback.

27.3.2 Activation

27.3.2.1 Activating the Feature

The following steps are necessary to activate the Alternate Language special feature,

- (1) Grow in the DSU2-RAF for the *alternate* language according to 235-190-115, "5ESS[®]-2000 Switch Local and Toll System Features Document" section 8.
 - Verify that the Announcement Application SM List (RC/V View 8.64) for LASS and 2LEVEL is updated to include the SMs that contain the *alternate* language DSU2-RAF units.
 - Verify that a different route index was provisioned for the *alternate* language RAF.
- (2) On RC/V View 10.1, populate the treatment values **ALSLE** and **AL2LVL** with the route index for the *alternate* language DSU2-RAF.
 - Turn on special secured feature ID (SFID) 119 on RC/V View 8.22.
 - Set the ALT LANG field to "Y" on RC/V Views 1.6 for analog lines and 23.2 for Integrated Services Digital Network (ISDN) lines.
 - To assign a range of lines for the Alternate Language feature, use Global RC/V View 28.3 for analog lines and 28.4 for ISDN lines.

Figure 27-1 presents a flow chart of the activation sequence.

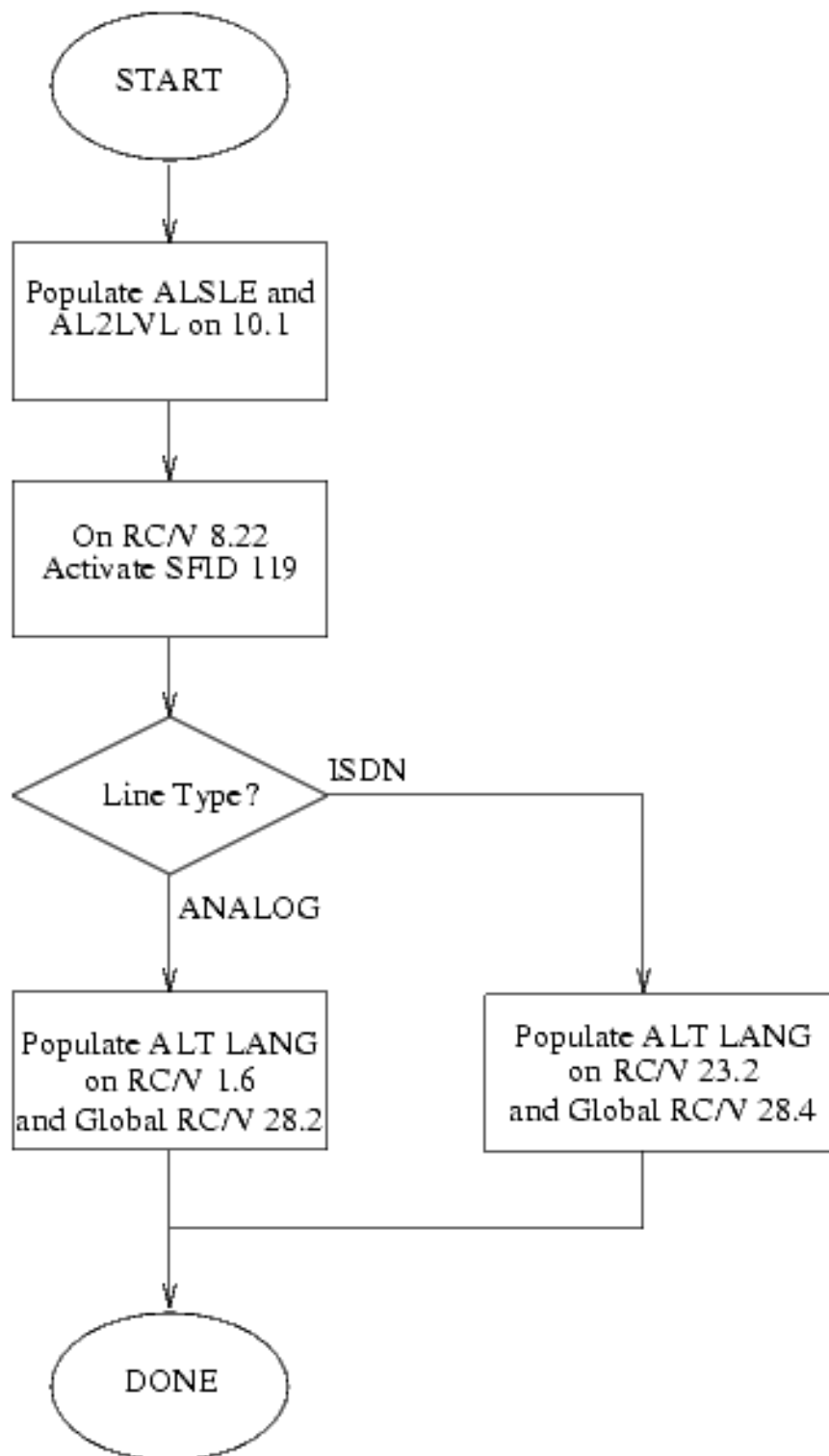


Figure 27-1 Activation Sequence

27.3.2.2 Invoking the Feature

This feature is automatically invoked when activated and no further action is required.

27.3.3 Deactivation

Deactivate the Alternate Language Announcement feature by turning off SFID 119 on RC/V View 8.22.

27.3.4 Restriction Capability

The business or residential end-user may not change or restrict this feature. The service provider makes all changes on request from the end-user.

27.4 COMPATIBILITIES

There are no compatibility issues with this feature.

27.5 INTERACTIONS

The Alternate Language LASS Announcement Capability feature allows the SLE LASS features and the 2-level LASS features to provide DSU2-RAF announcements in either the *main* or *alternate* language. If the feature is not activated or if the line is assigned the *main* language LASS announcement option, the LASS DSU2-RAF announcements will be provided in the *main* language. The service provider can then select the *main* and *alternate* languages. This feature does not affect the 13A/14A LASS announcements.

For an end-user to receive the LASS DSU2-RAF announcements associated with a particular LASS feature in the *alternate* language, the end-user must have access (subscription or general availability) to the particular LASS feature.

27.6 ENGINEERING

27.6.1 Special Planning Considerations

This feature requires no special training or planning.

27.6.2 Hardware

The service provider must order the Alternate Language DSU2-RAF Announcement circuit packs using the existing DSU2-RAF custom announcement process.

27.6.3 Software

The Alternate Language LASS Announcement special feature has no impact on customer engineerable software resources.

27.7 ASSIGNMENT DEPENDENCIES AND LIMITATIONS

27.7.1 Dependencies

The Alternate Language LASS Announcement Capability feature allows an end-user to request that the service provider provide all interactive (DSU2-RAF provided) LASS announcements in the *main* language defined for the 5ESS®-2000 switch (e.g., English) or the *alternate* language (e.g., Spanish). The interactive announcements include Screen List Editing (SLE), 2-Level Customer Originated Trace (COT) and 2-Level Automatic Callback (AC) announcements. Each *main* language and corresponding *alternate* language announcement must have the same phrase numbers, although each *main* language phrase is expected to be programmed in a different language from the corresponding *alternate* language phrase.

All non-interactive announcements (e.g., provided on 13A/14A) will continue to be available in whatever format and

languages(s) the 5ESS®-2000 switch owner chooses, on a switch wide basis. These non-interactive announcements include LASS long term denial.

This feature modifies the operation of Automatic Callback (AC) only if the **AC ACT LVL** switch parameter on RC/V View 8.21 is set to '2'. This feature modifies the operation of COT only if the **COT ACT LVL** switch parameter on RC/V View 8.21 is set to '2'.

27.7.2 Limitations

English and Spanish are the only languages available for this feature.

This feature provides the ISDN displays associated with LASS features in English. It does not modify the current operation of ISDN displays associated with LASS features.

27.8 SERVICE ORDER PERSPECTIVE

The end-user informs the service provider whether he/she wants the Alternate Language feature.

27.9 FEATURE IMPLEMENTATION

27.9.1 ODA Implementation

A new field "ALT LANG" has been added to the following office records,

- 5109
- 5111
- 5111A
- 5900
- 5901
- 5900A

In the ODA, the 51093 record was modified for the MLHLN form and 51113 was modified for the LINE form. In addition, the 59083 record was modified for the DSLUSR form.

The Alternate Language LASS Announcement Capability will be supported with the 24.0 ODA release in 5E8 and the 17.0 ODA release in 5E9(1).

27.9.2 Recent Change Procedures

Activate the Alternate Language feature with the appropriate password, using standard 5ESS®-2000 switch secured feature procedures (RC/V View 8.22),

- On RC/V View 8.22, turn on SFID 119.
- Next assign the **ALSLE** and **AL2LVL** treatment values to the **TRMT** field for the appropriate route indices in RC/V View 10.1 (FIXED ROUTE).
- A new field, "**ALT LANG**", has been added to RC/V Views 1.6 and 23.2. Set this "**ALT LANG**" field to "Y" in RC/V Views 1.6 (for analog lines) and in 23.2 (for ISDN lines) to activate the Alternative Language LASS DSU2-RAF announcements.

27.9.3 Assignment Verification

When an end-user requests a LASS features supported by the Alternate Language Announcement feature, the service provider should verify on RC/V Views (for analog users) 1.6 and 28.2 or RC/V Views (for ISDN users) 23.2 and 28.4 that the correct language is selected by verifying the **ALT LANG** field. A value of 'Y' routes the user to the *alternate* language DSU2-RAF via the fixed route **ALSLE** or **AL2LVL**. A value of 'N' routes the user to the *main* language DSU2-RAF via the fixed route **SLE** or **2LEVEL** (RC/V View 10.1 previously assigned the fixed routes). The default value for the "**ALT LANG**" field is 'N' indicating that the *main* language for the office will be provided by default.

The end-user verifies the feature by checking to see if the requested announcement (*main* or *alternate*) has been assigned.

27.9.4 Deleting Customer Service

The service provider determines which language is allowed for the end-user by populating the appropriate RC/V View.

To deny the end-user *alternate* language announcements, the "**ALT LANG**" field is set to "N" on RC/V View 1.6 (analog lines) or RC/V View 23.2 (ISDN lines) so that the *main* language is active.

Turning off the **SFID** field in RC/V View 8.22 removes the Alternate Language feature from the 5ESS®-2000 switch.

27.9.5 Changing a Subscriber's Service

If an end-user wishes to change from *alternate* to *main* announcements or vice versa, he/she notifies the service provider.

The service provider then makes the appropriate translations change,

- Set the "**ALT LANG**" field to "Y" on RC/V Views (analog lines) 1.6 and 28.2 or RC/V Views (ISDN lines) 23.2 and 28.4 to change from *main* to *alternate* announcement.
- Set the "**ALT LANG**" field to "N" on RC/V Views (analog lines) 1.6 and 28.2 or RC/V Views (ISDN lines) 23.2 and 28.4 to change from *alternate* to *main* announcement.

27.10 FEATURE OPERATION

The Alternate Language LASS Announcement Capability special feature provides the end-user with recorded announcements in a language other than English. If English the *main* language, the only *alternate* language available is Spanish.

27.11 ADMINISTRATION

27.11.1 Measurements

There are no existing messages that will measure usage specifically for this feature nor have new messages been created.

27.11.2 Billing

No Automatic Message Accounting (AMA) records have been modified or newly created.

28. DENY AUTOMATIC CALLBACK CALLS ON INTRALATA PIC CALLS

28.1 Description

The Deny Automatic Callback Calls on IntraLATA PIC Calls - Basic Feature, 99-CP-3587, provides blocking of Automatic Callback (AC) for IntraLATA toll calls that are not carried by the local exchange carrier (LEC) and are sent to private directory numbers (DN). The DN is private when the previous incoming call is received with an indication of privacy.

NOTE: As of the 5E12 and later software releases, the "Deny Automatic Callback on IntraLATA PIC Calls" feature also applies to IntraLATA calls carried by the Presubscribed Local Carrier (PLC) that is non-LEC and gets provisioned by the Alternate Local Service Provider Routing (ALSPR) Feature, 99-CP-4031.

The Deny Automatic Callback on IntraLATA PIC Calls - Per CIC Control is a feature enhancement which replaces the Deny Automatic Callback on IntraLATA PIC Calls - Basic Feature.

This is a secured feature (SFID 201) and a right-to-use (RTU) fee must be paid to Lucent Technologies before enabling information is provided.

28.2 Availability

The Deny Automatic Callback Calls on IntraLATA PIC Calls - Basic Feature (99-CP-3587) is available as a software update for the 5E10 software release and for the 5E11 and later software releases.

The enhanced version, Deny Automatic Callback Calls on IntraLATA PIC Calls - Per CIC Control (99-CP-3587.A), is available as a software update for the 5E10 and 5E11 software releases and for the 5E12 and later software releases.

28.3 Environment

This feature is provided on a per-office basis, and can be provisioned on either a per-office or per-SM basis. This feature can be used in both analog and ISDN environments.

28.4 Cross References

The following cross references apply to this feature:

- Feature Number:
 - 99-CP-3587, Deny Automatic Callback Calls on IntraLATA PIC Calls - Basic Feature
 - 99-CP-3587.A, Deny Automatic Callback Calls on IntraLATA PIC Calls - Per CIC Control
- This feature is in compliance with the following Bellcore Technical References (TRs):
 - Not applicable.

28.5 Background

Not applicable.

28.6 Feature Operation

The Deny Automatic Callback on IntraLATA PIC Calls - Basic Feature provides blocking of AC (Automatic Callback) for intraLATA toll calls not carried by the LEC (Local Exchange Carrier) to private DNs (previous incoming call received with an indication of privacy).

When the Deny Automatic Callback on IntraLATA PIC Calls - Per CIC Control feature is installed, AC will also be allowed for calls carried by those non-LEC carriers for which there is an indication, on a per CIC (Carrier Identification Code) basis, that the blocking should not apply. AC blocking does not apply for LEC CICs. The user blocked from accessing AC is given AC Block to Private Number denial announcement and the AC Block to Private Number traffic measurement is pegged. The Deny Automatic Callback on ICLATA feature can be overridden for a CARRIER ID by setting the AC ICLATA OVR field on the ICF form to "Y".

28.7 User Operation

28.7.1 For Subscribers

No subscriber actions are associated with this feature.

28.7.2 For Switch Personnel

The service provider must unlock and enable this secured feature using recent change procedures.

28.8 Engineering

28.8.1 Hardware Resources

No hardware considerations are associated with this feature.

28.8.2 Software Resources

No software considerations are associated with this feature.

28.8.3 Transition Considerations

No transition considerations are associated with this feature.

28.9 Interactions and Limitations

28.9.1 Advanced Service Platform (ASP) Services Interactions

It is possible for an ASP feature to change the carrier selection for the call after the automatic callback/automatic recall (AC/AR) busy idle determination has been made.

If an ASP feature changes the carrier, it is possible that an intraLATA PIC call resulting from an AC activation to a private DN could be routed to a carrier which would have been blocked by the Deny Automatic Callback on IntraLATA PIC Calls feature.

28.9.2 Automatic Callback (AC) Block to Private Number Feature

If the AC Block to Private Number feature is active in the office, it takes precedence over the Deny Automatic Callback Calls on IntraLATA PIC Calls feature.

28.10 Incompatibilities

No incompatibilities are associated with this feature.

28.11 Dependencies

The following features must be installed and activated for the Deny Automatic Callback on IntraLATA PIC Calls feature to work:

- Automatic Callback (AC) Modular Feature
- IntraLATA PIC special feature

28.12 Isolation Constraints

No isolation constraints are associated with this feature.

28.13 Recent Change Provisioning

See 235-118-2xx, "5ESS®-2000 Switch Recent Change Reference", for detailed information on allowed values.

The service provider enables the Deny Automatic Callback Calls on IntraLATA PIC Calls feature by populating the following fields in RC/V view 8.22, (SECURED FEATURE UPGRADE):

FIELD	VALUES
FEATURE ID	201
MODULE	OFC
PASSWD	(Obtain from Lucent Technologies SFID Administrator)
ACTIVE	Y

The Deny Automatic Callback Calls on IntraLATA (PIC) Calls feature is activated on an entire switch. Additionally, the feature can be deactivated on a per-SM basis.

The service provider activates the Deny Automatic Callback Calls on IntraLATA PIC Calls feature for the entire switch by populating the following fields in RC/V view 8.31, (OPTIONED FEATURES):

FIELD	VALUES
FEATURE ID	666
MODULE	OFC
ACTIVE	Y

Once the feature is activated for an entire switch, one or more SMs can be deactivated by populating the following fields in RC/V view 8.31, (OPTIONED FEATURES):

FIELD	VALUES
FEATURE ID	666
MODULE	SM number or range
ACTIVE	N

The AC BLOCK RTI office parameter on the LASS office options RC/V view 8.21 is the route index parameter for the error announcement.

The Deny Automatic Callback on ICLATA feature can be overridden for a Carrier ID by setting the AC ICLATA OVR field on the ICF RC/V view 10.3 to "Y."

FIELD	VALUES
AC ICLATA OVR	Y

NOTE: As of the 5E12 and later software releases, the RC/V view 10.3 field "AC ICLATA OVR" (used by the "Deny Automatic Callback on IntraLATA PIC Calls" feature) also applies to IntraLATA calls carried by the Presubscribed Local Carrier (PLC) that is non-LEC and gets provisioned by the Alternate Local Service Provider Routing (ALSPR) Feature, 99-CP-4031.

28.14 Maintenance Considerations

Not applicable.

28.15 Administration

28.15.1 Measurements

The Alternate Local Service Provider Routing feature affects the TRFC30, PLNT 24, and the 5 minute NM measurements.

The AC Block to Private Number traffic measurement, AC BLKD, in TRFC30, section 76 (LASS Measurements) is pegged when a user is given denial treatment for the Deny Automatic Callback on IntraLATA toll calls feature.

For more information, see 235-070-100, Appendix 1, *5ESS®-2000 Switch Traffic And Plant Measurements* for detailed information on measurements.

28.15.2 Billing

This feature does not impact billing.

29. ORIGINATING SWITCH CALLING NAME

29.1 Description

The Originating Switch Calling Name feature (99-5E-4684) modifies the existing Calling Name features to allow an originating 5ESS®-2000 switch to provide a calling party name for each call origination (for which a calling number is available) and deliver this name to the terminating party.

The Originating Switch Calling Name feature is a secured feature (SFID 318) and a right-to-use (RTU) fee must be paid to Lucent Technologies before enabling information is provided.

29.2 Availability

The Originating Switch Calling Name feature is available as a software update to the 5E13 software release and with the 5E14 and later software releases.

29.3 Environment

The Originating Switch Calling Name feature supports call originations from and terminations to analog lines, National and Custom Basic Rate Interface (BRI), and National and Custom Primary Rate Interface (PRI), including the sending and receiving of Calling name characters in the Generic Name parameter in an Initial Address Message (IAM) (for interswitch SS7 calls), and also including the receiving of Calling name characters in a Facility Information Element in a SETUP message from a PRI trunk. Circuit Switched Voice and Circuit Switched Data calls are supported for BRI and PRI, including Fractional DS1 calls for PRI.

29.4 Cross References

The following cross-references are applicable to the Originating Switch Calling Name feature:

- 99-5E-4684
- This feature is consistent with the following Bellcore Technical References (TRs) and Generic Requirements (GRs):
 - TR-NWT-001188, Issue 1, 1991
 - TR-NWT-001326, Issue 1, 1993
 - GR-1367-CORE, Issue 1, 1994

29.5 Background

Not Applicable.

29.6 Feature Operation

The Originating Switch Calling Name feature allows an originating 5ESS®-2000 switch to associate a calling party name with each call origination (for which a calling number is available) so this name can be delivered to the terminating party. The name is either stored on the switch, received in an incoming SETUP message from a PRI, or obtained in response to a Calling Name Transaction Capabilities Application Protocol (TCAP) query. If the call is interswitch, the name is sent in the Generic Name parameter in the IAM, along with an indication of whether the name is "presentation allowed" or "presentation restricted". At a terminating 5ESS®-2000 switch, when the calling

name is received (in the Generic Name parameter), it is delivered to the terminating party, assuming that the terminating party subscribes to Calling Name delivery and the name is indicated as "presentation allowed".

If the Generic Name parameter is received without a calling name or no Generic Name parameter is received, and if the switch is provisioned to do Calling Name TCAP queries, then the terminating switch will attempt to retrieve the calling name through a Calling Name TCAP query.

29.7 User Operation

29.7.1 For Subscribers

No subscriber actions are associated with this feature.

29.7.2 For Switch Personnel

No switch personnel actions are associated with this feature.

29.8 Engineering

29.8.1 Hardware Resources

To utilize the Calling Name characters sent from a switch with the Originating Switch Calling feature, other switches in the network must be capable of receiving and processing a Generic Name parameter containing a calling name (up to 15 characters). Tandem switches must pass the Generic Name parameter unchanged and terminating offices which support the Calling Name feature must be capable of using the information to provide a calling name to their subscribers.

The Originating Switch Calling Name feature is supported on the SM2000 version of a 5ESS®-2000 switch. If this feature is provisioned on an office with a Classic SM, the Classic SM must have SMP20 or SMP23CDMX hardware.

NOTE: It is not recommended that this feature be used in an office with Classic SMs, since there could be a significant impact on cross office delay and post dial delay.

29.8.2 Software Resources

No software considerations are associated with this feature.

29.8.3 Transition Considerations

The new RC/V view 4.65 for Originating Switch Calling Name is supported across all software transitions. The RC evolution tool for 5E13 to 5E14 retrofit and the Off-Site Recent Change Reapplication (OFFRCR) tool for 5E13 Large Terminal Growth (LTG) and 5E13 to 5E14 retrofit includes view RC/V view 4.65.

29.9 Interactions and Limitations

29.9.1 Advanced Service Platform (ASP) Services

If a call originating from a line on the 5ESS®-2000 switch encounters ASP trigger(s), which result in the Calling party number being changed, the calling name that is delivered intraswitch to a Calling Name subscriber or included in the Generic Name parameter in an outgoing IAM (interswitch) is the name that is associated with the modified Calling number (after the final ASP query). In attempting to determine the name associated with the new Calling number, any name privacy code signaled by the user is discarded. If the Calling party number is not changed, the ASP triggers do not impact the determination of the Calling name information. The Calling Party Number Presentation status (which could be changed as a result of the ASP query) after the final ASP query are used with the Block

Query on Private Number (BQPN) option (OFS ID 541).

An Analyze_Route, Forward_Call, or Authorize_Termination message received from the SCP can modify the Calling party number and Calling party number presentation status. The Calling Name that is delivered to a Calling Name subscriber or placed in the Generic Name Parameter of an outgoing IAM is determined based on the (possibly) modified calling number at the point in the call when the name is delivered to the Calling Name subscriber, or the name is placed in the IAM, respectively. In the case of serial triggers, the Calling Number is the one that results from the final ASP query. If:

- the Calling Party number presentation status is set to "Presentation restricted" after the final ASP query;
- the BQPN is enabled;
- no Calling name privacy information is associated with the call;
- and the call is delivered to a Calling Name subscriber;

then no CNAM TCAP query is made.

If the Originating Switch Calling Name feature is active on the 5ESS[®]-2000 switch; and an incoming call originating on an SS7 trunk has calling name characters in a Generic name parameter (in the incoming IAM message); and it encounters ASP trigger(s) which result in the Calling party number being changed; then any calling name characters received in the Generic name parameter is discarded, and the presentation status is treated as "no indication". If the call is delivered to a Calling Name subscriber (intraswitch) and the 5ESS[®]-2000 switch is provisioned to do a Calling Name TCAP query, then the new Calling party number (after the last ASP query) is sent in the CNAM TCAP query. If the calling number is not changed as a result of the ASP trigger(s), then the calling name that is delivered to a Calling Name subscriber (intraswitch) is the name (up to the first 15 name characters) that was in the Generic Name parameter in the incoming IAM.

An Analyze_Route, Forward_Call, or Authorize_Termination message received from the SCP can modify the Calling party number. If the Calling Party Number is changed, it is assumed that the corresponding name will no longer be the correct one, and the name information is discarded.

If an incoming call originating on a PRI encounters ASP trigger(s), which result in the Calling party number being changed, and if the call is delivered intraswitch to a Calling Name subscriber or sent out of the 5ESS[®]-2000 switch over an outgoing ISUP trunk, then any calling name information (name characters and presentation information) received in a valid Facility Information Element (IE) is discarded. If the CNAM SRC option is set to SCP, then the new Calling party number (after the last ASP query) is sent in the CNAM TCAP query. If the calling number is not changed as a result of the ASP trigger(s), the ASP triggers have no impact on the Calling name information.

An Analyze_Route, Forward_Call, or Authorize_Termination message received from the SCP can modify the Calling party number. If the Calling Party Number is changed, it is assumed that the corresponding name will no longer be the correct one, and the name characters are discarded.

When an IAM is sent, after receipt of an ASP Send_To_Resource message, to establish a connection with a remote Intelligent Peripheral (IP), this IAM does not contain a Generic name parameter.

The Originating Switch Calling Name feature does not impact the precedence that display text received in a DisplayText parameter (as the result of an ASP query) has over delivery of a calling name provided by a Calling Name feature to an analog Calling Name subscriber. If a DisplayText parameter is received, no calling name information provided by a Calling Name feature is delivered to the analog CPE.

29.9.2 Automatic Callback Calling (ACBC) Feature

If the Originating Switch Calling Name feature is active on a switch, and an analog or Custom ISDN Calling Name

subscriber has activated the Automatic Callback Calling (ACBC) feature and receives ACBC ringback for the camped-on call, the name information received from a CNAM TCAP query (CNAM SRC = SCP) or stored on the switch (CNAM SRC = ODD) is used to deliver calling name information.

ACBC only applies where the user activating ACBC and the target DN are both in the same terminal group on the same switch. Due to implementation considerations [consistency with the Electronic Directory Service (EDS) feature] for ringback to an ISDN terminal, the name presentation status in the CNAM database is ignored. This is the case whether or not the originating feature is active.

29.9.3 Automatic Callback Modular Feature

If the Originating Switch Calling Name feature is active on a switch, no calling name information is delivered to the end-user along with Automatic Callback ringback. Instead, an indication of "Unavailable name" is delivered.

The calling name information received with the incoming call is not stored in the Incoming Line History Block. If the Originating Switch Calling Name feature is not active, a CNAM SCP TCAP query is launched (assuming there is not an indication of privacy) when ringback is to be applied.

29.9.4 Automatic Recall Modular Feature

If the Originating Switch Calling Name feature is active on a switch, no calling name information is delivered to the end-user along with Automatic Recall ringback. Instead an indication of "Unavailable name" is delivered.

If the Originating Switch Calling Name feature is not active, a CNAM SCP TCAP query is launched (assuming there is not an indication of privacy) when ringback is to be applied.

29.9.5 Call Park

If the Originating Switch Calling Name feature is active on a switch, the calling name information delivered with the initial call to a National ISDN Calling Name subscriber (who is also a Call Park subscriber), is also delivered upon Call Park Ringback.

Call Park Ringback occurs when a parked call is not answered before the Call Park timer expires. Note that no calling name information is delivered to an analog or Custom ISDN line upon Call Park Ringback and no calling name information is delivered upon Call Park Ringback when the parking party is also the originator of the call.

If the Originating Switch Calling Name feature is active on a switch, and a parked call is answered by a National ISDN Calling Name and Call Park subscriber, any calling name characters received over an originating ISUP trunk or PRI trunk will be discarded. The calling name delivered is the Calling name associated with the Calling party number of the parked call, using Originating Switch Calling Name procedures for obtaining a name when no name characters are received from an originating ISUP or PRI trunk. However, no name information is delivered if the parking party is also the originating party.

For a line origination, the calling name can be derived either from switch based data (CNAM SRC = ODD) or from SCP based data (CNAM SRC = SCP). For an ISUP origination, the name can be derived from SCP based data. For a PRI origination (CNAM SRC = SCP), the name can be derived from SCP based data. Note that name information from an EDS query is NOT supported for Call Park Answer.

If the Originating Switch Calling Name feature is active on a switch, and a parked call is rerouted to a Calling Name subscriber, any calling name characters received over an originating ISUP trunk or PRI trunk will be discarded. For termination to a National ISDN or analog terminal, the calling name delivered is the Calling name associated with the Calling party number of the parked call, using Originating Switch Calling Name procedures for obtaining a name. For termination to a Custom ISDN (including ISDN Attendant Console) terminal the calling name delivered is the Calling name associated with the Calling party number of the parking party, using Originating Switch Calling Name procedures for obtaining a name. However, for an ISUP origination, for the switch based data option (CNAM SRC =

ODD), no SCP query will be attempted. For the case where the parking party is also the call originator, name information is delivered upon Call Park reroute, only if the originator dialed 10 digits (i.e., not 7 digits) when placing the original call.

A parked call can be rerouted when a Call Park Ringback is blocked. For a line origination, the calling name can be derived either from switch based data (CNAM SRC = ODD) or from SCP based data (CNAM SRC = SCP). For an ISUP origination, the name can be derived from SCP based data (only if CNAM SRC = SCP, due to implementation considerations). For a PRI origination (CNAM SRC = SCP), the name can be derived from SCP based data.

29.9.6 Call Waiting

If the Originating Switch Calling Name feature is active on a switch, the calling name information received in a Generic Name parameter, or a Facility IE (PRI), or received from a CNAM TCAP query, or stored on the switch (CNAM SRC = ODD, only) is used to deliver calling name information along with call waiting indication to a Calling Name subscriber with Caller ID on Call Waiting. If there is no calling name information available for an incoming interswitch call and if the switch is provisioned to do a CNAM TCAP SCP query, then a CNAM TCAP SCP query could be launched to obtain calling name information.

29.9.7 Electronic Directory Service (EDS)

If Electronic Directory Service (EDS) Calling Name is assigned to a terminating line or trunk, the EDS query for intra business group (same BCID) calls are not impacted by the Originating Switch Calling Name feature, except for the case where a calling name is received from an incoming PRI or SS7 trunk. When a calling name is received from an incoming PRI in the same BCID, or from an SS7 trunk where the Calling number is in the same BCID as the EDS Calling name subscriber, this name is used. If the call is not intraBCID, and the EDS subscriber is NOT also a Calling Name subscriber, an indication of "Unavailable name" is delivered to the EDS subscriber; however if the incoming call has an indication of name presentation restricted, an indication of "Private name" is delivered.

Where EDS applies (same BCID) any calling name stored on the switch is not used. There is no Calling Name TCAP query; instead an EDS query is attempted. However, for a calling name obtained from a PRI in the same BCID as the EDS subscriber, the received calling name is used. Also, when a call originates from an SS7 trunk and the calling number is determined to be in the same BCID as the EDS subscriber the received calling name is used. The Centrex Network - Interswitch Voice Message Service (CN-ISVM) feature can be used to associate an incoming Calling number with a BCID. See *Business and Residence Feature Descriptions*, 235-190-103, for a description of the CN-ISVM feature.

If a call is terminating to an outgoing BRI or PRI with both the Electronic Directory Service (EDS) Calling Name feature and the Calling Name Delivery feature assigned, and the original called DN (call forwarding) is in the same BCID (intragroup) as the EDS subscriber, and the calling DN is not in the same BCID (intergroup) as the EDS subscriber, and the switch determines that a query should be launched to the AP EDS, then no calling name characters are delivered in the initial SETUP message. If calling name information is available (from switch data, or from a CNAM TCAP query, or from an incoming SS7 or PRI trunk), it is delivered, along with the original called name information obtained from the EDS AP, in a subsequent message (INFO for BRI and FACILITY for PRI).

Similarly:

- (1) if a call from an originating PRI, with a calling name received in the SETUP message, is terminating to an outgoing BRI or PRI with the Electronic Directory Service (EDS) Calling Name feature assigned; or
- (2) a call from an originating SS7 trunk, with a calling name received in the IAM message, is terminating to an outgoing BRI or PRI with the Electronic Directory Service (EDS) Calling Name feature assigned;

and the original called DN (call forwarding) and the calling DN are in the same BCID (intragroup) as the EDS subscriber, and the switch determines that a query should be launched to the AP EDS, then no calling name characters are delivered in the initial SETUP message. The calling name information from the incoming PRI or SS7

trunk is delivered, along with the original called name information obtained from the EDS AP, in a subsequent message (INFO for BRI and FACILITY for PRI). Note that when an EDS AP query is launched (for the original called name), even if calling name information is available at the time the SETUP message is sent out, it will not be included, so that all name information will be contained in the same message (INFO for BRI and FACILITY for PRI).

29.9.8 High Probability of Completion (HPC)

The High Probability of Completion (HPC) network Capability is applied during call setup, and is intended to provide enhanced call completion capabilities to authorized Government Emergency Telecommunications Service (GETS) users during times of network stress and/or congestion.

For a High Probability of Completion (HPC) call, outgoing on an SS7 trunk, if the originator of the HPC call has indicated a per call privacy indication [e.g., Name Privacy Toggle (NAP), Name and Number Privacy (NNP), Name and Number Delivery Allowed (NNDA)], this presentation information is included in the outgoing IAM; however, no name characters are included. If the originator has not indicated a per call privacy indication, then the Generic name parameter will have a Presentation field of "No indication" (11).

29.9.9 Line Identification Modular Feature

The Originating Switch Calling Name feature interacts with all the existing Calling Name features:

- Analog Calling Name, 99-5E-0834.a;
- Calling Name for BRI, 99-5E-2264;
- and Calling Name for PRI, 99-5E-2295.

With the Originating Switch Calling Name feature active, calling name information can be obtained from switch data associated with the calling number (intraswitch origination), from a Facility IE in an incoming PRI SETUP message, or from the Generic Name parameter in an incoming IAM message. The following requirements specify the interactions with the Block Query on Private Number (BQPN) option (OFS ID 541).

If a call originates on a switch with the following:

- the Originating Switch Calling Name feature active,
- the SCP based data option (CNAM SRC = SCP),
- an indication of "Presentation Restricted" for the calling party number,
- the Block Query with Private Number (BQPN) option (OFS ID 541) enabled,
- no name privacy indication [i.e., Name Privacy Toggle (NAP), Name and Number Delivery Allowed (NNDA), Name and Number Privacy (NNP) for a line, or Privacy for Calling Name (PCN) for PRI] associated with the call origination, and
- the call is to be delivered to a Calling Name subscriber or routed out of the switch on an SS7 trunk,

then no CNAM TCAP query is made. And:

- (1) if the call is delivered to a Calling Name subscriber, the call is delivered with an indication of "Private"; or
- (2) if the call is routed out of the switch on an SS7 trunk, the IAM includes a Generic Name parameter indicating:
 - "Calling Name" (001),

- the Availability field coded "Name available/unknown" (0),
- a Presentation field coded "Presentation restricted" (01),
- and no name characters.

With BQPN active, for an interswitch call initiated with no name privacy indication (but with a private number), the Generic Name parameter in the outgoing IAM is sent with a presentation of "Presentation restricted." This will inhibit a terminating switch from obtaining the name from an SCP TCAP query.

If a call originates on a switch with:

- the Originating Switch Calling Name feature active,
- the switch based data option (CNAM SRC = ODD), and
- an indication of "Presentation Restricted" for the calling party number,

and if:

- the Block Query with Private Number (BQPN) option (OFS ID 541) is enabled;
- there is no name privacy indication [i.e., Name Privacy Toggle (NAP), Name and Number Delivery Allowed (NNDA), Name and Number Privacy (NNP) for a line, or Privacy for Calling Name (PCN) for PRI] associated with the call origination;
- there is no calling name/privacy entry (RC/V view 4.65) corresponding to the calling party number; and
- the call is to be routed out of the switch on an SS7 trunk;

then the IAM includes:

- a Generic Name parameter indicating "Calling Name" (001);
- the Availability field coded "Name available/unknown" (0);
- a Presentation field coded "Presentation restricted" (01);
- and no name characters.

If the call is to be delivered (intraswitch) to a Calling Name subscriber, the BQPN option has no effect on call processing.

With BQPN active, for an intraswitch call initiated with no name privacy indication (but with a private number), the presentation status is determined from the calling name/privacy entry (RC/V view 4.65). If there is no entry, the name is delivered with an indication of "Unavailable name." With BQPN active, for an interswitch call initiated with no name privacy indication (but with a private number), and where there is no name/privacy entry (RC/V view 4.65), the Generic Name parameter in the outgoing IAM is sent with a presentation of "Presentation restricted." This inhibits a terminating switch from obtaining the name from an SCP TCAP query.

If an incoming IAM is received with a Calling Number parameter with a Presentation of "Presentation Restricted" and if the Block Query with Private Number (BQPN) option (OFS ID 541) is enabled, and if either:

- (1) there is no Calling name Generic Name parameter; or

- (2) there is a Calling name Generic Name parameter with presentation of "No indication",

then the name presentation status is considered "Private" for delivery to a Calling Name subscriber. If these conditions are not met, the BQPN option has no effect on call processing.

29.9.10 Multiline Hunt Group

The Originating Switch Calling Name feature supports originations from and terminations to multiline hunt group members, including terminations after being placed in a multiline hunt group queue.

For call originations from a multiline hunt group member, the Calling party number associated with the call origination is used to derive the calling name, either from switch data or through a CNAM TCAP query.

29.9.11 Privacy Override Option

The "Privacy Override" option exists as a per-Trunk Group option to support inter-office delivery of Calling Party Number (CPN) information over PRI trunks in a private network environment. With this option set, a CPN marked "Presentation restricted" is delivered along with a Presentation indicator of "Presentation restricted". The Originating Switch Calling Name feature expands this to include calling name information marked as "Presentation restricted".

If the Privacy Override option is set for a PRI Trunk Group which subscribes to Calling Name Delivery, and if the Originating Switch Calling Name feature is active, and if calling name characters are available with a name presentation status of "Presentation restricted", then the Calling Name information is delivered to the PRI in a name Presentation Restricted Simple Name argument. This Privacy Override requirement also applies for Electronic Directory Service (EDS) Calling Name Delivery. If Privacy Override is in effect, an indication of private on an incoming call from a line does not inhibit obtaining a name from switch data (CNAM SRC = ODD) and an indication of private on an incoming call from a line or PRI trunk (CNAM SRC = SCP) or ISUP trunk does not inhibit a CNAM TCAP query. If Privacy Override is in effect and name character(s) are received with an indication of private from an incoming PRI or ISUP trunk they are delivered to the PRI.

Calling name information can come from PRI or ISUP origination, from switch ODD, from a CNAM TCAP query, or from an EDS query. Note that the Privacy Override feature applies even if the caller has specified Name Number Privacy (NNP) or Name Privacy Toggle (NAP) and the resulting name presentation, after interpreting the dial codes, is restricted. It also applies if a Generic Name parameter is received with an indication of "Presentation restricted" or "Blocking toggle" without name characters and the presentation is restricted following a CNAM TCAP query.

29.9.12 Shared DN

The Originating Switch Calling Name feature supports originations from and terminations to shared DNs.

For call originations from a shared DN, the Calling party number associated with the call origination is used to derive the calling name, either from switch data or through a CNAM TCAP query. Note that independent of whether the Originating Switch Calling Name feature is active, due to timing and implementation considerations, CNAM information is not delivered to an analog terminal when the analog terminal is a shared DN Calling Name subscriber. The ISDN BRI Shared DN terminals receive the name information during call offering, but the analog terminal of a Shared DN will not.

29.10 Incompatibilities

This feature does not support trunk (except for PRI) or 4-wire terminations.

29.11 Dependencies

No other features need to be installed or activated in order for this feature to work.

29.12 Isolation Constraints

No isolation constraints are associated with this feature.

29.13 Recent Change Provisioning

See 235-118-2xx, *5ESS® -2000 Switch Recent Change Reference*, for detailed information on allowed values.

The service provider enables the Originating Switch Calling Name feature by populating the following fields in RC/V view 8.22, SECURED FEATURE UPGRADE:

FIELD	VALUES
FEATURE ID	318
MODULE	OFC
PASSWD	(Obtain from Lucent Technologies SFID Administrator)
ACTIVE	Y

The service provider enables the Originating Switch Calling Name feature by populating the fields in the following RC/V views:

VIEW NUMBER	VIEW NAME	FIELD	ALLOWED VALUES
8.21	LASS Office Options	CNAM SRC	^a Blank
			^b ODD
			^c SCP
4.65	CNAM RC	CKT TN	^d 10 digit calling party number
		NAME	Up to 15 characters
		PRIVACY IND	^e N ^f Y

Notes:

- a. Default.
- b. Use CNAM RC View 4.65 to obtain originating calling name.
- c. Do CNAM TCAP query to obtain originating calling name.
- d. Associated with a port on the switch.
- e. Default -All Call Name Privacy is "Name presentation allowed."
- f. All Call Name Privacy is "Name presentation restricted."

NOTE: The following CKT TNs are not considered valid entries:

- Main DN for a PRI (RC/V view 5.1)
- Modem Pooling Access TN (RC/V view 23.12)
- Dependent Multiple TN (RC/V views 1.9/3.3)
- TN without a port routed to Regular Intercept (RC/V views 1.6/23.2)
- Automatic Call Distributor (ACD)/Direct Agent Access (DAA) TN (RC/V view 6.10)
- Subgroup 2-8 TN of ISAT or subgroup 2-6 of MUPH MLHG (RC/V view 3.5)
- Remote Digital Test Access TN (RC/V view 22.17)
- OSPS Automatic Charge Quote TN (RC/V view 26.11)

If a TN is assigned to member 1 of a Uniform Call Distribution (UCD) hunt group and there is a corresponding entry on RC/V view 4.65, then conversion of this hunt group to a Regular hunt group is not allowed. See "Analog Calling Name Delivery - Phase 0," section 14, and "Analog Calling Name Delivery - Phase 2," section 21, in this document and "Calling Name for BRI" and "Calling Name for PRI" in *ISDN Feature Descriptions*, 235-190-104, for additional provisioning requirements. See "Analog Calling Name Delivery - Phase 0," section 14, for provisioning requirements for Calling Name TCAP queries.

29.14 Customer Premises Equipment (CPE)

Not applicable.

29.15 Maintenance Considerations

Not applicable.

29.16 Administration

29.16.1 Measurements

The Originating Switch Calling Name feature does not add or modify existing Calling Name measurements.

The peg counts for the number of CNAM TCAP queries launched and for the number of expirations of the CNAM TCAP query timer also apply for originating switch CNAM TCAP queries when the call is routed out of the switch on an outgoing SS7 trunk.

29.16.2 Billing

The Originating Switch Calling Name feature does not add or modify the existing Calling Name AMA records. The originating billing record using Structure Code 00130 is generated when a CNAM privacy access code is dialed. When a customer is subscribed to usage-sensitive CNAM and not to usage sensitive Calling Number Delivery, a terminating billing record is generated with Structure Code 00110 of Call Type 264 and CLASS Feature Code 082, with the following two counts:

- The number of times the calling name was delivered to the CPE.
- The number of times the calling name was unavailable (out of area or private).

When a customer is subscribed to usage-sensitive CNAM and usage sensitive Calling Number Delivery, a terminating billing record is generated with Structure Code 00110 appended with Module Code 049 with Call Type 264 and CLASS Feature Code 087. The following two counts are in the 00110 Structure Code:

- The number of times the calling name and calling number are delivered to the CPE.
- The number of times both the calling name and calling number are unavailable (out of area or private).

The following two counts are in the Module Code 049 which is appended to Structure Code 00110:

- The number of times the calling name was delivered and the calling number was unavailable.
- The number of times the calling number was delivered and the calling name was unavailable.

GLOSSARY**-- GLOSSARY --****AAR**

Automatic Alternate Routing

AC

Automatic Callback

ACBC

Automatic Callback-Calling

ACCT

Account Code

ACD

Automatic Call Distribution

ACO

Additional Call Offering

ACOF

Attendant Control Of Facilities

ACP

Advanced Communications Package

ACP

All Call Privacy

ACSR

Automatic Customer Station Rearrangement

ACVT

Attendant Control of Voice Terminals

ADSS

Attendant Direct Station Selection

AEO

Attendant Emergency Override

AG

Associated Group

AGI

Associated Group Indicator

AIS

Automatic Intercept System

ALW

Allow

AM

Administrative Module

AMA

Automatic Message Accounting

ANI

Automatic Number Identification

AP

Applications Processor

API

Applications Processor Interface

AR

Automatic Recall

ARS

Automatic Route Selection

ARU

Audio Response Unit

ASC

Announcement Storage Circuit

ASCCOF

Attendant Selective Customer Control of Facilities

ASP

Advanced Services Platform

ATH

Authorization Code

AUTOVON

Automatic Voice Network

BCLID

Bulk Calling Line Identification

BFG

Business Feature Group

BLV

Busy Line Verification

BMS

Basic Message Service

BN

Billing Number

BRCS

Business and Residence Custom Services

BRI

Basic Rate Interface

CA

Call Appearance

CAMA

Centralized Automatic Message Accounting

CAR

Computer Access Restriction

CARFR

Computer Access Restriction Flat Rate

CARUS

Computer Access Restriction Usage Sensitive

CAT

Customer Access Treatment

CCS

Common Channel Signaling

CCS7

Common Channel Signaling 7

CCS7 NI

Common Channel Signaling 7 Network Interconnect

CCSA

Common Control Switching Arrangement

CCSC

Customer-Changeable Speed Calling

CCW

Cancel Call Waiting

CDAR

Customer Dialed Account Recording

CDFP

Centrex Data Facility Pooling

CDX

Compact Digital Exchange

CFA

Call Forwarding All calls

CFBL

Call Forwarding Busy Line

CFBLAC

Call Forwarding Busy Line All Calls

CFBLIO

Call Forwarding Busy Line Incoming Only

CFDA

Call Forwarding Don't Answer

CFDAAC

Call Forwarding Don't Answer - All Calls

CFDAIO

Call Forwarding Don't Answer Incoming Only

CFIAG

Call Forwarding In A Group

CFIO

Call Forwarding Incoming Only

CFNS

call Forwarding Night Service

CFPF

Call Forwarding over Private Facilities

CFV

Call Forwarding Variable

CHD

Call Hold

CM

Communications Module

CMSS

Customer Message Service System

CNAM

Analog Calling Name Delivery

CND

Calling Name Display

CNI

Common Network Interface

CNIGI

CNIS Intra-Group Only Delivery Optioning

CNIS

Calling Number Identification Services

CP

Call Processing

CORC

Customer-Originated Recent Change

COT

Customer-Originated Trace

CPE

Customer Premises Equipment

CPN

Calling Party Number

CPNP

Calling Party Number Presentation

CPU

Call Pickup

CRV

Call Reference Value

CSD

Circuit-Switched Data

CSDC

Circuit-Switched Digital Capability

CSR

Customer Station Rearrangement

CSV

Circuit-Switched Voice

CTA

Call Transfer Attendant

CTIAC

Call Transfer Individual All Calls

CTIIO

Call Transfer Individual Incoming Only

CTIO

Call Transfer Internal Only

CTO

Call Transfer Outside

CW

Call Waiting

CWIO

Call Waiting Incoming Only

CWO

Call Waiting Originating

CWT

Call Waiting Terminating

DA

Discontinued Availability

DA

Distinctive Alert

DN

Directory Number

DP

Dial Pulse

DAPF

Dial Access to Private Facilities

DAR

Delayed and Abbreviated Ringing

DARS

Deluxe Automatic Route Selection

DCW

Dial Call Waiting

DCLU

Digital Carrier Line Unit

DDD

Direct Distance Dialing

DID

Direct Inward Dialed

DN

Directory Number

DNP

Directory Number Privacy

DNT

Dialed Number Trigger

DP

Dial Pulse

DPAT

Dialing Plan Access Treatment

DQD

Directory Query Display

DR

Distinctive Ringing

DSL

Digital Subscriber Line

DSN

Defense System Network

DSP

Digital Signal Processor

DSS

Direct Station Selection

DSU

Digital Service Unit

DSU2

Digital Service Unit model 2

DTA

Dial Through Attendant

DTC

Dual Telephone Coverage

DTMF

Dual Tone Multifrequency

EADAS

Engineering Administration Data Acquisition System

EDS

Electronic Directory Service

EPROM

Eraseable Programmable Read Only Memory

EPSCS

Enhanced Private Switched Communications Services

ERWT

Expensive Route Warning Tone

ETN

Electronic Tandem Network

ETS

Electronic Tandem Switching

FIFO

First-In, First-Out

FNS

Flexible Night Service

FR

Flat Rate

FRL

Facility Restriction Level

FROT

Fully Restricted Originating and Terminating

FSK

Frequency Shift Keying

FWD

Forward

FX

Foreign Exchange

GA

Generally Available

HI/SVP

Home Intercom/Single line Variety Package

IAM

Initial Address Message

ICI

Incoming Call Identification

ICLID

Individual Calling Line Identification

ICNIS

ISDN Calling Number Identification Services

ICOM

Intercom

ICR

Intercom Calling Restriction

IDN

Individualized Directory Number

IDP

Individualized Dialing Plan

IEC

Interexchange Carrier

ILHB

Incoming Line History Block

INWATS

Inward Wide Area Telecommunications Service

IPC

Initiated Priority Calling

ISAT

ISDN Attendant

ISDN

Integrated Services Digital Network

ISUP

ISDN User Part

LASS

Local Area Signaling Services

LATA

Local Access and Transport Area

LDIT

Local Digit Interpreter Table

LDN

Listed Directory Number

LEC

Local Exchange Carrier

LEN

Line Equipment Number

LHB

Line History Block

LICDN

Last Incoming Call Directory Number

LIGI

Limited Intragroup Individual Calling Line Identification

LNPAS

LASS NPA Split Resolution

LOCDN

Last Outgoing Call Directory Number

LSF

LASS Selective Feature

LTM

Logical Termination

LTSB

Line Time Slot Bridging

LWC

Leave Word Calling

MAUUI

Message Associated User-to-User Information

MBK

Make-Busy Key

MBKS

Multibutton Key System

MTKS

Multibutton Telephone Key Set

MCA

Multiple Call Appearance

MDNL

Multiple DNs per Line

MDR

Message Detail Recording

MF

Multifrequency

MFSCA

Modular Feature Selective Call Acceptance

MFSCF

Modular Feature Selective Call Forwarding

MFSCR

Modular Feature Selective Call Rejection

MFSDA

Modular Feature Selective Distinctive Alert

MLG

Multiline Group

MLHG

Multiline Hunt Group

MPDSL

Multi Point DSL

MQ

Modular Queuing

MRD

Message Retrieval Display

MSS

Message Service System

MTKS

Multibutton Telephone Key Set

MWI

Message Waiting Indicator

NA

Not Applicable

NAP

Name Privacy

NAT

Non-Accepted Treatment

NI

National ISDN

NI

Network Interconnect

NM

Network Management

NNDA

Name and Number Display Allowed

NNP

Name and Number Privacy

NPA

Numbering Plan Area

NS

Night Service

NTT

Nonsenderized Tie Trunks

OA&M

Operation, Administration, and Maintenance

OCLID

Outgoing Called Line Identification

ODA

Office Data Administration

ODD

Office Dependent Data

ODP

Office Dialing Plan

OE

Office Equipment

OFC

Office

OLHB

Outgoing Line History Block

ONI

Operator Number Identification

OPC

Originating Priority Calling

OSPS

Operator Services Position System

OUTWATS

Outward Wide Area Telecommunications Service

PBX

Private Branch Exchange

PCIO

Priority Calling Incoming Only

PCP

Per-Call Privacy

PFA

Private Facilities Access

PIC

Presubscribed Inter-LATA Carrier

POLIN

Private Option For the Last Incoming Number

POTS

Plain Old Telephone Service

PP

Precedence and Preemption

PRI

Primary Rate Interface

PSAP

Public Service Answering Point

RACF

Remote Activation of Call Forwarding

RAF

Recorded Announcement Frame

RBOC

Regional Bell Operating Company

RBQ

Ringback Queuing

RC

Recent Change

RCF

Remote Call Forwarding

REC

Record

REJ

Reject

RMA

Remot Memory Access System

ROP

Read-Only Printer

RSM

Remote Switching Module

RTD

Recorded Telephone Dictation

RTI

Route Index

RTN

Remote Telephone Number

SAC

Service Access Codes

SBN

Special Billing Number

SC

Speed Calling

SCA

Selective Call Acceptance

SCAFR

Selective Call Acceptance Flat Rate

SCAGA

Selective Call Acceptance Generally Available

SCD

Selective Carrier Denial

SCF

Selective Call Forwarding

SCFFR

Selective Call Forwarding Flat Rate

SCFFRR

Selective Call Forwarding Flat Rate Ringing

SCFGA

Selective Call Forwarding Generally Available

SCFUS

Selective Call Forwarding Usage Sensitive

SCOF

Selective Control Of Facilities

SCP

Service Control Point

SCR

Selective Call Rejection

SCRFRG

Selective Call Rejection Flat Rate Gentle

SCRFRH

Selective Call Rejection Flat Rate Harsh

SCRGA

Selective Call Rejection Generally Available

SCRUSH

Selective Call Rejection Usage Sensitive Harsh

SCR

Selective Call Rejection

SDA

Selective Distinctive Alert

SDAFR

Selective Distinctive Alert Flat Rate

SDAGA

Selective Distinctive Alert Generally Available

SDN

Software Defined Network

SF

Screen Feature

SFG

Simulated Facilities Group

SIM

Simultaneous

SLE

Screen List Editing

SLEB

Screen List Editing Buffer

SM

Switching Module

SMP

Switching Module Processor

SR

Station Restriction

STP

Signal Transfer Point

SUBSCR

Subscribe

SVP

Singleline Variety Package

TAS

Trunk Answer from any Station

TCAP

Transaction Capabilities Application Protocol

TCM

Traveling Class Marks

TDA

Toll Diversion to Attendant

TDS

Traffic Data Systems

TDT

Trunk Dial Transfer

TG

Terminal Group

TGSR

Terminal Group and Station Restriction

TLWS

Trunk-Line Work Station

TOD

Time-Of-Day

TRMT

Treatment

TTR

Tone Transceiver

TWC

Three-Way Calling

UNAVAIL

Unavailable

UCD

Uniform Call Distribution

UCR

Unidentified Call Rejection

UNP

Uniform Numbering Plan

US

Usage-Sensitive

UTU

User-To-User

UUI

User to User Interface

VCDX

Very Compact Digital Exchange

WATS

Wide Area Telecommunications System

List of Figures

Figure 8-1 : Selective Call Acceptance

Figure 8-2 : SCA End-User Dialing Sequence Flow Diagram

Figure 8-3 : SCA Analog/ISDN Call Processing — Terminating Switch

Figure 9-1 : Computer Access Restriction

Figure 9-2 : CAR End-User Dialing Sequence Flow Diagram

Figure 9-3 : CAR Call Processing — Terminating Switch

Figure 10-1 : Selective Call Rejection

Figure 10-2 : SCR End-User Dialing Sequence Flow Diagram

Figure 10-3 : SCR Analog/ISDN Call Processing — Terminating Switch

Figure 11-1 : Selective Call Forwarding

Figure 11-2 : SCF End-User Dialing Sequence Flow Diagram

Figure 11-3 : SCF Analog/ISDN Call Processing — Terminating Switch

Figure 12-1 : Selective Distinctive Alert

Figure 12-2 : SDA End-User Dialing Sequence Flow Diagram

Figure 12-3 : SDA Analog/ISDN Call Processing — Terminating Switch

Figure 13-1 : Example of Assigning BCLID Feature to an Individual Line

Figure 13-2 : Example of Assigning BCLID Feature to an MLHG

Figure 13-3 : Example of Assigning BCLID Feature to a Trunk Group

Figure 14-1 : Analog Calling Name Delivery Feature Flow Diagram

Figure 15-1 : Screening Index Office Record

Figure 15-2 : Recent Change View 8.24, Screening Index Parameter Assignment

Figure 15-3 : All-Call Privacy Status Flow Diagram

Figure 15-4 : Per-Call Privacy Flow Diagram

Figure 16-1 : ODA Form for LASS NPA Split Resolution

Figure 16-2 : RC View 8.25, LASS NPA Split Resolution

Figure 16-3 : TCAP Status Request Flow Diagram

Figure 16-4 : TCAP Validity Request Flow Diagram

Figure 16-5 : Incoming Call ISUP Message Received Flow Diagram

Figure 16-6 : Adding to SLE Screening List Flow Diagram

Figure 16-7 : Deleting from SLE Screening List Flow Diagram

Figure 27-1 : Activation Sequence

List of Tables

Table 2-1 : RC/ODA Office Records

Table 2-2 : LASS Preconstructed Features

Table 2-3 : Initial LASS Features

Table 2-4 : LASS Features

Table 3-1 : How to Get a Display (ICLID/OCLID)

Table 3-2 : LASS Automatic Callback BRCS Definitions

Table 3-3 : LASS Automatic Callback Displays

Table 3-4 : Access/Billing Matrix

Table 4.1-1 : How to Get a Display (ICLID/OCLID)

Table 4.1-2 : LASS Automatic Recall BRCS Definitions

Table 4.1-3 : Access/Billing Matrix

Table 5-1 : LASS COT BRCS Definitions

Table 5-2 : LASS Customer-Originated Trace Displays

Table 5-3 : Access/Billing Matrix

Table 6-1 : ISDN ICLID Data

Table 6-2 : Line Identification Feature Definition Record

Table 6-3 : Display and Privacy Feature Definition Record

Table 6-4 : Per-Call Privacy Access/Billing Matrix

Table 7-1 : SLE Relations

Table 8-1 : Analog and ISDN SCA End-User Normal Activation Dialing Sequence

Table 8-2 : Analog and ISDN SCA End-User Normal Deactivation Dialing Sequence

Table 8-3 : LASS Selective Call Acceptance BRCS Definitions

Table 8-4 : Access/Billing Matrix — Selective Call Acceptance

Table 9-1 : Analog and ISDN CAR End-User Normal Activation Dialing Sequence

Table 9-2 : Analog and ISDN CAR End-User Normal Deactivation Dialing Sequence

Table 9-3 : LASS Computer Access Restriction BRCS Definitions

Table 9-4 : Access/Billing Matrix — Computer Access Restriction

Table 10-1 : LASS Selective Call Rejection BRCS Definitions

Table 10-2 : Access/Billing Matrix — Selective Call Rejection

Table 11-1 : Analog and ISDN SCF End-User Normal Activation Dialing Sequence

Table 11-2 : Analog and ISDN SCF End-User Normal Deactivation Dialing Sequence

Table 11-3 : LASS Selective Call Forwarding BRCS Definitions

Table 11-4 : Access/Billing Matrix — Selective Call Forwarding

Table 12-1 : LASS Selective Distinctive Alert BRCS Definitions

Table 12-2 : Access/Billing Matrix — Selective Distinctive Alert

Table 15-1 : CPNP Originating Privacy Precedence

Table 15-2 : CPN Per-Call Privacy Precedence

Table 19-1 : Table 008 - Study Indicator

Table 21-1 : Line Identification Feature Definition Form