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DMS-100 Family

North American DMS-100

Translations Guide Volume 7 of 20

Competitive Services Part 2 of 2

LEC0015 and up Standard 14.02 May 2001

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Competitive Services Part 2 of 2

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1 Datafilling the LATA Equal Access System

Information on how to enter data into the LATA Equal Access System (LEAS) appears in this chapter.

Functional groups for LEAS

The LEAS functional groups require the DMS SuperNode Platform—BASE0001, TEL00001, and BAS00003. The functional group name, ordering code and additional requirements for the LEAS appear in the following paragraphs.

LEAS Toll, LEA00001

The EQA Toll does not have requirements.

LEAS Local, LEA00002

The EQA Local does not have requirements.

Equal Access Enhanced Carrier Toll Denied

Ordering codes

Functional group ordering code: LEA00002

Functionality ordering code: does not apply

Functionality code

Equal Access Enhanced Carrier Toll Denied

Release applicability

BCS26 and later versions

Requirements

To operate, Equal Access Enhanced Carrier Toll Denied has the following requirements:

- EQA Local, EQA 00001
- LEAS Toll, LEA00001

Description

The Equal Access Enhanced Carrier Toll Denied functionality increases the maximum number of carriers that the operating company can block for a subscriber line. The maximum number of carriers increases from 3 to 21. The operating company can block only direct dial (DD) and 1+NPA (numbering plan area) +555 calls. Inward wide area telephone service (INWATS) and 1+555 calls can complete. This functionality allows operating companies to block operator assisted (OA) calls to a specified carrier. The Equal Access Enhanced Carrier Toll Denied functionality applies to plain old telephone service (POTS) and Meridian Digital Centrex (MDC) environments.

Operation

The operating company can deny a subscriber line access if the operating company does not have the Equal Access Enhanced Carrier Toll Denied functionality. The operating company can deny access to three carriers for DD and 1+NPA+555 calls. The operating company can use the carrier toll denied (CTD) line option to deny access. The system sends these blocked calls to treatment. The INWATS (800), 1+555, and OA calls can complete.

This functionality changes the following tables to increase the maximum number of carriers that the operating company can block from 3 to 21 carriers:

- the line equipment number features table (LENFEAT)
- the customer group options table (CXGRP)

Equal Access Enhanced Carrier Toll Denied (continued)

- the integrated business network line assignments table (IBNFEAT)
- the business set and data-unit features table (KSETFEAT)
- the directory number primary inter-LATA (local access and transport area) carrier table (DNPIC) table

This functionality adds the carrier toll denied operator assisted (CTDOA) field to the other common carrier information table (OCCINFO). This field specifies if the operating company blocks OA calls to a specified carrier.

The service order (SERVORD) system allows the operating company to indirectly change tables LENFEAT, IBNFEAT, and KSETFEAT to add or delete the CTD option.

Limits

The following limits apply to the Equal Access Enhanced Carrier Toll Denied functionality:

- To deny access to all carriers, the operating company must set the line option PIC to NILC for nil carrier. The operating company must set CHOICE to N.
- The CTD line option is not compatible with the line options toll denied (TDN) and toll diversion (TDV). The SERVORD system does not allow these options on the same line.
- The CTD option does not affect local exchange and corridor calls.
- The system sends all CTD calls to a feature group C (FGC) carrier to treatment.

Interactions

The Equal Access Enhanced Carrier Toll Denied functionality does not have functionality interactions.

Activation/deactivation by the end user

The Equal Access Enhanced Carrier Toll Denied functionality does not require activation or deactivation by the end user.

Billing

The Equal Access Enhanced Carrier Toll Denied functionality does not affect billing.

Equal Access Enhanced Carrier Toll Denied (continued)

Station Message Detail Recording

The Equal Access Enhanced Carrier Toll Denied functionality does not affect Station Message Detail Recording.

Datafilling office parameters

The Equal Access Enhanced Carrier Toll Denied functionality does not affect office parameters.

Datafill sequence

The tables that require datafill to implement Equal Access Enhanced Carrier Toll Denied functionality appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Equal Access Enhanced Carrier Toll Denied

Table	Purpose of table
OCCINFO	Other common carrier information. Table OCCINFO defines the attributes for the carriers that serve a DMS switch. This table screens calls for carrier compatibility.
LENFEAT (Note)	Line equipment number features. The features assigned to a specified line in table LENLINES (line assignment) appear in table LENFEAT.
CXGRP	Customer group options. Table CXGRP is a requirement in local or combined local/toll switching units. This table defines options associated with a PX digital trunk group.
IBNFEAT (Note)	Integrated business network line assignments. Table IBNFEAT assigns options to separate MDC stations.
KSETFEAT (Note)	Business set and data-unit features. Table KSETFEAT assigns options to Meridian business sets (MBS).
DNPIC	Directory number primary inter-LATA carrier. The directory numbers (DNs) of PICs appear in table DNPIC.
Note: This document does not provide a datafill procedure or example because data entry occurs through SERVORD. Refer to the <i>SERVORD Reference Manual</i> . for additional information about service orders	

Datafilling table OCCINFO

Datafill for Equal Access Enhanced Carrier Toll Denied for table OCCINFO appears in the following table. The fields that apply to Equal Access Enhanced

Equal Access Enhanced Carrier Toll Denied (continued)

Carrier Toll Denied appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table OCCINFO

Field	Subfield or refinement	Entry	Explanation and action
CTDOA		Y or N	Carrier toll denied operator assisted. Enter Y to block OA calls to a carrier when the subscriber has the CTD line option applied to this carrier. For other conditions, enter N. The default value for the CTDOA field is N. The entry of data in the CTDOA field must occur for each entry in table OCCINFO.

The field CTDOA is only effective when the Equal Access Enhanced Carrier Toll Denied functionality is part of the software load. For each carrier, entry of data in field CTDOA occurs as Y (yes) or N (no) as follows:

CTDOA=Y The system blocks OA calls to the carrier when the end user has line option CTD applied for this carrier.

CTDOA=N The system cannot block OA calls to the carrier.

The screening for different call types appears in the following table. In this table, the application of option CTD to the line occurs for each call type. The table describes the action taken when the application of CTDOA to the line occurs or does not occur. Option CTD does not affect any intra-LATA calls that only the operating company handles. This option does not affect inter-LATA corridor calls that the operating company handles.

Screening calls when option CTD is applied to the line and CTDOA is either applied or not applied (Sheet 1 of 2)

Call type	CTD	CTDOA	Action taken
DD: (10XXX) 1+ 7D/10D	Y		Denied
OA: (10XXX) 0+ 7D/10D	Y	Y	Denied
	Y	N	Allowed
DD: (10XXX) 011+CC+NN	Y		Denied
OA: (10XXX) 01+CC+NN	Y	Y	Denied
Note: (10XXX) means 10XXX is optional.			

Equal Access Enhanced Carrier Toll Denied (continued)

Screening calls when option CTD is applied to the line and CTDOA is either applied or not applied (Sheet 2 of 2)

Call type	CTD	CTDOA	Action taken
	Y	N	Allowed
DD: 10XXX+#	Y		Denied
OA: 10XXX+0	Y	Y	Denied
	Y	N	Allowed
OA: 00	Y	Y	Denied
	Y	N	Allowed
DD: 950-1XXX	Y		Denied
DD: SAC 600, 700, 800	Y		Denied
DD: 1+800	Y		Allowed
DD: (10XXX) 1+NPA+555+4D	Y		Denied

Note: (10XXX) means 10XXX is optional.

Datafill example for table OCCINFO

Sample datafill for table OCCINFO appears in the following example.

MAP example for table OCCINFO

```

CARRNAME CARRNUM ACCESS ORIGCARR INTER INTNTL INTRA ANI FANI
ONISCRN AD1 OVERLAP INTERS INTRAS TERMREC OCCSEPNO OPSIG
PICIND NOA950 INCCPN DTMFIND OPSERV CACBLOCK CTDOA CMCMON
SCRNWATS CRMCRA ATPINCL INTRAOPR

```

C111	0111	EAP	Y	Y	Y	N	Y	N
N	Y	Y	Y	Y	LONG	0	FGRPC	Y
	N	N	N	N	N	Y	N	N
	Y	N	N					
C222	0222	EAP	Y	Y	N	Y	N	N
N	N	Y	Y	N	SHORT	0	FGRPC	N
	N	N	N	N	N	N	N	N
	Y	N	N					

Equal Access Enhanced Carrier Toll Denied (continued)

Datafilling table CXGRP

Table CXGRP defines the options associated with a private exchange (PX) digital trunk group. The Equal Access Enhanced Carrier Toll Denied package separates the CTD option from the other customer group options. The field CTD increases the maximum number of carriers that the operating company can block from 3 to 21.

The datafill for Equal Access Enhanced Carrier Toll Denied for table CXGRP appears in the following table. The fields that apply to the Equal Access Enhanced Carrier Toll Denied functionality appear in this table. Refer to the data schema section of this document for a description of the other fields.

Datafilling table CXGRP

Field	Subfield or refinement	Entry	Explanation and action
CUSTKEY		32 to 255	Customer group key. This field specifies the customer group key. Enter a value from 32 to 255.
SPB		Y or N	Special billing. This field specifies if the customer group has special billing. Enter Y (yes) or N (no).
CTD		Y or N	Carrier toll denied. Enter Y for the system to prompt you for input. At this prompt, you can specify the carriers that do not receive toll access. If you do not require this action, enter N.
If CTD is Y, subfield CARRIERS requires datafill.			
	CARRIERS	vector of a maximum of 21 carrier names	Carrier names. This subfield specifies the IC_INC_CARRIER_NAMES defined in table OCCNAME. The station does not have toll access to these carrier names. This subfield can contain between 1 and 21 IC_INC_CARRIER_NAMES. Enter the carrier names. If the subfield specifies less than 21 carriers, end the list with a \$.

Datafill example for table CXGRP

Sample datafill for table CXGRP appears in the following example.

Equal Access Enhanced Carrier Toll Denied (continued)

MAP example for table CXGRP

CUSTKEY	SPB	CTD	EWATS	PXOPTION			
32	Y	Y	Y	(ATT)	(GTE)	(MCI)	(NETEAP) (ATC) \$

Datafilling table DNPIC

The directory numbers associated with primary inter-LATA carriers (PICs) appear in table DNPIC. Subfield CARRIERS can contain a maximum of 21 carriers for a specified subscriber line. The subscriber does not have access to these carriers.

The datafill for Equal Access Enhanced Carrier Toll Denied for table DNPIC appears in the following table. The fields that apply to Equal Access Enhanced Carrier Toll Denied appear in this table. Refer to the data schema section of this document for a description of the other fields.

Datafilling table DNPIC

Field	Subfield or refinement	Entry	Explanation and action
CTD		see subfields	Carrier toll denied. The CTD field contains subfields CTDSEL and CARRIERS.
	CTDSEL	Y or N	Carrier toll denied selection. Enter Y if a minimum of one carrier denied service to this subscriber. For other conditions, enter N. If NTX710 (LEAS) is not present, enter CTDSEL as N.
	CARRIERS	Carrier list	Carrier toll denied list. If CTDSEL = Y, enter a maximum of 21 carriers that denied service to this subscriber. Separate each carrier by a space. End the list with a dollar sign.

Datafill example for table DNPIC

Sample datafill for table DNPIC appears in the following example.

Equal Access Enhanced Carrier Toll Denied (continued)

MAP display example for table DNPIC

DNKEY				DNPIC	CHOICE			CTD		
613	841	11	11	CARR1	Y		Y	CARR2	CARR3	\$

Tools for verifying translations

The Equal Access Enhanced Carrier Toll Denied functionality does not use translation verification tools.

SERVORD

This functionality changes **SERVORD** commands to allow the CTD line option to handle 21 carriers. These commands apply to both POTS and MDC lines.

Tables **LENFEAT**, **IBNFEAT**, and **KSETFEAT** contain the subfield **CARRIERS**. The carriers that the operating company blocks for a specified subscriber line appear in this subfield. For each of these tables, the Equal Access Enhanced Carrier Toll Denied functionality expands the capacity of **CARRIERS**. The functionality expands the capacity from a capacity of 3 entries to 21 entries.

The operating company can add, change, or remove option **CTD** from a standard MDC 500/2500 set. When these conditions occur, the system enters option **CTC** in table **IBNFEAT**. The system updates tables **KSETFEAT** and **LENFEAT**. This update occurs when the assignment of option **CTD** to a business set or POTS line occurs in the specified sequence.

Refer to *SERVORD Reference Manual* for additional information about service orders.

SERVORD prompts

The operating company can use **SERVORD** prompts to assign the Equal Access Enhanced Carrier Toll Denied functionality to the following:

- MBS
- separate MDC stations
- a PX digital trunk group

Equal Access Enhanced Carrier Toll Denied (continued)

These prompts appear in the following table.

SERVORD prompts for Equal Access Enhanced Carrier Toll Denied

Prompt	Valid input	Explanation
DN_OR_LEN	Valid DN or LEN	Enter the seven-digit DN or the LEN.
OPTION	CTD	Enter CTD to assign the option.
CARRIER	Carrier name in table OCCNAME	Enter a maximum 21 carriers that denied service to this subscriber.

SERVORD example for adding Equal Access Enhanced Carrier Toll Denied

An example of how the ADO command adds Equal Access Enhanced Carrier Toll Denied to a POTS line appears in the following SERVORD example.

Equal Access Enhanced Carrier Toll Denied (end)

SERVORD example for Equal Access Enhanced Carrier Toll Denied in prompt mode

```

> ado
SONUMBER:      NOW 86 1 2 PM
$
DN_OR_LEN:
> 6211234
OPTION:
> ctd
CARRIERS:
> carr1
CARRIERS:
> carr2
CARRIERS:
> carr3
CARRIERS:
> carr4
CARRIERS:
> carr5
CARRIERS:
> $
OPTION:
> $
COMMAND AS ENTERED:
ADO NOW 86 1 2 PM 6211234 (CTD
CARR1 CARR2 CARR3 CARR4 CARR5)  $
ENTER Y TO CONFIRM, N TO REJECT OR
E TO EDIT
> y

```

SERVORD example for Equal Access Enhanced Carrier Toll Denied in no-prompt mode

```
ADO $ 6211234 CTD CARR1 CARR2 CARR3 CARR4 CARR5 $ $
```

Intra LATA PIC for LEAS

Ordering codes

Functional group ordering code: LEA00001

Functionality ordering code: does not apply

Release applicability

The BCS29 and later versions

Requirements

To operate, intra LATA PIC for LEAS has the following requirements:

- BAS Generic, BAS00003
- UDDD Services, UDD00001
- EQA Toll, EQA00002

Description

The NTX829AA - Intra-LATA PIC for LEAS feature package is for non-EAEOs subscribers that use LEAS AT services. These subscribers can select a carrier that provides intra-LATA service. The subscribers can select a carrier the same way the subscriber selects a PIC. If a primary intra-LATA carrier (LPIC) is not selected, the local operating company handles the intra-LATA calls in the normal way. This condition occurs on all calls incoming on TOPS and SC trunks.

Operation

This feature package provides intra-LATA carrier presubscription, screening, and routing capabilities in an LEAS AT.

Equal Access subscribers can select a carrier that provides inter-LATA service. The carrier is the subscriber PIC. The local operating company services intra-LATA calls. Some public utility commissions also allow subscribers to select a carrier for intra-LATA calls.

Table DNLPIC implements this feature package. Table DNLPIC contains the DNs of subscribers that select an LPIC. This table contains information like the information found in table DNPIC. Table DNPIC holds subscriber information for PICs.

If a call is intra-LATA, the AT accesses table DNLPIC. The AT determines if the calling DN is in the table. If the AT finds a tuple, the carrier specified in field DNLPIC handles the call. If a tuple is not found, the operating company

Intra LATA PIC for LEAS (continued)

processes the call. The AT also accesses table DNPIC to determine the attributes of the DN.

The following table outlines the possible call types and how to handle the calls. The LEAS does not provide local call handling. Calls with an entry for the called digits in table LCASCRN are local calls. Local calls are intra-LATA calls that the local exchange carrier processes.

Who handles the call

Type of call	With LPIC	Without LPIC
(1/0) + 7/10D intra-LATA	intra-LATA PIC	local operating company
00 -	inter-LATA PIC	inter-LATA PIC
10XXX + 00	carrier XXX	carrier XXX
10XXX _ inter-LATA	carrier XXX	carrier XXX
10XXX + intra-LATA	carrier XXX	carrier XXX

Zero minus dialed calls

Office parameter ZERO_MINUS_TO_CARRIER controls the routing of 0-calls. If this parameter is Y, the AT accesses table DNLPIC.

The system examines all 0-calls incoming on SC trunks to determine if the calling DN specifies an LPIC. If the calling DN specifies a carrier, the system routes the call to that carrier. If the calling DN does not specify a carrier, the system routes the call to the local operating company. If the parameter is N, all 0-calls incoming on SC trunks route to the local operating company.

The system examines all 0-calls incoming on TOPS trunks in a different way. These calls must route to a TOPS position to determine the called number. The call classification is inter-LATA or intra-LATA. The AT searches table DNPIC or DNLPIC to find a carrier that processes the call. The call can be intra-LATA and the AT does not find a carrier for the calling DN in table DNLPIC. If this condition occurs, the system routes the call to the local operating company.

MAP commands affected

The MAP command DNLPCDMO simplifies the first datafill process for table DNLPIC. This command generates a bulk data modification order (DMO) file. Process this file with tool DMOPRO. Tool DMOPRO reads formatted files of table input and automatically performs requested table modifications. Use command DNLPCDMO when you enter a sequence of DNs with an identical LPIC in table DNLPIC.

Intra LATA PIC for LEAS (continued)

A modification of command DNPICLIST occurs to provide presubscription reporting for Equal Access LPICs and Equal Access PICs. A description of the DNPICLIST and DNLPCDMO commands is in *Equal Access Maintenance Manual.*, 297-2101-500.

Translations table flow

The intra LATA PIC for LEAS does not affect translations table flow.

Limits

This feature is only available for offices with the LATA Equal Access System package. This feature only affects the routing of the 1/0 + 7/10D intra-LATA call type when an LPIC is specified. The system does not modify the call types that remain.

Interactions

The intra LATA PIC for LEAS interacts with feature ISUP Intermediate Tandem (IMT), AF7127.

Activation/deactivation by the end user

The intra LATA PIC for LEAS does not require activation or deactivation by the end user.

Billing

The intra LATA PIC for LEAS does not affect billing.

Station Message Detail Recording

The intra LATA PIC for LEAS does not affect Station Message Detail Recording.

Intra LATA PIC for LEAS (continued)

Datafilling office parameters

The office parameters that intra LATA PIC for LEAS appears in the following table. Refer to *Office Parameters Reference Manual* for more information about office parameters.

Office parameters by intra LATA PIC for LEAS

Table name	Parameter name	Explanation and action
OFCENG	DNLPIC_MAX_NUM_DN_TUPLES	This parameter provisions the number of tuples that you can enter in table DNLPIC. To determine the maximum size of table DNLPIC, multiply by 10 000 the number specified by this parameter.
OFCENG	ZERO_MINUS_TO_CARRIER	Enter Y if the system routes 0-calls to the subscriber LPIC. Enter N if the system routes calls to the local operating company.

Datafill sequence

Datafill necessary for implementation of intra LATA PIC for LEAS appears in the following table. The tables appear in the correct entry order.

Datafill requirements for intra LATA PIC for LEAS

Table	Purpose of table
OFCENG	Office Engineering. This table contains data on engineering parameters for the office. See "How to enter office parameters" for how Intra-LATA PIC for LEAS affects office parameters.
DNLPIC	Table DNLPIC (directory number primary intra-LATA carrier) contains the DNs of subscribers that chose the LPIC option.

Datafilling table DNLPIC

Datafill for intra LATA PIC for LEAS for table DNLPIC appears in the following table. The fields that apply to intra LATA PIC for LEAS appear in

Intra LATA PIC for LEAS (continued)

the following table. See the data schema section of this document for a description of the other fields.

Datafilling table DNLPIC

Field	Subfield or refinement	Entry	Explanation and action
DNKEY		DN	Directory number. Enter the DN of the subscriber that wants an LPIC.
DNLPIC		Carrier name	Primary intra-LATA carrier. Enter the name of the carrier, as in table PICNAME, selected as the LPIC.

Datafill example for table DNLPIC

Sample datafill for table DNLPIC appears in the following example.

MAP example for table DNLPIC

DNKEY	DNLPIC
519 841 11 11	EACAR1

Tools for verifying translations

The output from TRAVER when used for verifying translations in intra LATA PIC for LEAS appears in the following example.

When translations searches table DNLPIC and finds a tuple, TRAVER displays the corresponding data. If a tuple is not found, TRAVER prints the following message:

TUPLE NOT FOUND. DEFAULT: NO INTRALATA PIC SPECIFIED.
--

Note: That TRAVER is only available for SC trunks. That TRAVER is not supported on incoming TOPS trunks.

Intra LATA PIC for LEAS (continued)

TRAVER output example for intra LATA PIC for LEAS

```

>TRAVER TR OTWAON52CG02 2281234 B N ST2P 08411111 ST
TABLE TRKGRP
OTWAON52CG02 SC 0 TLA NCRT NIL N 519 TCA3 TOPS DD ONHOOK
ONHOOK
    30 5 5 IC LIDL 0 BELL SUPER CAMA REV Y
TABLE STDPRTCT
TCA3 ( 1) ( 0)
    . SUBTABLE STDPRT
    . 2 410 N DD 0 NA
TABLE HNPACONT
519 127 3 ( 55) ( 1) ( 91)
    .SUBTABLE HNPACODE
    . 228 228 HRTE 6
    . SUBTABLE RTEREF
    .     6 N D HULLPQ1077X0 2 N N
    .     T OFRT 11
    .     . TABLE OFRT
    .     .     11 N D OTWAON232390 3 N N
    .     . EXIT TABLE OFRT
    . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
TABLE BILLCODE
OTWAON52CG02 841 OTWA TCA3 519841 CAM0
TABLE LCASCRN
519 OTWA ( 11) OPTL N
    . SUBTABLE LCASCR
    . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
TUPLE NOT FOUND.  DEFAULT IS TO LEAVE XLA RESULT
UNCHANGED
TABLE CLSVSCRC
519 TCA3 DD 2 N NONE ( 1)

```

(continued)

Intra LATA PIC for LEAS (continued)

TRAVER output example for intra LATA PIC for LEAS

```
. SUBTABLE CLSVSCR
KEY NOT FOUND
DEFAULT IS TO LEAVE XLA RESULT UNCHANGED
DETERMINE IF THE ROUTE SHOULD BE REPLACED WITH A NEW EQUAL
ACCESS ROUTE
TABLE TRKLATA
OTWAON52CG02 5198411111 LATA1 Y T DACD
TABLE EASAC
TUPLE NOT FOUND
TABLE LATA XLA
LATA1 519 INTRA INTER STD
TABLE DNLPIC
519 841 11 11 EACAR1
TABLE DNPIC
519 841 11 11 EACAR2 Y N
TABLE OCCINFO
EACAR1 222 TRANS Y Y Y Y Y N Y Y LONG 0 FGRPC N N N N N N N N
TABLE STDPRTCT
TCA3 ( 1) ( 0)
. SUBTABLE STDPRT
. 10222 10222 Equal Access DD 5 P CAR1 CAR Y OFRT 889 6 20 N
. . TABLE OFRT
. . 889 CND Equal Access INTNL SK 2
. . S D OGEACAR1
. . CND ALWAYS SK 1
. . N D OGEACAR1 15 D121 N
. . EXIT TABLE OFRT
. TABLE STDPRTCT
. CAR1 ( 1) ( 0)
. .SUBTABLE STDPRT
. . 2 9 Equal Access DD 0 T NA EACAR1 N
```

(continued)

Intra LATA PIC for LEAS (end)

TRAVER output example for intra LATA PIC for LEAS

```
Using Equal Access (EA) route   OFRT  889 from Pretranslation
TABLE OFRT
  889 CND Equal Access INTNL SK 2
      S D OGEACAR1
      CND ALWAYS SK 1
      N D OGEACAR1 15 D121 N
EXIT TABLE OFRT
+++ TRAVER: SUCCESSFUL CALL TRACE +++

DIGIT TRANSLATION ROUTES

1  OGEACAR1      2281234          ST
   BILL          5198411111

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO

+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

SERVORD

The intra LATA PIC for LEAS does not use SERVORD.

LATA Equal Access System

Ordering codes

Functional group ordering code: LEA00001

Functionality ordering code: does not apply

Release applicability

CSP02 and later versions

Requirements

The local access and transport area LATA Equal Access System has the following requirements:

- BAS Generic, BAS00003
- UDDD Services, UDD00001
- EQA Toll, EQA00002
- TOPS Equal Access, OSEA0001

Description

Equal Access allows subscribers to access different carriers for long distance calls. Equal Access can allow subscribers to subscribe to one primary carrier for all long distance calls. The name for an end office that does not provide these Equal Access services is a non-EAEO. Feature package NTX710AC allows a DMS-200 AT to provide services like Equal Access services to subscribers that non-EAEOs serve.

The LATA Equal Access System (LEAS) allows the non-EAEO subscriber to select a Primary Inter-LATA Carrier (PIC). The LEAS allows the subscriber to dial the carrier access code (CAC) to access an inter-exchange carrier (IEC) or international carrier (INC).

This feature package expands the feature group D (FGD) CIC from three digits to four digits for LEAS calls.

Operation

To provide services like Equal Access services, the LEAS AT stores Equal Access subscriber data in the LEAS database. The LEAS database contains

LATA Equal Access System (continued)

tables DNPIC and PICNAME. The LEAS database contains the following data:

- subscriber PIC
- carriers that denied service to the subscriber, a Carrier Toll Denied (CTD) feature
- attribute that indicates if the subscriber can use CACs to select specified carriers

The numbering plan area (NPA) and the directory number (DN) of the calling party access table DNPIC. An LEAS call that a non-EAEO subscriber dialed enters the AT switch. The call must enter the switch on a trunk that can spill automatic number identification (ANI) digits or allow Operator Number Identification (ONI).

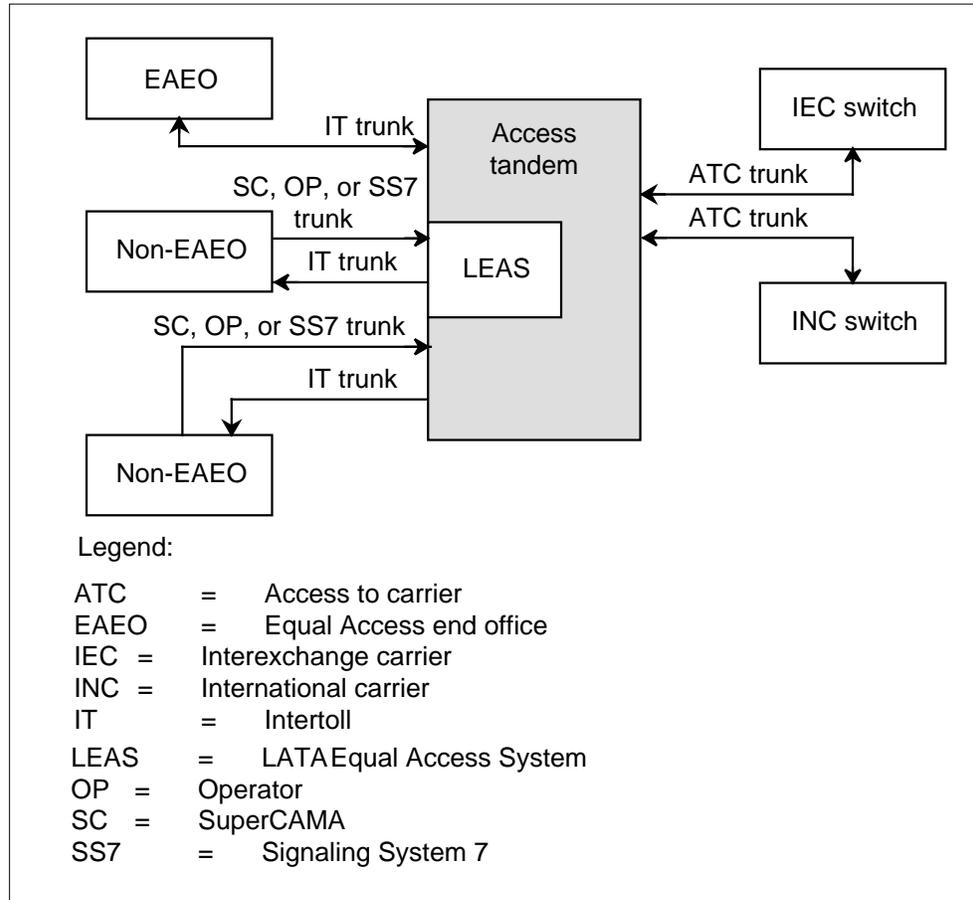
LEAS trunking arrangements

The trunks from the AT to the IEC and INC can be access to carrier (ATC) or operator trunks. These trunks can be one-way or two-way trunks. The LEAS can combine all direct dialed (DD) and operator-assisted (OA) calls on one trunk group.

Incoming operator (OP), SuperCAMA (SC), or signaling system 7 (SS7) trunk groups must carry the LEAS traffic. These trunk groups must carry LEAS traffic because LEAS traffic requires ANI and ONI capability. Incoming trunks can be one-way or two-way trunks. The LEAS switching arrangement appears in the following figure. The description of these trunking arrangements appears in the following sections.

LATA Equal Access System (continued)

Example of a LEAS configuration



SS7 trunking arrangement (feature AN0342)

This feature allows SS7 calls from an end office to the LEAS AT. For these calls, the system sends ANI digits in the charge number parameter. The Equal Access SS7 signaling includes the ANI digits. A description of this signaling appears in TR-NWT-000394. The description of SS7 signaling in TR-NWT-000317 does not provide the charge number parameter.

The LEAS AT defines two office parameters to provide this feature. Parameter LEAS_SS7_CIC contains a LEAS CIC that the end offices use. The LEAS CIC identifies the calls incoming to the AT that require LEAS handling. The Equal Access end office (EAEO) considers this CIC as a standard IEC CIC. Parameter LEAS_SS7_ACTIVE indicates if the LEAS software for SS7 is active.

End offices that require LEAS calls on SS7 trunks must be standard SS7 EAEOs. The SS7 calls arrive in the LEAS AT on IT trunks. The transit

LATA Equal Access System (continued)

network selector (TNS) parameter of the IAM can contain the LEAS CIC. If the TNS contains the LEAS CIC, LEAS determines the IEC to which the system routes the call.

Three types of incoming SS7 calls can occur:

- intra-LATA non-IEC calls
- IEC calls where the LEAS AT determines the IEC
- IEC calls where the EAEO determines the IEC

Intra-LATA non-IEC calls arrive in the LEAS AT in TR-NWT-000317 format. These calls do not contain the TNS and charge number parameters. These calls do not require special LEAS handling. The system does not generate billing records. The system screens these calls in the end office and routes the calls over a separate trunk. These calls include:

- 1 + 7/10D intra-LATA
- 0 + 7/10D intra-LATA
- 7/10D local
- N11

For IEC calls where the LEAS AT determines the IEC, the IAM contains the TNS parameter. This parameter contains a CIC equal to the CIC defined in LEAS_SS7_CIC. The LEAS AT determines the IEC to which the system routes the call. These calls include:

- (1)+7/10D inter-LATA PIC
- 0+7/10D inter-LATA operator
- 0 inter-LATA operator calls
- (1)+7/10D intra-LATA PIC, only if intra-LATA PIC feature is a requirement
- 0+7/10D intra-LATA PIC, only if intra-LATA PIC feature is a requirement
- 011+CC+NN international PIC
- 01+CC+NN operator international PIC

A description of the translations for these calls appears in section ``Translations for IEC calls where the LEAS AT determines the IEC.''

For IEC calls where the EAEO determines the IEC, the IAM contains the TNS parameter. This parameter contains the CIC of the IEC to which the system routes the call. This CIC is not equal to the CIC defined in LEAS_SS7_CIC.

LATA Equal Access System (continued)

The LEAS AT generates a billing record if the end office performs the PIC administration of the end office. The LEAS AT billing record retains the advantages of central billing.

This category includes the following calls:

- 10XXX+(1)+7/10D national (inter- or intra-LATA)
- 10XXX+0+7/10D operator (inter- or intra-LATA)
- 10XXX+011+CC+NN international
- 10XXX+01+CC+NN operator international
- 950-XXXX
- 10XXX-# cut-through
- 10X test call 10XXX-0(0) operator calls

The description of the translations for these calls appears in ``Translations for IEC calls where the EAEO determines the IEC."`

SC or TOPS trunking arrangement

The recommended trunking arrangement for LEAS depends if the LEAS AT has the Traffic Operator Position System (TOPS) capability. If the LEAS AT does not provide TOPS, the system must route non-EAEO traffic to the AT. The system must route this traffic over SC trunk groups. If the LEAS AT provides TOPS, the system can route incoming LEAS traffic over incoming TOPS or SC trunk groups. The following trunking arrangements can occur:

- the system routes all traffic over incoming TOPS trunk groups
- the system routes all traffic over incoming SC trunk groups
- the system routes OA calls route over incoming TOPS trunk groups and DD calls over incoming SC trunk groups

The LEAS AT accepts MF or dial pulse (DP) incoming signals. The LEAS AT performs the following tasks:

- collect called digit streams sent from the non-EAEO. The longest digit stream that LEAS support is 20 digits plus key-pulse (KP) and start pulse (ST) digits. This feature package allows the LEAS to collect 24 digits plus KP and ST digits for MF and DP digit collection.
- receive and format of the calling DN with ANI or ONI
- perform Equal Access service checks like LATA screening and subscriber and carrier service checks
- convert normal FGC signaling to the signaling that the IEC or INC requires

LATA Equal Access System (continued)

- generate the ANI or ONI information to a carrier again if the carrier is a requirement
- perform centralized automatic message accounting (CAMA) billing for all LEAS calls

The non-EAEO can accept a dialing pattern if the EAEO accepts the dialing pattern, except abbreviated dialing 2 and 3. The dialing plan for the non-EAEO subscriber depends on the capabilities of the end office. Some offices require a dialing plan modification to allow outpulsing of all Equal Access dialing sequences. If the operating company does not perform a dialing plan modification, the subscriber can use FGB dialing. The subscriber can use FGB dialing to achieve carrier selection for each call. The system allows presubscription dialing and does not require a dialing plan modification. The LEAS accepts the following subscriber dialing patterns:

- 10XXX + 0/1 + NPA + 7 digits
- 10XXX + 01/011 + country code + national number
- 10XXX + 0(0/#)
- 10XXX + #
- 0/1 + 950-WXXX
- 10XXX + 0/1 + 911
- 0/1 + service access code (SAC) + 7 digits

Treatments for 10XXX intra-LATA calls

When the carrier cannot complete a call, according to table OCCINFO, the Equal Access call fails. Earlier, when Equal Access calls failed the system routed the calls to vacant code (VACT). Now, the call type and carrier datafill in table OCCINFO determine the call treatment. The treatments that apply to LEAS calls appear in the following table.

Failure conditions - new treatments (Sheet 1 of 2)

Failure condition	Treatment	Disposition
Inter-LATA restriction (INTER = N (no) in table OCCINFO for carrier)	CACE	CAC in error announcement
Intra-LATA restriction (INTRA = N in table OCCINFO for carrier)	NACD	Do not dial 10XXX announcement

LATA Equal Access System (continued)**Failure conditions - new treatments (Sheet 2 of 2)**

Failure condition	Treatment	Disposition
Interstate restriction (INTER = N in table OCCINFO for carrier)	CACE	CAC in error announcement
Intrastate restriction (INTRAS = N in table OCCINFO for carrier)	CACE	CAC in error announcement
International restriction (INTNTL = N in table OCCINFO for carrier)	CACE	CAC in error announcement
AD1 dialed (AD = N in table OCCINFO for carrier)	CACE	CAC in error announcement

This feature updates the translation verification (TRAVER) tool to reflect the changed Equal Access treatments. The TRAVER, used with the trace option, indicates the reason for failed carrier checks. For example, the reason "This carrier does not handle inter-LATA traffic" can appear. Then TRAVER displays a lookup of the treatment in table TMTCNTL. The TRAVER, used with the no trace option, indicates the treatment route for failed calls.

Carrier identification code expansion

A three-digit code identifies each carrier. The three-digit code is the carrier identification code (CIC). An FGD carrier can have a maximum of 970 CICs assigned. An FGD carrier can have only 970 CICs. This feature does not use CICs in the series 10X, 15X and 16X.

This feature package expands the number of CICs to assign to 10 000. This expansion prepares for the expected decrease of available CICs. The format of the carrier access code (CAC) increases from 10XXX to 101XXXX. The CAC is the dialing sequence used to access the carrier. The XXX and XXXX are the CICs. This feature package supports the CIC expansion for LEAS calls.

LATA Equal Access System (continued)

The change from three- to four-digit CICs occurs in three phases. The description of these phases appears in the following table.

Conversion phases to implement four-digit CICs

Conversion period	Correct CACs	CACs that are not correct	Number of CICs available
Current	10XXX	1010X 1015X 1016X	970
Permissive (part 1)	10XXX 1010XXX	1010X 1015X 1016X	970
(part 2)	10XXX 1010XXX 1015XXX 1016XXX	1010X 1015X 1016X	2970
Final	101XXXX	10XXX	10 000

In the first part of the permissive period, the LEAS can process CACs of the form 10XXX and 1010XXX. The addition of a leading zero expands the three-digit CIC assigned to each carrier to four digits. In this period, CACs of the form 1010X, 1015X, 1016X, 1015XXX, and 1016XXX are not assigned. If the subscriber dials a code that is not assigned, the system sends the call to treatment.

In the second part of the permissive period, the assignment of CACs of the form 1015XXX and 1016XXX occurs. The assignment of CACs of the form 1010X, 1015X, and 1016X does not occur. This condition helps the LEAS distinguish between three- and four-digit CICs. The third and fourth digits in the CIC appear as 10, 15, or 16. When this condition occurs, the LEAS records that the subscriber dials a four-digit CIC. The LEAS records other sequences as a three-digit CIC.

In the final period, the LEAS accepts only four-digit CICs. The system sends a call with a three-digit CIC to treatment. These changes are transparent to subscribers that use the PIC to complete inter-exchange calls.

LATA Equal Access System (continued)

Implementing four-digit CICs in a LEAS

The LEAS must be able to receive three-digit CICs from EAEOs that are not converted and four-digit CICs from converted EAEOs. This condition applies during the permissive period. The LEAS must not receive both three- and four-digit CICs on the same trunk. The conversion to four-digit CICs occurs one trunk group at a time.

Table CICSIZE4 contains the trunk groups that use four-digit CICs. The system records trunk groups that do not appear in this table as three-digit CICs. When the LEAS receives a CIC, the LEAS verifies that table CICSIZE4 contains the trunk group. If the LEAS receives a three-digit CIC from the subscriber, the LEAS adds a leading zero before outpulsing. If the LEAS receives a four-digit CIC that table CICSIZE4 does not contain, the LEAS can produce DFIL147. The LEAS produces log DFIL147 if the leading digit is not zero.

For calls that the system routed to an IEC or INC, LEAS transmits three- or four-digit CICs that are converted. The number of digits in transmission depends on if table CICSIZE4 contains the trunk group.

When four-digit CIC conversion completes, all trunks at the LEAS carry four-digit CICs. Table CICSIZE4 is not a requirement. The system does not consult table CICSIZE4 during translation. Set the value of office parameter EA_TAB_CICSIZE4_OBSOLETE to Y to specify that table CICSIZE4 is not a requirement.

Implementing the permissive dialing phase

The actions to provide the permissive dialing phase of the CIC expansion appear in the following procedure.

At your location:

- 1 Add tuples to the standard pretranslator to translate the seven-digit CACs.
- 2 Set office parameter LEAS_FOUR_DIGIT_CIC_STATUS to PERMISSIVE.
- 3 Add the trunk name to table CICSIZE4 for the trunk groups that carry four-digit CICs.

A tuple added to subtable STDPRTCT.STDPRT appears in the following table. This example expands CIC 123 to 0123.

LATA Equal Access System (continued)

MAP example for table STDPRTCT.STDPRT

Current	080123	080123					
entry	T NP 6	OFRT	202	6	6	NONE	
New	0800123	0800123					
entry	T NP 7	OFRT	202	7	7	NONE	

Implementing the final dialing phase

The actions that are requirements to implement the final dialing phase of the CIC expansion appear in the following procedure.

At your current location:

- 1 Make sure that table OCCINFO contains all four-digit CICs.
- 2 Change the standard pretranslator in table STDPRTCT to translate seven-digit CACs.
- 3 Set office parameter LEAS_FOUR_DIGIT_CIC_STATUS to FOURDIG.
- 4 Revise table CICSIZE4 to add the trunk groups that carry four-digit CICs. If all trunks can carry four-digit CICs, set office parameter EA_TAB_CICSIZE4_OBSOLETE to Y. In this example, table CICSIZE4 does not require data entry.

A tuple added to subtable STDPRTCT.STDPRT appears in the following table. This example expands CIC 222 to 0222.

MAP example for table subtable STDPRTCT.STDPRT

Current	080222	080222					
entry	T NP 6	OFRT	202	6	6	NONE	
New	0800222	0800222					
entry	T NP 7	OFRT	202	7	7	NONE	

Result of the CIC expansion

The expansion of the CIC reduces the number of digits in a LEAS call by two digits. The maximum number of digits in a LEAS call is 22. This number of digits includes the KP and ST digits.

Interchangeable NPAs for LEAS (feature AN0304)

Without this feature, the maximum number of NPAs allowed for a LEAS AT is 160. This limit maximum number is 160 because the format of the NPAs is N0/1X. The N has a value of 2 to 9. The X has a value of 0 to 9.

LATA Equal Access System (continued)

This feature changes the format of the NPA to increase the number of NPAs allowed. The format of the NPAs is NXX. The N has a value of 2 to 9. The X has a value of 0 to 9. The accepted NPAs range from 200 to 999 for a total of 800 NPAs.

Translations table flow

The LATA Equal Access System translation process appears in the following flowchart.

LATA Equal Access System (continued)

The SS7 calls arrive in the LEAS AT on IT trunks. If the SS7 call does not include the TNS parameter of the IAM, the call is an intra-LATA call. The LEAS AT does not handle this call. The LEAS AT determines the IEC to which the system routes the call if the TNS parameter is available. The TNS parameter must contain a CIC that matches the CIC in office parameter LEAS_SS7_CIC. The description of the translations appears in the following section.

If the TNS parameter does not contain a CIC that matches, the EAEO determines the IEC to which the call routes. The description of these translations appears in "Translations for IEC calls where the EAEO determines the IEC."

Translations for IEC calls where the LEAS determines the IEC

The LEAS AT determines to which IEC the call routes if the carrier selection parameter equals 00000001 or 00000011. See the following table for carrier selection values. The office parameter LEAS_SS7_ACTIVE must equal Y. For other conditions, the system sends the call to treatment.

Carrier selection parameter

Value	Description
00000000	No indication The call is an 800 call and the system searched the E800 database at the EAEO, or the caller dialed 950-XXXX. The system blocks the call and sends the call to treatment.
00000001	CIC presubscribed, not dialed by caller The LEAS AT determines the IEC to which the call routes. The system generates call code 110 for this call.
00000010	CIC presubscribed, entered by subscriber The subscriber enters the CIC received in the TNS parameter. The CIC equals LEAS_SS7_CIC. The system blocks the call and sends the call to treatment.
00000011	CIC presubscribed, a dialing indication is not present The LEAS AT determines the IEC to which the call routes. The system generates a call code 110 for this call.
00000100	CIC not presubscribed, entered by subscriber The subscriber enters the CIC received in the TNS parameter and equals LEAS_SS7_CIC. The system blocks the call and sends the call to treatment.

LATA Equal Access System (continued)

The CLLI of the incoming trunk group and the NPA-NXX of the calling number can access table TRKLATA. The digits 000 can be the NPA-NXX. Table TRKLATA provides the name of the LATA for the originating line. The charge number parameter can be the ANI digits instead of the calling party number. This event occurs so that the LEAS database is the same for MF and SS7 trunks.

The AT handles the call as a LEAS call if field LEASTRNK in table TRKLATA is Y. If field LEASTRNK is N and the call is a LEAS call, the system sends the call to treatment.

The originating LATA name and the called party number are used to access table LATAOLA. This table determines if the call is inter-LATA or intra-LATA.

If the call is inter-LATA, table DNPIC supplies the PIC. If the call is intra-LATA, table DNLPIA supplies the PIC. The DN provides access to these tables. If an entry for the DN is not available, the default PIC in table TRKLATA can access these tables. If table TRKLATA does not contain a default PIC, the system generates a log. The system generates a log when tables DNPIC and DNLPIA do not contain the entry for the DN. The system sends the call to the treatment that table TRKLATA specifies.

The system can translate an intra-LATA call as an intra-LATA non-IEC call. The system translates the call as intra-LATA non-IEC call if table DNLPIA contains an entry for the call. The system produces call code 006.

For other conditions, the system translates the call as follows :

- If LEAS_FOUR_DIGIT_CIC_STATUS equals THREEDIG, the system translates the call as 10XXX. If the system receives four-digit CIC, the system truncates the first digit of the CIC.
- If LEAS_FOUR_DIGIT_CIC_STATUS equals PERMISSIVE, the system translates the call as 10XXX or 101XXXX. If the system receives a three-digit call, the system translates the call as 10XXX. If the system receives a four-digit call, the system translates the call as 10XXXX.
- If LEAS_FOUR_DIGIT_CIC_STATUS equals FOURDIG, the system translates the call as 101XXXX. If the system receives a three-digit CIC, the system adds a zero in the first position of the CIC (0XXX).

The PIC or the LPIC can index table OCCINFO to determine the value of the CIC (XXXX).

LATA Equal Access System (continued)

The LEAS AT determines the IEC for PIC calls if the end office uses SS7 signaling.

Translations for IEC calls where the EAEO determines the IEC

The EAEO can determine the IEC to which the system routes the call. This event occurs if the CIC in the TNS parameter does not equal the CIC that office parameter LEAS_SS7_CIC defines. If the office parameter LEAS_SS7_ACTIVE equals Y, the system translates the call. The system translates the call according to the description that appears in the following paragraphs. If the parameter does not equal Y, LEAS handling does not occur.

If the carrier selection parameter does not equal 000000100, the system translates the call as a standard 0ZZXXX/1NXXXX call. See the following table for the carrier selection parameter. The system can generate a call code 110 if table TRKLATA contains specified data. The system generates the code if table TRKLATA contains the CLLI of the incoming trunk and the NPA-NXX of the calling number. The digits 000 can serve as the NPA-NXX.

If the carrier selection parameter equals 000000100, the subscriber dialed a 10XXX call. See the following table for the carrier selection parameter. The CLLI of the incoming trunk group and the NPA-NXX of the calling number provide access to table TRKLATA.

Carrier selection parameter (Sheet 1 of 2)

Value	Description
00000000	No indication The call is an 800 call and the system searched the E800 database at the EAEO, or the caller dialed 950-XXXX. The LEAS AT translates and handles the call as a standard IEC call. The LEAS AT does not handle PIC administration. If table TRKLATA contains an entry, the system generates a call code 110.
00000001	CIC presubscribed, not dialed by caller The EAEO determines the IEC to which the system routes the call. The LEAS AT translates and handles the call as a standard IEC call. The system generates a call code 110 for this call if table TRKLATA contains an entry.
00000010	CIC presubscribed, entered by subscriber The EAEO determines the IEC to which the system routes the call. The LEAS AT translates and handles the call as a standard IEC call. The system generates a call code 110 for this call if table TRKLATA contains an entry.

LATA Equal Access System (continued)**Carrier selection parameter (Sheet 2 of 2)**

Value	Description
00000011	CIC presubscribed, no dialing indication The EAEO determines the IEC to which the system routes the call. The LEAS AT translates and handles the call as a standard IEC call. The system generates a call code 110 for this call if table TRKLATA contains an entry.
00000100	CIC not presubscribed, entered by subscriber The EAEO determines the IEC to which the system routes the call. The system checks table DNPIC to determine if the CIC that the subscriber specified denied service to the subscriber. The CTD field in table DNPIC contains the CIC. If field LEASTRNK in table TRKLATA is Y, the system checks field CHOICE. The system generates a call code 110 for this call if table TRKLATA contains an entry.

If table TRKLATA does not contain an entry for the CLLI/NPA-NXX combination, the system translates the call as a standard 0ZZXXX/1NXXXX call. For other conditions, the system generates a call code 110. If the LEASTRNK field in table TRKLATA is N, the system translates the call as a standard 0ZZXXX/1NXXXX call. If the LEASTRNK field in table TRKLATA is Y, the ANI digits index table DNPIC. The charge number parameter provides the ANI digits. If the LEASTRNK field in table TRKLATA is not Y, the system generates a log and sends the call to treatment.

If field LEASTR NK in table TRKLATA contains an entry, the system sends the call to treatment. You must set the CHOICE field to N. The system sends the call to treatment if the CIC the subscriber specified denied service to the subscriber. The CTD field in table DNPIC contains the CIC.

Data in field LEASTR NK in table TRKLATA identifies the trunk as a LEAS trunk. The system adds 10 or 101 plus the CIC at the beginning of the called number. The CIC is XXX or XXXX. This addition to the called number allows the system to translate the call with the current LEAS datafill. The office parameter LEAS_FOUR_DIGIT_CIC_STATUS and the type of CIC received determine the CIC added to the called number. A description of the CIC selection appears in the following paragraphs.

If LEAS_FOUR_DIGIT_CIC_STATUS equals THREEDIG, the system adds 10XXX. The system sends the call to treatment if LEAS_FOUR_DIGIT_CIC_STATUS equals THREEDIG and the system receives a four-digit CIC. The first digit of the four-digit CIC is not zero.

LATA Equal Access System (continued)

If LEAS_FOUR_DIGIT_CIC_STATUS equals PERMISSIVE, the system adds 10XXX or 101XXXX. The value of NETWORK_ID_PLAN determines the value added to the called number. The NETWORK_ID_PLAN is a THREE_DIGIT_CIC or FOUR_DIGIT_CIC.

If LEAS_FOUR_DIGIT_CIC_STATUS equals FOURDIG, the system adds 101XXXX. If the system receives a three-digit CIC, the system adds a zero in the first position of the CIC (0XXX).

Datafilling feature AN0342

To datafill feature AN0342, prepare the end offices to interface with the LEAS AT. Prepare the LEAS AT to handle SS7 calls. A description of how to enter data for feature AN0342 appears in the following procedures.

Preparing an SS7 EAEO to interface with a LEAS AT

At your current location:

- 1 Define a LEAS pseudo-carrier in the SS7 EAEO as a standard carrier that uses TR-NWT-000394 SS7 signaling. Use a CIC that is different from any real IEC. If the end offices in the LATA and the LEAS AT cannot support four-digit CICs, use a three-digit CIC.
- 2 Prepare downstream billing to ignore billing records that contain the CIC of the LEAS pseudo-carrier in the IEC/INC PREFIX field.
- 3 Make sure that all lines in the office subscribe to the LEAS pseudo-carrier.
If the SS7 EAEO is a DMS-10 switch, each line must subscribe separately to the LEAS pseudo-carrier. The system can subscribe new thousand groups to the LEAS pseudo-carrier when table THOUGRP allocates these groups.
If the SS7 EAEO is a DMS-100 switch, set the office parameter DEFAULT_CARRIER_OR_TREAT in table OFCENG to CXXX. The XXX is the LEAS carrier name defined in table OCCNAME. This method does not require the LEAS pseudo-carrier assignment to each line in the office.
If DEFAULT_CARRIER_OR_TREAT is set to CXXX in table OFCENG, the system must route all traffic over IT trunks to the AT.
- 4 The intra-LATA PIC can be a requirement. If this condition occurs, make sure all lines in the office have the intra-LATA PIC set to the LEAS pseudo-carrier.

The EAEOs that connect to the LEAS AT must be fully functional SS7 EAEOs. The datafill to support incoming MF CAMA/operator calls in the LEAS AT must be available. A description of how to prepare the LEAS AT for incoming SS7 calls appears in the following procedure.

LATA Equal Access System (continued)

Preparing a LEAS AT for incoming SS7 calls

- 1 Make sure a standard SS7 IT trunk carries SS7 LEAS traffic from the end office.
- 2 Enter a separate four-digit CIC that is less than 1000 (0XXX) in office parameter LEAS_SS7_CIC in table OFCENG.
- 3 Set office parameter LEAS_SS7_ACTIVE to Y.
- 4 Enter a specified CLLI NPA-NXX combination in table TRKLATA. Set the LEASTRNK field to Y for calls that require LEAS handling. Specify the call as a call that handles a DEFAULT carrier or a treatment.

Set LEASTRNK to Y for calls that do not require LEAS handling and cause the system to generate a call code 110.

To specify the preceding values for all calls received over a specified trunk group, enter 000 in the NPA-NXX field.
- 5 Make sure that each PIC in table PICNAME has an associated 10XXX or 101XXXX entry in subtable STDPRT.

Limits

The following limits apply to LATA Equal Access System:

- The LEAS does not support the following functions:
 - AMA billing call code 111, the inter-LATA wide area telephone service (WATS) station detail
 - AMA billing call code 114, the inter-LATA WATS, billing number
 - AMA billing call code 117, the inter-LATA Datapath

The system does not generate call code 120 if the call comes over a TOPS trunk group. Call code 120 is originating overflow counts for ATC trunks. The system does not generate A, B, C, or D records for long duration calls over TOPS trunk groups.

- Each subscriber limits carrier toll denial to three carriers.
- The SC TRAVER handling supports incoming SC trunks and normal Bellcore signaling. The SC TRAVER does not support incoming TOPS trunks or AMR signaling. If the parameters entered do not conform to normal Bellcore signaling, the TRAVER does not provide the expected results.
- The AF1453 affects SC trunks incoming to LEAS ATs without TOPS from non-EAEOs. The end offices cannot outpulse ANI information digits that indicate coin, hotel, and coinless public lines.
- If the signaling is AMR5, this feature does not support the lookup in table SPLANILN.

LATA Equal Access System (continued)

- Before this BCS, an EA selector used with 10XXX or 950-WXXX dialing on a non-LEAS TOPS trunk produced a SWERR indication. The SWERR indication identifies the datafill error. A SWERR is not a correct datafill error indicator. The system generates log DFIL149 when a caller uses the EA selector through a non-LEAS TOPS trunk. The caller uses the EA selector to attempt a 10XXX or 950-WXXX call. The system generates this log when table TOPEATRK contains a TOPS trunk that originates from a non-conforming end office. The value of field DNLOOK in table TOPEATRK is Y.
- The LEAS supports AD1 (10XXX + #). The LEAS does not support AD2 (10XXX + SC1/SC2) and AD3 (SC1/SC2).
- The support operating system editor does not support editing large bulk data modification order files that are greater than 5000 records.
- All tuples in a bulk data modification order file have the same PIC and the same value for the CHOICE field. The user cannot supply a value for the CTD field of the DNPIC tuple. The feature always supplies the default value N.
- An operator identifies subscribers of multiparty lines that the non-EAEO cannot identify. The operator assigns each subscriber a different PIC, CTD, and different CHOICE fields for each party.
- Lines with a special billing number share PIC, CTD, and CHOICE data with other lines that have the same billing number. The conversion of the received calling digits to the special billing number requires the following datafill:
 - The SC trunks require the entry of data in table BILLCODE.
 - The TOPS trunks require the entry of data in tables TOPSBC, SPLDNID, and FXDNMAP.
- The first member of a multiline hunt group has an assigned DN. The system always uses the LEAS data from the first member of the group for calls from these lines.
- The LEAS does not support OA calls on SS7 trunks.
- The LEAS on SS7 does not support FGB 950-XXXX calls to the IEC. The end office must separate this type of traffic to route over non-SS7 trunks.
- The TR-NWT-00394 does not define OA call procedures. The LEAS on SS7 does not support ONI calls. The ONI calls at the end office must use non-SS7 trunks. The system sends ANI Fail calls to treatment.
- Feature AN0342 does not support hotel and special screening calls, like coinless public calls.

LATA Equal Access System (continued)

Interactions

The description of the interactions between LATA Equal Access System and other functionalities appears in the following paragraphs.

Corridor and privilege calls

Corridor and privilege calls are inter-LATA calls that use operating company facilities to complete. For corridor calls, the operating company can compete as a normal IEC. The system generates call code 006 and uses non-EA or FGC signaling.

Privilege calls are like corridor calls. The operating company normally completes the privilege call. The operating company does not complete the privilege call if the subscriber dials the 10XXX digits of an IEC. A limited number of inter-LATA NPA-NXX codes allow corridor and privilege calls. A description of these codes appear in table LATA XLA.

The LEAS AT can receive the following types of corridor and privilege calls:

- The AT in the TR-NWT-000317 format can receive an IAM message. This condition can occur when the system dials a 10XXX call. This condition can occur when the end office performs PIC administration.
- The LEAS AT receives an IAM in the TR-NWT-000394 format. The CIC received equals the CIC defined in LEAS_SS7_CIC. The carrier defined when indexing to table DNPIC occurs, must be the telephone company that carries the call. The ACCESS field must contain OTC in table OCCINFO. The system routes the call as a normal 1+10 call if the EATYPE field in table LATA XLA equals CORRIDOR OR PRIVILEGE. The system generates a call code 006.
- LATA Equal Access System interacts with feature ISUP Intermediate Tandem (IMT), AF7127.

Activation/deactivation by the end user

The LATA Equal Access System does not require activation or deactivation by the end user.

Billing

The EAEO provides Equal Access originating billing in a local automatic message accounting (LAMA) environment. The LEAS performs Equal Access-like Equal Access functions for non-EAEOs. Billing functions must occur at the AT.

The LEAS allows the DMS-200 AT to generate originating access charge and subscriber billing records in Bellcore format for LEAS calls. The LEAS

LATA Equal Access System (continued)

supports call codes 110, 119, 120, 121, and 251, and correct call codes with 47XX series structure codes.

These calls arrive over SC and TOPS trunkgroups. The billing for these calls occurs at the LEAS AT. The billing uses CAMA for SC trunk groups and the TOPS biller for TOPS trunk groups.

Without LEAS, an AT can provide the following codes:

- call code 119, terminating access charge billing, call code 119, when an Equal Access call terminates in the LATA
- call code 121, terminating access charge billing for Equal Access Datapath calls
- call code 120, originating overflow counts for ATC trunk groups

The LEAS provides inter-LATA station paid (call code 110) records for calls over SC trunk groups. The LEAS provides the associated DMS-100 supported structure codes for calls over SC trunk groups. The associated DMS-100 supported structure codes are 625 inter-LATA and 627 inter-LATA, long duration. Long duration calls over TOPS trunk groups do not have an associated structure code.

The LEAS package does not support the following call codes:

- 111 - inter-LATA OUTWATS station detail
- 114 - inter-LATA OUTWATS billing number
- 117 - inter-LATA Datapath

The system bills these calls with structure code 625 over SC trunk groups. The system cannot determine specified call attributes required by billing at the AT because CAMA billing occurs at a DMS-200 office.

Billing calls over TOPS trunk groups

Equal Access calls that the system routes over TOPS trunk groups to an AT generate the following codes:

- call code 251
- structure code 734, an access record
- call code 006 with the 47XX series structure codes. These structure codes are a billing record.

The CAMABILL option in table TOPEACAR determines the codes that the call generates. The LEAS calls that arrive over the TOPS trunk groups create call code 110, structure code 625. These calls do not stop at a TOPS position.

LATA Equal Access System (continued)

A mechanized calling card service or automatic coin toll service do not process these calls. The TOPEACAR option CAMABILL does not affect this process.

Billing calls over SS7 IT trunks

Calls incoming on SS7 IT trunks and entered correctly in table TRKLATA generate a call code 110. These calls generate call code 110 if office parameter LEAS_SS7_ACTIVE equals Y.

Station Message Detail Recording

The LATA Equal Access System does not affect Station Message Detail Recording.

Datafilling office parameters

The office parameters determine wink timeout values and wink duration. The LEAS does not create these parameters. A description of the parameters appears in this document. The value settings of these parameters affect signaling at the LEAS AT.

Office parameters help the operating company prepare office-dependent data for the switching unit. The office parameters used by LATA Equal Access

LATA Equal Access System (continued)

System appear in the following table. See *Office Parameters Reference Manual* for additional information about office parameters.

Office parameters by LATA Equal Access System (Sheet 1 of 2)

Table name	Parameter name	Explanation and action
OFCENG	EA_TAB_CICSIZE4_OBSOLETE	This office parameter specifies if table CICSIZE4 is a requirement. Set this parameter to N during the permissive phase of the CIC expansion. During this phase, table CICSIZE4 contains trunk groups with 4-digit CICs. After the conversion of all CICs to 4 digits, set this parameter to Y. Table CICSIZE4 is not in use when this parameter is Y.
OFCENG	LEAS_FOUR_DIGIT_CIC_STATUS	<p>This parameter indicates the transitional phases of the CIC expansion. The values are:</p> <ul style="list-style-type: none"> • THREEDIG (initial state). The 3-digit CICs (CACs of the form 10XXX) are correct. • PERMISSIVE (transitional phase). The 3- and 4-digit CICs (CACs of the form 10XXX, 1010XXX, 1015XXX, and 1016XXX) are correct. • FOURDIG (final phase). The 4-digit CICs are correct. <p>With BCS35, you must not perform a restart when you make changes.</p>
OFCENG	LEAS_SS7_CIC	This parameter specifies if LEAS translations must determine the inter-exchange carrier to use. Enter a correct four-digit value. The carrier identification code (CIC) in the transit network selector (TNS) parameter of the initial address message (IAM) can equal the value of this parameter. If the IAM equals the value of the parameter, the LEAS determines the inter-exchange to use.

LATA Equal Access System (continued)

Office parameters by LATA Equal Access System (Sheet 2 of 2)

Table name	Parameter name	Explanation and action
OFCSTD	EAE0_REC_1ST_PRE_WK_TIME	This parameter specifies the time from 1 to 255 of the first pre-wink delay associated with outpulsing from an EAE0. This parameter specifies the time in intervals of 160 ms. The default is 100 (16 s).
OFCSTD	EAE0_REC_2ND_PRE_WK_TIME	This parameter specifies the time from 1 to 255, of the second pre-wink delay associated with outpulsing from an EAE0. This parameter specifies the time in intervals of 160 ms. The default is 175 (28 s).
OFCSTD	EA_REC_MAX_WK_TIME	This parameter specifies the maximum time for wink recognition. The maximum time ranges from 1 to 255. This parameter specifies the time in intervals of 160 ms.
OFCSTD	REC_MIN_WK_TIME	This parameter specifies the minimum time for wink recognition. The minimum time ranges from 1 to 255. This parameter specifies the time in intervals of 10 ms. The default is 10.

Datafill sequence

The tables that require datafill to activate the LATA Equal Access System appear in the following table. The tables appear in the correct entry order.

Note: The tables for a LEAS AT that does not provide TOPS appear in this chapter. See TOPS documentation in the 297-2271, 297-2281, and 297-2291 layers for additional information. The TOPS documentation describes how to enter data in a LEAS AT that provides TOPS.

Datafill requirements for LATA Equal Access System (Sheet 1 of 4)

Table	Purpose of table
OFCENG	Office Engineering. This table contains data on engineering parameters for the office. See "Datafilling office parameters" for how LATA Equal Access System affects office parameters.
OFCSTD	Standard Office Parameter. This table contains data on standard parameters for the office. See "Datafilling office parameters" for how LATA Equal Access System affects office parameters.

LATA Equal Access System (continued)

Datafill requirements for LATA Equal Access System (Sheet 2 of 4)

Table	Purpose of table
OCCNAME	Table OCCNAME (other common carrier name) identifies the connected carriers. This table sets the spelling standard for other tables that require the carrier name.
OCCINFO	Table OCCINFO (other common carrier information) defines the attributes for the carriers that serve a DMS switch. This table screens calls for carrier compatibility.
HNPACONT	Table HNPACONT (HNPA code subtables) identifies the home or serving NPAs and the service translation schemes (STS).
HNPACONT. HNPACODE	Subtable HNPACONT.HNPACODE (home NPA code) specifies the route, table, or treatment to which translation must route. This subtable specifies the route, table or treatment in each NPA or STS that table HNPACONT defines.
STDPRTCT	Table STDPRTCT (standard pretranslator control) identifies the name of each standard pretranslator subtable that the operating company defines.
STDPRTCT. STDPRT	Subtable STDPRTCT.STDPRT (standard pretranslator) is the first table indexed by the received leading digits. This condition applies when the originating line attribute or trunk specifies a pretranslator name.
LATANAME	Table LATANAME (LATA name) identifies the names of the LATAs that the DMS switch serves.
TRKGRP (SC)	Table TRKGRP (SC) (SuperCAMA trunk group) defines characteristics for incoming and two-way CAMA trunk groups. These trunk groups are requirements in a toll or combined local/toll office.
BILLCODE	Table BILLCODE (billing code) provides information for the following codes: <ul style="list-style-type: none"> • each NNX central office code • special billing code • WATS originating code <p>These codes can originate DDD calls over incoming North American 5 or CAMA trunk groups.</p>
OFRT	Tables other than the home NPA code subtable, HNPACONT.HNPACODE, or the foreign NPA code subtable, FNPACONT.FNPACODE, reference route lists. These route lists are in table OFRT (office route).

LATA Equal Access System (continued)**Datafill requirements for LATA Equal Access System (Sheet 3 of 4)**

Table	Purpose of table
CLSVSCRC	<p>Table CLSVSCRC (class of service screening control) is available to allow the arrangement of the switch for screening. The system screens the switch by the following codes:</p> <ul style="list-style-type: none"> • NPA code • class of service • type of call • digits dialed
TMTCNTL	Table TMTCNTL (treatment codes) provides route lists for a preset list of treatments.
OCCRDIG	Table OCCRDIG (other common carrier regional digit) provides the regional code to outpulse to the INC for calls to an NPA. This event occurs for calls to an NPA in World Zone 1 outside the continental United States.
LATAOLA	Table LATAOLA (Equal Access LATA translation) defines the attributes of domestic calls as inter-LATA or intra-LATA, interstate or intrastate.
PICNAME	Table PICNAME, the primary inter-LATA carrier name, provides the names of the carriers that serve the DMS switch.
DNPIC	Table DNPIC, the directory number primary inter-LATA carrier, provides the DNs of PICs.
SPLANILN	<p>Table SPLANILN (special automatic number identification line) contains the DNs of the following:</p> <ul style="list-style-type: none"> • coin • hotel • coinless public • restricted coin lines <p>Table SPLANILN identifies the line types to the non-TOPS LEAS.</p>
TRKLATA	Table TRKLATA (trunk LATA) allows an operating company to determine the originating LATA of a call.
FXDNMAP	Table FXDNMAP (foreign exchange directory number map) maps the foreign exchange (FX) line numbers to the actual DNs. The system receives the FX line numbers from hotels or restricted stations. Billing uses the FX line numbers.

LATA Equal Access System (continued)

Datafill requirements for LATA Equal Access System (Sheet 4 of 4)

Table	Purpose of table
EASAC	Table EASAC (Equal Access service access codes) allows the operating company to specify the N0X and N1X codes. The system must treat these codes as SACs.
CICSIZE4	Table CICSIZE4 (carrier identification codes with 4 digits) identifies trunk groups with 4-digit CICs. This table is in use during the CIC expansion transitional phase.

Datafilling table OCCNAME

Datafill for LATA Equal Access System for table OCCNAME appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table OCCNAME

Field	Subfield or refinement	Entry	Explanation and action
OCCNAME		Carrier name	Other common carrier name. Enter the carrier name or a 1- to 16-character alphanumeric abbreviation of the carrier name. You can enter the reserved carrier name USE_PREVIOUS if the system must use the generic recursive pretranslator.

Datafill example for table OCCNAME

Datafill for table OCCNAME appears in the following example.

MAP example for table OCCNAME

OCCNAME

C111

Datafilling table OCCINFO

Table OCCINFO defines the attributes for carriers that serve the AT. Table OCCINFO screens calls for carrier compatibility. Table OCCINFO can allow the system to send international traffic only to carriers that can handle this traffic.

LATA Equal Access System (continued)

Datafill for LATA Equal Access System for table OCCINFO appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table OCCINFO (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
CARRNAME		Carrier name	Carrier name. Enter the carrier name or a 1- to 16-character alphanumeric abbreviation of the carrier name. Table OCCNAME defines the carrier name. This table must have a tuple with the carrier name NILC to handle subscribers that want a null PIC.
CARRNUM		0000 to 9999	Carrier number. Enter the CIC from 0000 to 9999. The CIC is equal to the XXXX digits in the Equal Access prefixes, 101XXXX or 950-WXXX. Note 1: Only 256 entries by office can occur. Note 2: The value N is in the range of values. The value N is not a correct entry for this field.
ACCESS		NONE, INTERIM, EAP, OTC, TRANS, FGC	Access arrangement. Enter one of the following access types that a carrier accepts to handle a call: <ul style="list-style-type: none"> • NONE no access • INTERIM interim dialing over FGD signaling • EAP EAP dialing over FGD signaling • OTC FGC dialing over FGC signaling (local billing) • TRANS both interim and EAP dialing over FGD signaling • FGC FGC dialing over FGC signaling (FGD billing)

LATA Equal Access System (continued)

Datafilling table OCCINFO (Sheet 2 of 5)

Field	Subfield or refinement	Entry	Explanation and action
			<p>Note 1: This field must be set to EAP, INTERIM, TRANS, or FGC to allow the EACARR OM group to record OM data. If the ACCESS field is set to NONE, the EACARR registers do not increase.</p> <p>Note 2: This field must be set to NONE for the NILC tuple.</p>
ORIGCARR		Y or N	Original carrier. This field specifies the carrier as original or duplicate. This event occurs when more than one carrier has the same carrier number in field CARRNUM. One carrier of a group of carriers with the same CARRNUM can be the original carrier. Enter Y if the carrier is the original carrier. Enter N if the carrier is not the original carrier. The default is N.
INTER		Y or N	Inter-LATA. Enter Y if the carrier can handle inter-LATA traffic. Enter N if the carrier cannot handle inter-LATA traffic.
INTNTL		Y or N	International. Enter Y if the carrier can handle international traffic. Enter N if the carrier cannot handle international traffic.
INTRA		Y or N	Intra-LATA. Enter Y if the carrier can handle intra-LATA traffic. Enter N if the carrier cannot handle intra-LATA traffic.
ANI		Y or N	Automatic number identification. Enter Y if the carrier requires ANI digits sent with the called number. Enter N if the carrier does not require ANI digits with the called number.
FANI		Y or N	Flexible ANI. Enter Y if the carrier can receive flexible ANI information digits, and not standard ANI information digits. Enter N if the carrier cannot receive these information digits.
ONISCRN		Y or N	Operator number identification screening. Enter Y if ONI traffic requires screening by an operator or CAMA position before outpulsing to the carrier can occur. Enter N if screening is not a requirement.

LATA Equal Access System (continued)

Datafilling table OCCINFO (Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
AD1		Y or N	Abbreviated dialing number one. Enter Y if abbreviated dialing provides access to the carrier. Enter N if abbreviated dialing does not provide access to the carrier.
OVERLAP			Overlap. Not in use with LEAS.
INTERS		Y or N	Inter-state. Enter Y if the carrier can handle traffic between states. Enter N if the carrier cannot handle this traffic.
INTRAS		Y or N	Intra-state. Enter Y if the carrier can handle traffic in the same state. Enter N if the carrier cannot handle this traffic.
TERMREC		Record length	Terminating access record. Enter the length, LONG or SHORT of the terminating access record produced for the carrier. The default value is SHORT. Note: The system produces access records when the OCCTERM option in table AMAOPTS is set to ON.
OCCSEPNO		0 to 127	Other common carrier separation number. Enter the separation number for the carrier in the Traffic Separations Measurement System. This number ranges from 0 to 12.
OPSIG		FGRPC, NONE	Operator signaling. Enter the type of operator signaling that the carrier provides. Enter FGRPC for FGD carriers that require FGC operator signaling. Enter NONE for all other FGD carriers. The system ignores this entry for FGC carriers.
PICIND		Y or N	Presubscription indication. Enter Y if the carrier chooses to receive the presubscription indicator. Enter N if the carrier does not choose this indicator. Each entry in table OCCINFO must contain data in this field.

LATA Equal Access System (continued)

Datafilling table OCCINFO (Sheet 4 of 5)

Field	Subfield or refinement	Entry	Explanation and action
NOA950		Y or N	<p>Nature of address indicator. Enter Y to indicate that the nature of address indicator in the calling party number parameter is set to 1111110. This binary value indicates that the call is a network specified 950+ call from one of the following:</p> <ul style="list-style-type: none"> • public station • hotel/motel line • non-EAEO <p>Enter N to indicate that the nature of address indicator in the calling party number parameter is set to the normal value.</p> <p>Note: The default value of N does not affect the current operation of the switch.</p>
INCCPN		Y or N	<p>Include calling party number. Enter N. This entry indicates that the removal of the calling party number parameter must occur from any IAM sent to this carrier. If the removal of the calling party parameter is not a requirement, enter Y. This value is the default value for other conditions.</p>

LATA Equal Access System (continued)

Datafilling table OCCINFO (Sheet 5 of 5)

Field	Subfield or refinement	Entry	Explanation and action
CTDOA		Y or N	Carrier toll deny operator assisted. Enter Y to block OA calls to this carrier when the subscriber has the CTD line option applied for this carrier. If you do not want to block OA calls to this carrier, enter N. The N value is the default value for other conditions.
CRMCRA		Y or N	<p>Circuit reservation and acknowledgement messages. Enter Y if the following conditions occur:</p> <ul style="list-style-type: none"> The system sends a CRM from an AT to an IEC on FGD calls outgoing over CCS7 ATC trunk groups. The AT must receive a CRA message from the IEC on FGD calls incoming to the AT. This event occurs after the system sends the CRM. This event occurs on MF IT or SC trunks. <p>Enter N if these conditions do not occur.</p>

Datafill example for table OCCINFO

Datafill for table OCCINFO appears in the following example.

MAP example for table OCCINFO

```

CARRNAME CARRNUM ACCESS INTER INTNTL INTRA ANI FANI
ONISCRN AD1 OVERLAP INTERS INTRAS TERMREC OCCSEPNO OPSIG
PICIND NOA950 INCCPN DTMFIND OPSERV CACBLOCK CTDOA CMCMON
SCRNWATS CRMCRA ATPINCL INTRAOPR

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```

C111      111  EAP      Y      Y      N      Y      N      N  Y
  Y      Y      Y      LONG  O  FGRPC      Y      N
      N  N      N      N      N      N      N      Y
      N      N

```

LATA Equal Access System (continued)

Datafilling table HNPACONT

Datafill for LATA Equal Access System for table HNPACONT appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table HNPACONT

Field	Subfield or refinement	Entry	Explanation and action
NPA		3-digit SNPA or STA code	<p>Serving translation scheme. Enter the three-digit SNPA or STS code.</p> <p>Note: An HNPA or SNPA must have 1 or 0 as the middle digit. You must enter an HNPA or SNPA in one of the first 16 positions.</p> <p>The following data and tables can use SNPAs:</p> <ul style="list-style-type: none"> • line data • POTS virtual facility group (VFG) data • private branch exchange (PBX) trunk data • table DN • table WRDN • table THOUGRP <p>You can enter STS codes other than SNPA in any position. You can reserve space in the first 16 positions of table HNPACONT. This space allows you to add SNPAs after the initial entry of data. To reserve this space, you must add dummy SNPAs before you enter STSs other than SNPA.</p>
MAXRTE		2	<p>Number of route references. Enter 2 for the quantity of route reference numbers. The system extends this field automatically to the highest route index in subtable HNPACONT.RTEREF. This index ranges from 1 to 1023.</p>
NOAMBIGC		0 to 159	<p>Number of ambiguous codes. Enter the number of ambiguous codes that are requirements. This number ranges from 0 to 159.</p>

Datafill example for table HNPACONT

Datafill for table HNPACONT appears in the following example. Table HNPACONT must contain datafill for digits 911 to allow routing to the

LATA Equal Access System (continued)

operating company for 911 emergency calls. All 10XXX+0+911 or 0+911 calls route to the operating company operator system.

MAP example for table HNPACONT

NPA	MAXRTE	NOAMBIGC	RTREF	HNPACODE	ATTRIB	RTEMAP
407	809	8	(32)	(1)	(0)	(0)

Datafilling table HNPACONT.HNPACODE

Datafill for LATA Equal Access System for table HNPACONT.HNPACODE appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table HNPACONT.HNPACODE

Field	Subfield or refinement	Entry	Explanation and action
FROMDIGS		From digits	From digits. Enter a numeric string where the leading three digits are an office code in the home NPA. This number can be a single code. This number can be the first code in a block of codes that follow in series. The codes in this block have the same input data.
TODIGS		To digits	To digits. If field FROMDIGS is for a single code, enter the same single code as in FROMDIGS. Field FROMDIGS can be the first number of a block of numbers that follow in series. If this condition occurs, enter the last number in the block.
CDRRTMT		see subfields	Code type, route reference and treatment. This field contains the following subfields.
	CD	LRTE	Code type. Enter LRTE for local route.
	RR	1 to 1023	Route reference index. Enter the route reference index number associated with this SNPA. This number ranges from 1 to 1023.

LATA Equal Access System (continued)

Datfill example for table HNPACONT.HNPACODE

Datfill for table HNPACONT.HNPACODE appears in the following example.

MAP example for table HNPACONT.HNPACODE

FROMDIGS	TODIGS	CDRRTMT
022	022 TTC	1

Datfilling table STDPRTCT

Datfill for LATA Equal Access System for table STDPRTCT appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datfilling table STDPRTCT

Field	Subfield or refinement	Entry	Explanation and action
EXTPRTNM		Standard pretranslator subtable name	External standard pretranslator subtable name. Enter the name that the operating company defines for the standard pretranslator subtable. The ISUP trunks automatically use standard pretranslator name C7PT on test calls in offices with ISUP capability.

Datfill example for table STDPRTCT

Datfill for table STDPRTCT appears in the following example.

MAP example for table STDPRTCT

EXTPRTNM	STDPRT	AMAPRT
POT1	(1)	(1)

LATA Equal Access System (continued)

Datafilling table STDPRTCT.STDPRT

Subtable STDPRTCT.STDPRT is the first table that the system indexes by the received leading digits. The system indexes this table when the originating line attribute from table LINEATTR or trunk from table TRKGRP specifies a pretranslator name.

Datafill for LATA Equal Access System for table STDPRTCT.STDPRT appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table STDPRTCT.STDPRT (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
FROMDIGS		From digits	From digits. Enter the digits the system must translate. If the entry is a block of numbers that follow in series, enter the first number in the block.
TODIGS		To digits	To digits. If FROMDIGS is a block of numbers that follow in series, enter the last number in the block. If this condition does not occur, this field equals FROMDIGS.
PRETRTE		see subfields	Pretranslation route. For Equal Access calls, this field contains the following subfields.
	PRERTSEL	EA	Pretranslator route selector. Enter EA, the pretranslator route selector for Equal Access calls.
	TYPCALL	DD, NP, OA	Type of call. Enter the type of call. The type of call is DD, NP (no prefix), or OA. Note: The subfield TYPCALL must be set to DD to allow call billing to occur.
	NOPREDIG	0 to 7	Number of prefix digits. Enter the number of prefix digits. These digits range from 0 to 7.
	XLA_INFO	see subfield	Equal Access translation information. This subfield contains subfield XLATYPE.

LATA Equal Access System (continued)

Datafilling table STDPRTCT.STDPRT (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	XLATYPE	N, P, T	<p>Equal Access translation type. Enter one of the following values:</p> <ul style="list-style-type: none"> • N when additional digit translation or screening is not a requirement. You must specify a route must in subfield RTEAREA. • P when additional pretranslation is a requirement. You must enter a pretranslator subtable name in subfield PRTNM. • T when additional pretranslation is not a requirement. Subfield TRANSYS determines how translation proceeds.
	PRTNM	Pretranslator subtable name	Pretranslator subtable name. Enter the name of the pretranslator subtable to which translation routes for pretranslation of the digits that remain. This field appears when XLATYPE = P.
	TRANSYS	NA, IN, NO	<p>Translation system</p> <p>Enter one of the following values:</p> <ul style="list-style-type: none"> • NA when translation must proceed to North American digit translations and screening. • IN when translation must proceed to international translations. • NO when additional translation or screening is not a requirement. This field appears when XLATYPE = T.
	CARRNAME	Carrier name	Carrier name. Enter the name of the carrier to which the system offers the call. Table OCCNAME defines the carrier. If the carrier is a generic recursive tuple, enter USE_PREVIOUS.

LATA Equal Access System (continued)

Datafilling table STDPRTCT.STDPRT (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	RTEAREA	see subfield	Route area. This field contains subfield RTEPRSNT.
	RTEPRSNT	Y or N	Route present. Enter Y to enter data in the following fields. Enter N if the entry of data is not a requirement.
	EXTRTEID	see subfields	External route ID. This subfield contains subfields TABID and KEY.
	TABID	OFRT, OFR2, OFR3, OFR4	Table identifier. Enter an office route table name (OFRT, OFR2, OFR3, or OFR4).
	KEY	0 to 1023	Index. Enter the office route index (0 to 1023) to which the system routes the translation.
	MINDIGSR	1 to 18	Minimum digits received. Enter the minimum number of digits the system must collect before the system routes the call. The minimum number of digits can range from 1 to 18.
	MAXDIGSR	1 to 24	Maximum digits received. Enter the maximum number of digits the system must collect before the system routes the call. The maximum number of digits ranges from 1 to 24.
OCS		Y	Overlap carrier selection. This field can be set to Y. The carrier can have field OVERLAP set to Y in table OCCINFO. If these conditions occur, the call uses OCS. If these conditions do not occur, the system does not use OCS.

Datafill example for table STDPRTCT.STDPRT- SAC using the F selector

Datafill for table STDPRTCT.STDPRT - SAC using the F selector appears in the following example.

LATA Equal Access System (continued)

MAP example for subtable STDPRTCT.STDPRT

FROMDIGS	TODIGS	PRETRTE
163164555	555	
EA DD 0 T NA	OCCTRANS222	N
626	626	
DD 0 T NA	OCCFGC444	N
		EA

Datavill example for table STDPRTCT.STDPRT- incoming SC trunks

Datavill for table STDPRTCT.STDPRT - incoming SC trunks appears in the following example.

MAP example for subtable STDPRTCT.STDPRT - incoming SC trunks

EXTPRTNM	STDPRT	AMAPRT

POT1 (	1)	(1)

Datavill example for subtable STDPRTCT.STDPRT - incoming SC trunks

Datavill for subtable STDPRTCT.STDPRT - incoming SC trunks appears in the following example.

MAP example for table subtable STDPRTCT.STDPRT - incoming SC trunks

EXTPRTNM	STDPRT	AMAPRT

POT1 (	1)	(1)

Datavill example for subtable STDPRTCT.STDPRT - separating OA and DD traffic

Datavill for subtable STDPRTCT.STDPRT - separating OA and DD traffic appears in the following example.

LATA Equal Access System (continued)

MAP example for table subtable STDPRTCT.STDPRT - separating OA and DD traffic

FROMDIGS	TODIGS	PRETRTE
00	00	
EA OA 1 T NO OCCFGC444 Y		OFRT

Datafill example for subtable STDPRTCT.STDPRT - combining OA and DD traffic

Datafill for subtable STDPRTCT.STDPRT - combining OA and DD traffic appears in the following example.

MAP example for subtable STDPRTCT.STDPRT - combining OA and DD traffic

FROMDIGS	TODIGS	PRETRTE
16900	00	
EA OA 1 T NO OCCTRABS222 Y		OFRT 889 2
2 N		
011	011	
TRANS222 N		EA

Datafilling table LATANAME

Datafill for LATA Equal Access System for table LATANAME appears in the following table. The fields that apply to LATA Equal Access System appear

LATA Equal Access System (continued)

in this table. See the data schema section of this document for a description of the other fields.

Datafilling table LATANAME

Field	Subfield or refinement	Entry	Explanation and action
LATANAME		LATA name	LATA name. Enter the 1- to 16-character alphanumeric name of the LATAs used in this office.
LATANUM		000 to 999	LATA number. Enter the LATA number for the LATANAME. This number ranges from 000 to 999.

Datafill example for table LATANAME

Datafill for table LATANAME appears in the following example. The AT uses four LATAs in this example.

MAP example for table LATANAME

LATANAME	LATANUM
L123	123
L456	456
LATA1	789
LATA2	759

Datafilling table TRKGRP (SC)

Datafill for LATA Equal Access System for table TRKGRP (SC) appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table TRKGRP (SC) (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
GRPKEY		see subfield	Group key. This field contains subfield CLLI.
	CLLI	Trunk group code	Common language location identifier. Enter the code for the trunk group in table CLLI.

LATA Equal Access System (continued)

Datafilling table TRKGRP (SC) (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
GRPINFO		see subfields	Variable group data. When GRPTYP is SC, this field contains the following subfields.
	GRPTYP	SC	Group type. Enter SC. SC is the trunk group type.
	TRAFSNO		Traffic separation number Enter the incoming or incoming and outgoing traffic separation number (0-127) assigned to the trunk group. If this separation number is not a requirement, enter 0.
	PADGRP	Pad group name	Pad group. Enter the name of the pad group assigned to the trunk group in table PADDATA.
	NCCLS	OM no circuit class	OM no circuit class. Enter the OM no circuit class to indicate which OM register increases when treatment GNCT occurs. The first value is NCRT: no circuit.
	TRAFCLS	IN, OG, 2W	Traffic usage class. Enter the traffic usage class (IN, OG, or 2W) assigned to the trunk group.

Datafill example for table TRKGRP (SC)

Datafill for table TRKGRP (SC) appears in the following example.

MAP example for table TRKGRP (SC)

```

GRPKEY
                                     GRPINFO
-----
TEST0400
      SC 0 ELO NCRT IC MIDL 919 POT1 NLCA NSCR N NIL
      COMBINED N N 0 3333 ONI 12 NT N N
    
```

Datafilling table BILLCODE

The system uses table BILLCODE to perform CAMA verification for calls incoming on SC trunk groups. During CAMA verification, the NPA-NXX

LATA Equal Access System (continued)

digits in table BILLCODE become part of the calling digits. The NPA-NXX digits overwrite the NXX received with ANI or ONI. The verification process allows conversion to special billing numbers when conversion is a requirement.

Datafill LATA Equal Access System for table BILLCODE appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table BILLCODE (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CLLI		Trunk group code	Common language location identifier. Enter the code assigned to the trunk group in table CLLI.
BILLCODE		Billing codes, 000	<p>Billing code. This field must include the following codes. These codes can originate DDD calls over the trunk group.</p> <ul style="list-style-type: none"> • all central office NXX codes • special billing codes • WATS originating codes <p>Enter 000 for ONI screening.</p>
LCANAME		Local calling area screening subtable name	Local calling area screening table name. Enter the name of the local calling area screening subtable that contains the local codes. Enter this name when screening of local NXX codes is a requirement. If screening of local NXX codes is not a requirement, enter NLCA.
SCRNCL		Class of service screening subtable name, NSCR	Class of service screening table name. Enter the name of the class of service screening subtable assigned to the trunk group. Enter this name when screening by class of service is a requirement. If screening by class of service is not a requirement, enter NSCR. See table CLSVSCRC.

LATA Equal Access System (continued)

Datafilling table BILLCODE (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
ACTUALBC		6-digit billing code	Actual billing code. Enter the actual 6-digit billing code (NPA + NNX) to enter on the AMA tape. Enter 000000 for ONI screening.
CHGCLSS		Charge class, NONE	Charge class. Enter the charge class in the toll entry code table. This table has the billing code assigned. Enter NONE for ONI screening.

Datafill example for table BILLCODE

Datafill for table BILLCODE appears in the following example.

MAP example for table BILLCODE

CLLI					
	BILLCODE	LCANAME	SCRNCL	ACTUALBC	CHGCLSS
<hr/>					
ICAMDCM					
	621	HULL	TCA9	613621	CAMO

LATA Equal Access System (continued)

Datafilling table OFRT

Datafill for LATA Equal Access System for table OFRT appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table OFRT

Field	Subfield or refinement	Entry	Explanation and action
RTESEL		CND	Route selector. Enter CND to specify a condition before routing occurs. If the specified condition occurs, the system follows the instructions of this route element. If the specified condition does not occur, the system ignores the instructions. The system checks the next route element for instructions.
RTELIST		see subfields	Route list. This field contains the following subfields.
	CNDSEL	EA	Condition selector. Enter EA as the type of condition to test.
	EA_CND_RTE	CAC, INTNL, PIC	Condition subselector. Enter one of the following values: <ul style="list-style-type: none"> • CAC for an Equal Access call where the caller dials 10XXX • INTNL for an Equal Access international call • PIC for an Equal Access call

Datafill example for table OFRT

Datafill for table OFRT appears in the following example.

LATA Equal Access System (continued)

MAP example for table OFRT

RTE	RTELIST
1	CND EA CAC SK 3

Datafilling table CLSVSCRC

Datafill for LATA Equal Access System for table CLSVSCRC appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CLSVSCRC

Field	Subfield or refinement	Entry	Explanation and action
NPASCTYP		see subfields	STS screening class and type of call. This field contains the following subfields.
	STS	Serving HNPA	Serving translation scheme. Enter the serving HNPA for a specified trunk group or line attribute.
	SCRNCL	Class of service screening subtable name, CAMA, AMR5	Screening class. Enter the class of service screening subtable name assigned to one of the following: <ul style="list-style-type: none"> • the trunk group • line attribute • CAMA or AMR5 billing code
	TYPCALL	DD, OA, NP	Type of call. Enter the type of call. Correct options are DD, OA, or NP.

Datafill example for table CLSVSCRC

Datafill for table CLSVSCRC appears in the following example.

LATA Equal Access System (continued)

MAP example for table CLSVSCRC

NPASCTYP	NORSLTS		TMTOFRT	CLSVSCR
407	STER DD	2	N	NONE (1)

Datafilling table TMTCNTL

Table TMTCNTL defines the tones, announcements, or states sent to the originator of a call. The system sends the tones, announcements, or states when a treatment code occurs during translation. Datafill for LATA Equal Access System for table TMTCNTL appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table TMTCNTL

Field	Subfield or refinement	Entry	Explanation and action
EXTTMTNM		OFFTREAT	Enter OFFTREAT.
TREATMT		Treatment name	Treatment. Enter the treatment name.
LOG		Y or N	Log. Enter Y to print a trunk or line message 138 when the system routes the translation to a treatment. Enter N if you do not want to print a trunk or line message 138.
FSTRTE		see subfields	First route. This field contains the following subfields:
	FSTRTSEL	T	First route selector. Enter T for the first route selector.
	TABID	Office route table name	Table name. Enter the office route table name.
	KEY	1 to 1023	Key. Enter the index in the office route table that defines the route list for the treatment. The index ranges from 1 to 1023.

Datafill example for table TMTCNTL

Datafill for table TMTCNTL appears in the following example.

LATA Equal Access System (continued)

MAP example for table TMTCNTL

EXTTMTNM	TREAT

OFFTREAT	(137)

Datafill example for subtable TMTCNTL.OFFTREAT

Datafill for subtable TMTCNTL.OFFTREAT appears in the following example. Each EXTTMTNM field in table TMTCNTL contains a specified subtable. Each subtable includes an entry for each correct treatment for the type of origination that corresponds to the subtable.

MAP example for subtable TMTCNTL.OFFTREAT

TREATMT LOG	FSTRTE		

UNDT	Y	T	OFRT 30
PDIL	Y	T	OFRT 25
PSIG	Y	T	OFRT 25
VACT	Y	T	OFRT 28
NCRT	Y	T	OFRT 24
CACE	Y	T	OFRT 50
DACD	Y	T	OFRT 51
D950	Y	T	OFRT 52
N950	Y	T	OFRT 53
NACD	Y	T	OFRT 54
ILRS	Y	T	OFRT 55
IVCC	Y	T	OFRT 56

Datafilling table OCCRDIG

Table OCCRDIG provides the regional code for outpulsing to the INC for calls to an NPA. This NPA is in World Zone 1 and is outside the continental United States. The regional code is a single digit. The digits 01 prefix the regional code. The system writes the code in the generic form 01R. The code follows the CAC during the first stage of outpulsing.

Datafill for LATA Equal Access System for table OCCRDIG appears in the following table. The fields that apply to LATA Equal Access System appear

LATA Equal Access System (continued)

in this table. See the data schema section of this document for a description of the other fields.

Datafilling table OCCRDIG

Field	Subfield or refinement	Entry	Explanation and action
OCCRSNPA		Valid NPA	Other common carrier R digit serving NPA. Enter a correct NPA in World Zone 1 outside the continental United States. You must enter the NPA in table HNPACONT.
OCCRDIG		0, 1, 3, 5, 7, 8, 9,	Other common carrier R digit Enter the digit of the region that contains the NPA defined in field OCCRSNPA. The following digits are correct: <ul style="list-style-type: none"> • 0 reserved NPA • 3 Canada • 5 Mexico • 7 Alaska • 8 Hawaii • 9 Caribbean • The default value is 1.
OUTCNUS		Y or N	Outside continental United States. Enter N or Y to specify if the region that field OCCRDIG defines is outside the continental United States. Enter N if the NPA that field OCCRSNPA defines is reserved and is not in a specified region. The 700, 800, or 900 NPAs are reserved. Enter Y if the NPA defined in field OCCRSNPA is not reserved and is in a specified region outside the continental U.S.

LATA Equal Access System (continued)

Datafill example for table OCCRDIG

Datafill for table OCCRDIG appears in the following example.

MAP example for table OCCRDIG

OCCRSNPA	OCCRDIG	OUTCNUS
403	3	Y

Datafilling table LATAXLA

Datafill for LATA Equal Access System for table LATAXLA appears in the following table. The attributes of domestic calls appear in this table. Domestic calls include inter-LATA or intra-LATA, and interstate or intrastate calls. The system compares these attributes with the attributes of the carriers in table OCCINFO. This comparison determines which carriers must handle the calls. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table LATAXLA (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LATACODE		see subfields	LATA code. This key field contains the following subfields.
	LATANM	LATA name	Calling LATA name. Enter the LATA name. The LATA name appears in table LATANAME.

LATA Equal Access System (continued)

Datafilling table LATA_XLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	DIGITS	1 to 18 digits	<p>Dialed digits. This field contains the digits, from 1 to 18, that you can dial to access the LATA. Enter the digits for which one of the following sets of attributes applies:</p> <ul style="list-style-type: none"> • intra-LATA, interstate • inter-LATA, interstate • inter-LATA, intrastate <p>The DMS switch records that a code that is not in the DIGITS field has the intra-LATA, intrastate attributes. This record is the default entry.</p> <p>The DIGITS field allows the DMS switch to distinguish between NPA and ambiguous codes. This event occurs when the switch determines the call attributes for carrier screening.</p>
LATA		INTER, INTRA	LATA call attribute. Enter INTER or INTRA to define a code as inter-LATA or intra-LATA.
STATE		INTER, INTRA	STATE call attribute. Enter INTER or INTRA to define a code as interstate or intrastate.
EATYPE		STD, CORRIDOR, PRIVILEGE, NON_EA	<p>Equal Access type call. Enter the correct Equal Access call type to identify the call as standard (STD), CORRIDOR, PRIVILEGE, or NON_EA.</p> <p>The system can identify only inter-LATA calls as CORRIDOR or PRIVILEGE. The system can identify only intra-LATA calls as NON_EA.</p>

Datafill example for table LATA_XLA

Datafill for table LATA_XLA appears in the following example.

MAP example for table LATA_XLA

LATACODE	LATA	STATE	EATYPE	
L123	203	INTER	INTER	STD

LATA Equal Access System (continued)

Datafilling table PICNAME

Datafill for LATA Equal Access System for table PICNAME appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table PICNAME

Field	Subfield or refinement	Entry	Explanation and action
PICNAME		PIC name	Carrier name. Enter the correct PIC name as defined in table OCCNAME.

Datafill example for table PICNAME

Datafill for table PICNAME appears in the following example.

MAP example for table PICNAME

PICNAME

NOCAR
CARR1

LATA Equal Access System (continued)

Datafilling table DNPIC

Datafill for LATA Equal Access System for table DNPIC appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table DNPIC

Field	Subfield or refinement	Entry	Explanation and action
DNKEY		Value for the DN	Directory number key. Enter the value for the DN. The DN has the following four parts: <ul style="list-style-type: none"> • an NPA code • an NXX code • two XX codes (line number)
DNPIC		Carrier name	Directory number primary inter-LATA carrier. Enter a carrier name. Table PICNAME contains the carrier name.
CHOICE		Y or N	Choice. Enter Y if the subscriber can use 10XXX dialing. Enter N if the subscriber cannot use 10XXX dialing.
CTD		see subfields	Carrier toll denied. The CTD field contains the following subfields.
	CTDSEL	Y or N	CTD selection. Enter Y if a minimum of one carrier denies service to this subscriber. Enter N if carrier do not deny service to this subscriber. If this feature package is not available, CTDSEL must be N.
	CARRIERS	List of carriers	List of carriers. If CTDSEL = Y, enter one, two, or three carriers that deny service to this subscriber. Enter a dollar sign (\$) after the last carrier name.

Datafill example for table DNPIC

Datafill for table DNPIC appears in the following example.

LATA Equal Access System (continued)

MAP example for table DNPIC

DNKEY	DNPIC	CHOICE	CTD
619 239 11 11	C111	Y	N

Datafilling table SPLANILN

Datafill for LATA Equal Access System for table SPLANILN appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table SPLANILN

Field	Subfield or refinement	Entry	Explanation and action
DNKEY		SNPA and DN of special lines	Directory number key. Enter the SNPA and the DN of each of the special lines.
LINEINFO		COIN, HOT, RSP, RSPCO	Line information. Enter the correct line type that corresponds to the DN of the originating line. The following line types are correct: <ul style="list-style-type: none"> • COIN for coin line • HOT for hotel line • RSP for restricted coinless public line • RSPCO for restricted coin line

Datafill example for table SPLANILN

Datafill for table SPLANILN appears in the following example.

LATA Equal Access System (continued)

MAP example for table SPLANILN

DNKEY		LINEINFO			
613	228	11	89	COIN	
613	228	84	50	HOT	
613	245	65	66	COIN	
613	841	11	11	RSP	
613	841	11	12	RSP	
613	841	11	14	HOT	
613	841	99	99	RSPCO	

Datafilling table TRKLATA

Table TRKLATA uses the incoming trunk group CLLI and calling NPA or NPA-NXX to determine the originating LATA of the call. This table must contain a minimum of one tuple for each incoming trunk that uses the inter-LATA conditional route selector. You must enter an incoming trunk group and associated calling digits in the table. If you do not enter this data, the system treats the call as an intra-LATA call.

Datafill for LATA Equal Access System for table TRKLATA appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table TRKLATA (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
ORIGKEY		see subfields	Originating key. This field contains the following subfields.
	TRUNKNM	Trunk group name	Trunk name. Enter the name of the trunk group. Table CLLI defines the name of the trunk group. A default is not available.
	CLGCODE	NPA or NPA-XXX	Calling code. Enter the NPA or NPA-XXX of the calling number in an incoming call. A default is not available.
ORIGLATA		LATA name	Originating LATA name. Enter the name of the LATA for the originating non-EAEO. Table LATANAME must contain this LATA. A default is not available.

LATA Equal Access System (continued)

Datafilling table TRKLATA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LEASTRNK		see subfields	LEAS trunk. This field indicates if a trunk carries LEAS traffic. This field specifies the default carrier or treatment for that trunk. See subfields LEASTRK and CARRTRMT.
	LEASTRK	Y or N	LEAS trunk selector. Enter Y in LEAS offices for SC trunks. Enter Y if TOPS trunks have field ENDOFFICE in table TOPEATRK set to NCONFORM. Enter N if field ENDOFFICE is not set to NCONFORM.
	CARRTRMT	Y, C, T	Carrier or treatment selector. Enter Y to specify the default disposition for the LEAS trunk group, as a carrier or a treatment. Enter C to indicate carrier. The CARRIER field follows. Enter T to indicate treatment. The TREAT field follows.
CARRIER		Name of IEC or INC	Carrier name. Enter the name of the IEC or INC. Table OCCNAME defines the carrier name.
TREAT		Treatment name	Treatment name. Enter the name of the treatment used as the default disposition. The recommended treatment is DACD. This treatment must tell subscribers to dial 10XXX.

Datafill example for table TRKLATA

Datafill for table TRKLATA appears in the following example.

MAP example for table TRKLATA

ORIGKEY	ORIGLATA	LEASTRNK
ICTOPS1	000	LATA2
		Y C CAR1

LATA Equal Access System (continued)

Datafilling table FXDNMAP

Datafill for LATA Equal Access System for table FXDNMAP appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table FXDNMAP

Field	Subfield or refinement	Entry	Explanation and action
FXNUM		10-digit foreign exchange number	Foreign exchange line number. Enter any correct 10-digit foreign exchange number.
ACTLNUM		10-digit hotel or restricted number	Actual number. Enter any 10-digit hotel or restricted number to which the system bills the call.

Datafill example for table FXDNMAP

Sample datafill for table FXDNMAP appears in the following example.

MAP example for table FXDNMAP

FXNUM	ACTLNUM
8197851416	6133290411

Datafilling table EASAC

The N0/1X codes that the system must treat as SACs appear in table EASAC. The table has one field. This field is the SAC field. You must enter each code that must be a SAC in table EASAC. You can add or delete codes from table EASAC. A tuple cannot change.

Datafill for LATA Equal Access System for table EASAC appears in the following table. The fields that apply to LATA Equal Access System appear

LATA Equal Access System (continued)

in this table. See the data schema section of this document for a description of the other fields.

Datafilling table EASAC

Field	Subfield or refinement	Entry	Explanation and action
SAC		NO/1X code	Service access code. Enter each NO/1X code that the system must treat as a SAC. The N11 codes, like 411, 611, and 911 cannot occur.

Datafill example for table EASAC

Datafill for table EASAC appears in the following example.

MAP example for table EASAC

SAC

800

Datafilling table CICSIZE4

Table CICSIZE4 contains the trunk groups that use four-digit CICs. The system records that trunk groups that do not appear in this table use three-digit CICs. Datafill for LATA Equal Access System for table CICSIZE4 appears in the following table. The fields that apply to LATA Equal Access System appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CICSIZE4

Field	Subfield or refinement	Entry	Explanation and action
TRUNKGRP		Trunk groups	Enter the trunk groups that use a 4-digit CIC. The entry of data in this table occurs during the permissive phase. The office parameter EA_TAB_CICSIZE4_OBSOLETE is set to N during this phase. When this parameter is set to Y, table CICSIZE4 is not in use.

LATA Equal Access System (end)

Datafill example for table CICSIZE4

Datafill for table CICSIZE4 appears in the following example.

MAP example for table CICSIZE4

```
TRUNKGRP
```

```
TGRPX  
TGRPY  
TGRPZ
```

Tools for verifying translations

The TRAVER operates like LEAS translation and routing in a DMS-200 AT. The TRAVER can produce one of the following types of output for a call:

- all translation and routing tables
- all route lists
- tables and route lists

The command parameters in use determine which type of output that the TRAVER produces.

The LEAS handles incoming calls from TOPS and SC trunks. The LEAS TRAVER tool only supports incoming SC call processing.

SERVORD

The LATA Equal Access System does not use SERVORD.

NCEO/LEAS Interface

Ordering codes

Functional group ordering code: LEA00002

Functionality ordering code: not applicable

Release applicability

NCEO/LEAS Interface was introduced in BCS31.

Requirements

To operate, NCEO/LEAS Interface requires MDC Minimum, MDC00001.

Description

This feature package applies to a DMS-100 switch that does not support Equal Access. The Bellcore feature-specific document FSD 20-24-0000 specifies Equal Access. This feature supports outpulsing of all Equal Access call types. This feature supports the call types in the same format as the subscriber dialed the call types. This support allows a DMS-200 LATA Equal Access System (LEAS) office to provide Equal Access services. These services are for the DMS-100 switch.

Operation

This feature package allows a DMS-100 switch to act as a nonconforming end office. The LEAS AT provides Equal Access services to the DMS-100 switch. The feature package uses this configuration. The feature package does not make the DMS-100 switch an EAEO with the NTX186AB software package.

This feature package interacts with feature package NTX186AB. Office parameter EAEO_OFFICE_TYPE must be set correctly. The correct setting allows the feature packages NTX186AB and NTXN12AA to be available at the same time.

Translations table flow

NCEO/LEAS Interface does not affect table flow.

Limits

NCEO/LEAS Interface does not have limits.

Interactions

NCEO/LEAS Interface interacts with feature ISUP Intermediate Tandem (IMT), AF7127.

NCEO/LEAS Interface (end)

Activation/deactivation by the end user

NCEO/LEAS Interface does not require activation or deactivation by the end user.

Billing

NCEO/LEAS Interface does not affect billing.

Station Message Detail Recording

NCEO/LEAS Interface does not affect Station Message Detail Recording.

Datafilling office parameters

The office parameters that NCEO/LEAS Interface uses appear in the following table. For additional information about office parameters refer to *Office Parameters Reference Manual*.

Office parameters by NCEO/LEAS Interface

Table name	Parameter name	Explanation and action
OFCENG	EAO_OFFICE_TYPE	<p>This parameter specifies the level of Equal Access support for end offices. Three levels of support are present:</p> <ul style="list-style-type: none">• CONFORMING Equal Access conforming end office that Bellcore FSD 20-24-0000 defines.• NON_CONFORMING Nonconforming end office with package NTXN12AA that interfaces with a LEAS AT (package NTX710AA).• NON_EQUAL_ACCESS Nonconforming end office that does not have package NTXN12AA.

Datafill sequence

The NCEO/LEAS Interface does not affect datafill sequence.

Tools for verifying translations

The NCEO/LEAS Interface does not use translation verification tools.

SERVORD

The NCEO/LEAS Interface does not use SERVORD.

2 Datafilling Number Portability Service Base

The following chapter describes the Number Portability Service Base, NPS00001, functionality.

Prime Line Select (PLS)

Ordering codes

Functional group ordering code: NPS00001

Functionality ordering code: not applicable

Release applicability

CDN002 and up

Prime Line Select (PLS) was introduced in NA002.

Prerequisites

All the datafill information for this particular functionality is included in this document. However, prerequisite software or hardware may be required for complete implementation.

Description

Prime Line Select (PLS) is a service that enables callers, using the end user's personal number, to reach a PLS end user at more than one potential location. The numbers at which the end user will be tried and the order in which they will be tried are determined by the end user's service profile residing on the ISCP.

The different capabilities of the PLS service are as follows.

Follow-Me

Follow-me allows the end user to have incoming calls routed to a single location. If the call cannot be completed at the follow-me location, the call is optionally routed to the call completion number.

Find-Me

Find-me performs a sequential search for the end user at the numbers listed in the end user's service profile. If the call cannot be completed at one of the find-me locations, the call is optionally routed to the call completion number.

Call Completion

Call Completion allows the end user to specify a number to which calls are to be routed (such as a voice mail location) when either follow-me or find-me cannot establish a connection.

Do Not Disturb

Do Not Disturb allows the end user to have all calls routed directly to a specified call completion location immediately.

Prime Line Select (PLS) (continued)

Force to Call Completion

Force to call completion allows the caller to go directly to the call completion number at any time after the first line has been rung, instead of having to attempt connection at all numbers in the end user's service profile list.

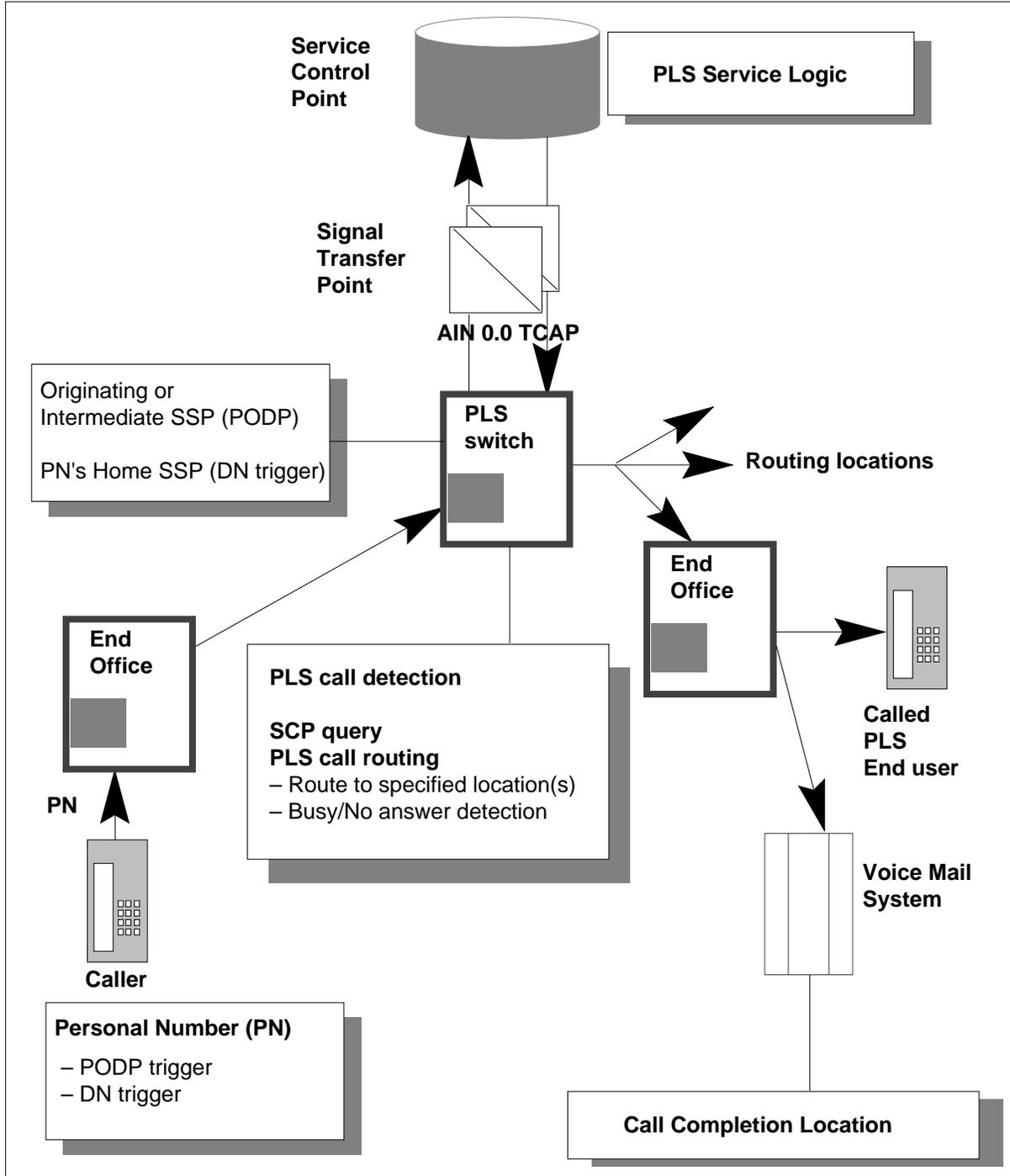
Two types of personal numbers are supported; any valid directory number (DN), or a DN having an identifiable prefix such as a special NPA (numbering plan area) or NPA-NXX (exchange code). An end user can retain the existing DN as a personal number only if it resides on a PLS switch. The existing DN is converted to a virtual one and a new DN is provisioned to terminate the end user's line. A virtual DN is one which is not assigned to a physical line. All personal numbers for PLS are virtual DNs.

Operation

The network architecture for PLS is based on the advanced intelligent network (AIN 0.0) and consists of the PLS service logic residing on SCPs (service control point), and the triggering and routing functionality on SSPs (service switching point) provisioned with AIN 0.0 and PLS. The service logic determines the call routing and call management criteria to be applied to the incoming call.

Prime Line Select (PLS) (continued)

PLS network architecture



Prime Line Select (PLS) (continued)

CCS7 Routing to an SCP

Once a trigger is hit, the SSP launches a standard AIN 0.0 query to the PLS SCP where the the PLS service logic resides to determine the specific call routing requirements for the next leg of the call.

The routing of the TCAP query to the PLS SCP is done through the CCS7 (common channel signaling 7) network. To send the message to the proper address in the network, the following CCS7 tables have to be datafilled correctly.

- C7GTTTYPE - this table defines the various Global Title Translation (GTT) types. The PVNGT tuple is used by PLS.
- C7GTT - this table translates the global title into a CCS7 network address. The PLS digits are datafilled in this table using the PVNGT GTT name. Depending on the configuration of the network, the address can be one the following:
 - point code (PC) only
 - subsystem name (SSN) only
 - PC and SSN
 - PC and GT
- C7LOCSSN - this table maps the local subsystem's names into numbers. Local SSNs (subsystem number) are the ones residing in the local PLS switch. The PVN (private virtual network) SSN which is used for PLS must be present in this table.

Additions to CCS7 tables C7NETSSN, C7RTESET, and C7NETWRK may also be necessary in switches that are not already capable of communicating with SCPs. The requirements are the same as those needed to support a standard AIN 0.0 query and their datafill depends on the CCS7 network configuration.

PLS SSP Call Routing

Once a response has been received and decoded by the SSP and if the response contains at least one routing DN, an attempt to connect to the first DN is made. If there is no routing DN the call is routed to the call completion DN. A check is also made to see if the call has been re-directed more than five times. The following actions then occur.

- The optional PLS-specific announcement followed by audible ringing is played to the caller. This prevents the caller from hearing any call progress

Prime Line Select (PLS) (continued)

tones, such as a busy tone, and hanging up. After routing, the following conditions are monitored to determine the next action to perform.

- Call answer - the call is answered within the specified timeout period.
 - No answer - the call has not been answered within the ring timeout period specified. All timed-out calls which have been routed off the CCS7 network are assumed to be not answered even if they were busy because the SSP cannot detect a busy condition.
 - Network busy - a 'no route to destination' condition has been encountered while the call set-up progressed towards the terminating switch. This condition can only be detected if it occurs on the PLS switch, or when the call attempt is routed over trunks using CCS7/ISDN (integrated services digital network) signaling.
 - End user busy - a user busy condition that is only detected for calls routed on the CCS7 network or terminating on the same switch.
 - Force to call completion detected - the caller pressed the octothorpe key (#), there is a force to call completion indicator for the DN, and there is a receiver attached to the call.
 - Attempt unsuccessful - the switch is unable to connect the call because of translation or routing problems, or because the other end of the outgoing trunk released.
- If the call is answered, the calling and called party are connected together and normal call processing is applied to the call.
 - If a no answer, a network busy, or an attempt unsuccessful condition is encountered, an attempt to connect to the next routing DN is made. If there is no next routing DN, the call is routed to the call completion DN. If there is no call completion DN, final treatment is applied to the call. An attempt unsuccessful condition encountered due to a translation error, including an invalid routing DN, or a routing error, generates a report error containing the standard AIN 0.0 parameter to be sent to the SCP, and a TCAP100 log is generated to print the content of the SCP message, and PLS jumps to the next DN.
 - If an end user busy condition is detected, the call is routed to the call completion DN. If there is no call completion DN, final treatment is applied to the call.
 - If a force to call completion condition is detected the call is routed to the call completion DN.

When attempting to connect to the call completion DN and a network busy, end user busy, or attempt unsuccessful condition is encountered, final treatment is applied to the call.

Prime Line Select (PLS) (continued)

Final treatment is either the final announcement specified in the response from the SCP, or a call processing treatment if no final announcement is specified. The following table lists the call processing treatments applied depending on the condition encountered.

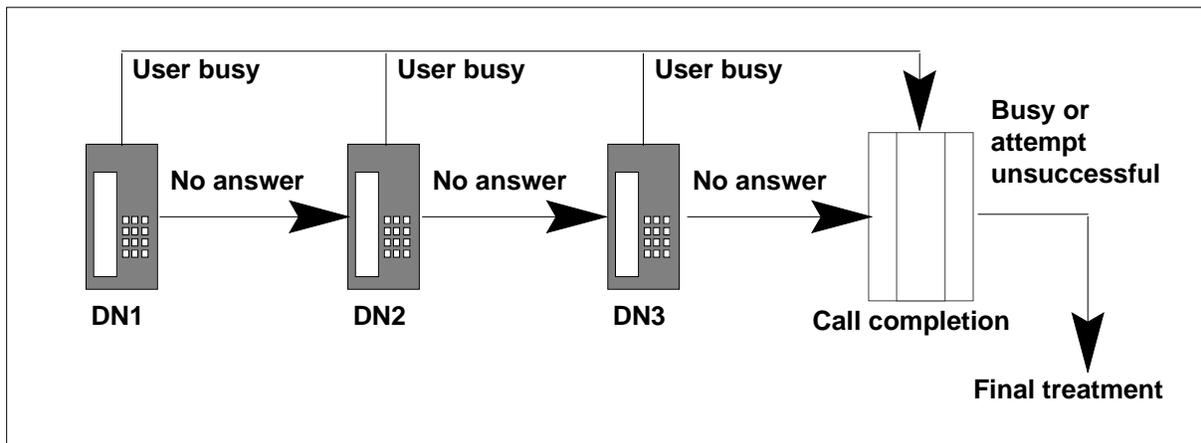
Call processing treatments on final treatment

Condition detected	Call processing treatment
Busy	Busy
No answer	Reorder
Network busy	Reorder
Attempt unsuccessful	Reorder

Routing with 3 Routing DNs and a Call Completion

In the following scenario, if the call encounters no answer at a location, it then attempts the next location. If the call encounters a busy signal at any location, it goes directly to call completion. If call completion is unsuccessful, final treatment is applied.

Routing with 3 Routing DNs and a call completion

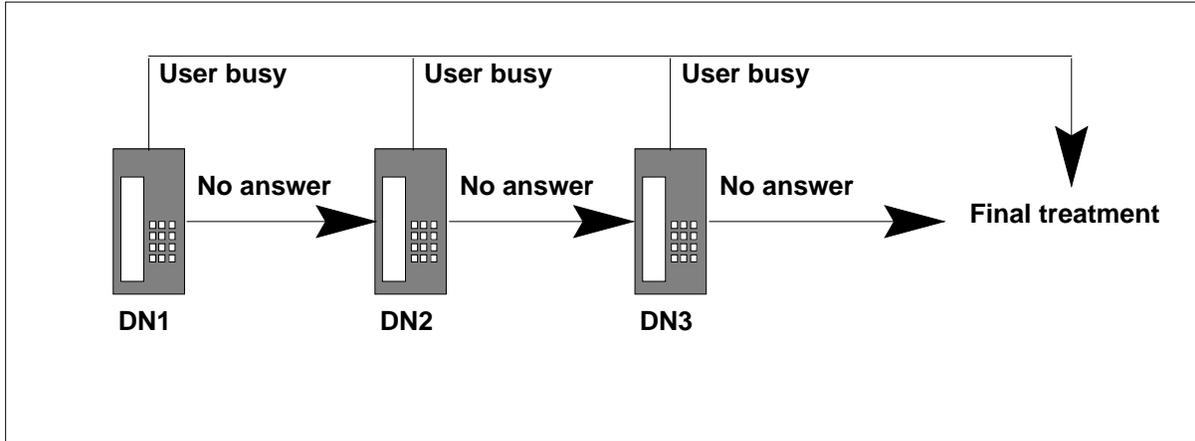


Routing with 3 Routing DNs and a No Call Completion

In the following figure, the call encounters busy signal or no answer at each location and, as there is no call completion available, final treatment is applied. If the call encounters a busy signal at any location, it goes directly to final treatment.

Prime Line Select (PLS) (continued)

Routing with 3 Routing DNs and a No Call Completion



Force to Call Completion

If the caller does not want to wait on the line while the PLS SSP routes the call to locate the called party, the caller may press the octothorpe key "#" to route the call directly to the call completion DN. This function is available only if the force to call completion indicator is present in the routing response for the attempted routing DN.

In order for the octothorpe to be detected a receiver must be attached to the call. If no receiver is available (because the receivers dedicated to PLS through the MAX_NUM_PCM_RCVR office parameter are all busy), the octothorpe is ignored and PLS processes the call as usual.

The Redirecting Number Parameter

Every routing DN has a redirecting number, which for PLS is the end user number. This allows for the prevention of redirection loops and the accurate handling of display phones.

Note: When routing to the call completion DN, if the mailbox ID is present it is used as the redirection number, instead of the PLS end user number.

PLS to ISUP, Call Forward Encountered prior to PLS

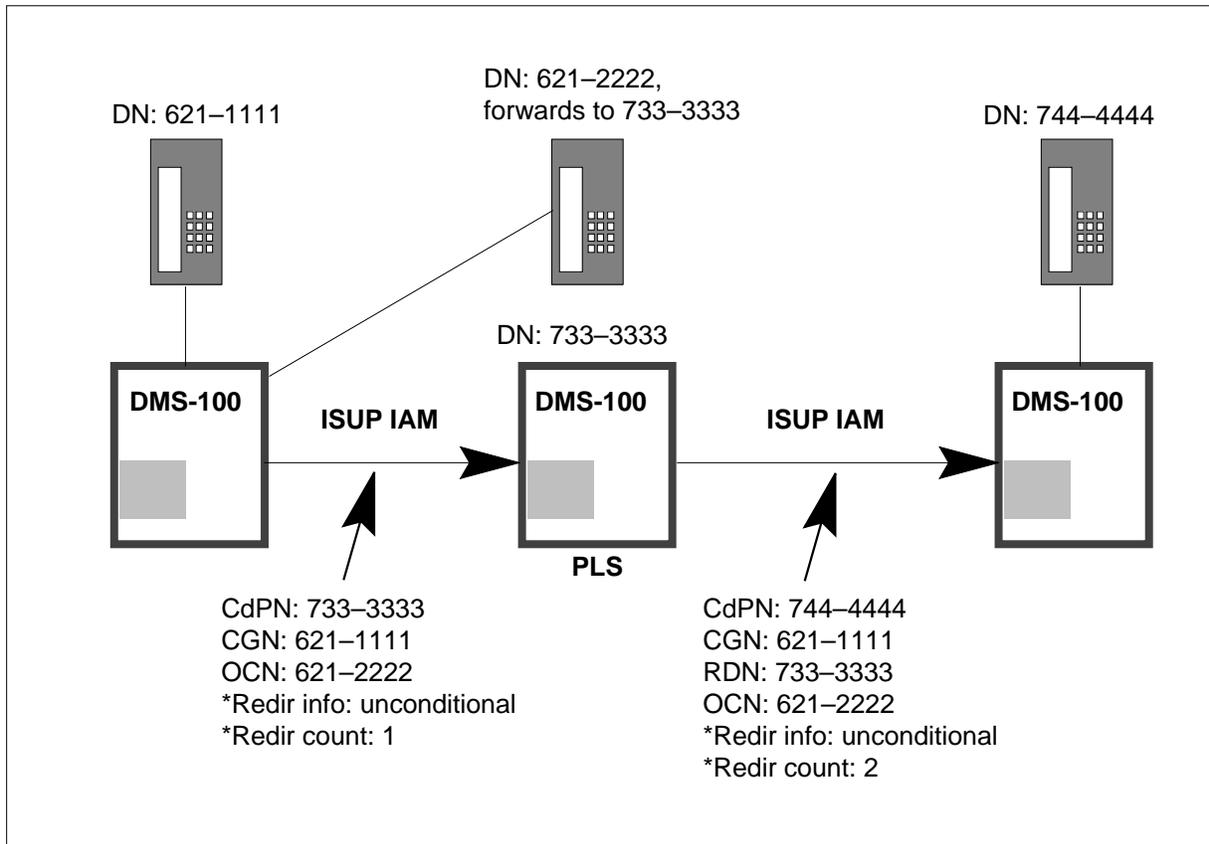
In the following scenario, DN 621-1111 dials 621-2222. 621-2222 is forwarded to PLS number 733-3333.

The call is routed over an ISUP trunk to the switch where the 733-3333 end resides. The OCN conveys the digits that were originally dialed by the user and the redirection counter has a value of 1. This switch translates the called party number which hit the DN trigger with 733-3333 as the redirecting DN and 744-4444 as the first DN to be attempted.

Prime Line Select (PLS) (continued)

PLS then initiates a call attempt by routing to where 744-4444 resides. The redirecting DN is conveyed through the ISUP IAM (initial address message) within the redirecting number parameter, the redirection counter is increased by 1, and the redirecting reason is set to “unconditional”.

PLS to ISUP call forward encountered prior to PLS



Loop Detection

When PLS is invoked, it first checks the redirection counter. If this counter has a value of 5 or greater, PLS exits without initiating a call attempt, and a re-order tone is applied to the caller. This check eliminates the possibility that an endless loop will occur when a PLS number becomes part of a chain involving other PLS numbers or call forwarded numbers.

Note: On inter-switch call scenarios, loop detection only works if an ISUP trunk is being used.

ISUP Signaling

In order to play an announcement to the caller and to detect a call interruption (the caller dialing a digit while waiting for an answer), the network path must

Prime Line Select (PLS) (continued)

be connected in both directions. For most incoming trunks this is done as part of regular call processing, but for ISUP trunks it is accomplished by sending an address complete message (ACM) towards the originating switch. The ACM also stops timer T IAM and contains the following parameters.

ACM parameters

Parameter	Subfield	Value
Message type	n/a	address complete
Backward call indicator	charge indicator	no indication
	called party's status indicator	no indication
	called party's category indicator	ordinary end user
	end-to-end method indicator	from IAM or pass along method
	interworking indicator	no interworking encountered
	IAM segmentation indicator	no indication
	ISUP indicator	ISUP used all the way
	holding indicator	holding not required
	ISDN access indicator	terminating access non-ISDN
	echo control device indicator	incoming half echo control device not included
Optional backward call indicator	SCCP method indicator	no indication
	inband information indicator	inband information or an appropriate pattern
	call forwarding may occur indicator	no indication
	user-network interaction indicator	user-network interaction occurs, cut through in both directions

ACM and CPG messages received from a terminating ISUP address are not propagated to the incoming access in order to preserve the transparency of PLS. This means that the originating switch remains unaware of the multiple locations that were attempted.

When the terminating agent is an ISUP trunk, the ISUP release causes are translated into DMS treatments according to table TMTMAP. From the DMS treatment, PLS decides what action to perform next based on the condition

Prime Line Select (PLS) (continued)

detected. The following table defines the PLS condition detected based on the DMS treatment.

Mapping of DMS treatments to PLS conditions

DMS treatment	Condition detected
Busy line	End user busy
No terminal responding	End user busy
Denied termination	No answer
Generalized no circuit	Network busy
All other treatments	Attempt unsuccessful

ISDN Signaling

The same principles that apply to ISUP signaling also apply to ISDN signaling. A Call Progress message is sent to the incoming ISDN agent to connect the voice path and to stop timer T SETUP. The Progress message contains the following parameters.

Progress message parameters

Parameter	Subfield	Value
Protocol discriminator	n/a	as specified in Q.932
Call reference	n/a	as specified in Q.932
Message type	n/a	as specified in Q.932
Progress indicator	progress description	in-band information or appropriate pattern

Prime Line Select (PLS) (continued)

ISUP Signaling During Announcements

The following table summarizes the signaling required to open a voice path between the caller and the service switch when the caller is not on the same switch as the personal number.

Signaling during PLS announcements

Announcement scenario	Collecting digits?	FWD path required?	ISUP message	Is there billing?
Announcement when attempting a location (no force to call completion)	N	N	ACM containing optional backward call indicator sent before first routing attempt	N
Announcement when attempting a location (with force to call completion)	Y	Y	ACM containing optional backward call indicator sent before first routing attempt	N
Final announcement when end user does not have call completion	N	N	none (ACM sent before first routing attempt)	N
Urgency screening	Y	Y	ANM (transmitted by AIN 0.0)	Y
Do not disturb	N	N	ACM (transmitted by AIN 0.0)	N

SCP Service Logic

PLS SSPs use PLS service logic residing on SCPs. The service logic determines the call routing and call management criteria to be applied to the incoming call. The service logic determines the list of DN's to be attempted by the SSP from the end user's SCP-based service profile.

Datafill procedure

There are several datafill tasks required to implement PLS, described in the following sections.

PLS translation datafill requirements

PLS personal numbers can be provisioned through the AIN 0.0 3/6/10 public office dialing plan (PODP) trigger, or through the AIN 0.0 directory number (DN) trigger.

Prime Line Select (PLS) (continued)

Datafilling PODP triggers

The PODP trigger is used in the originating or intermediate SSPs (the first PLS switch encountered during routing). The trigger detects all DNs that belong to a set of identifiable NPAs or NPA-NXXs known to require PLS SSP routing. There are several variations as follows:

- an identifiable unique NPA for PLS calls. All the phone numbers available under this special NPA are recognized as PLS numbers.
- identifiable sets of NPA-NXXs. All phone numbers included in one of these sets are recognized as PLS numbers.
- unique ten-digit PLS numbers. Although this type of PODP trigger is allowed, the real-time impact is lower if they are provisioned with the DN trigger instead.

For DNs with the special PLS NPA or NPA-NXX, calls originating on a non PLS switch are routed through standard translations to a switch which is equipped with PLS.

For the PODP trigger, an AIN AMA record is always generated if the billing indicator is received.

Translations

PLS translation starts with the Line Attributes (LINEATTR) index specified by the AIN 0.0 PODP or DN trigger. The LINEATTR index points to the tuple in table LINEATTR that contains the PLS line attributes information needed for translations. This index can be an existing one, or in the case of where more flexibility is needed, a new PLS-specific one.

Two screening capabilities are part of PLS translations, Local Call Area Screening (LCASCRCN) and Class of Service Screening (CLSVSCRC). These are not part of AIN 0.0. They are integrated into PLS translations in order to align with standard translations. LCASCRCN screens local calls and is used mainly for implementing the SSP-based billing option. CLSVSCRC can be used to override the route set by translations in some specific call scenarios.

User Interface

Prime Line Select does not affect user interface.

Prime Line Select (PLS) (continued)

Translations table flow

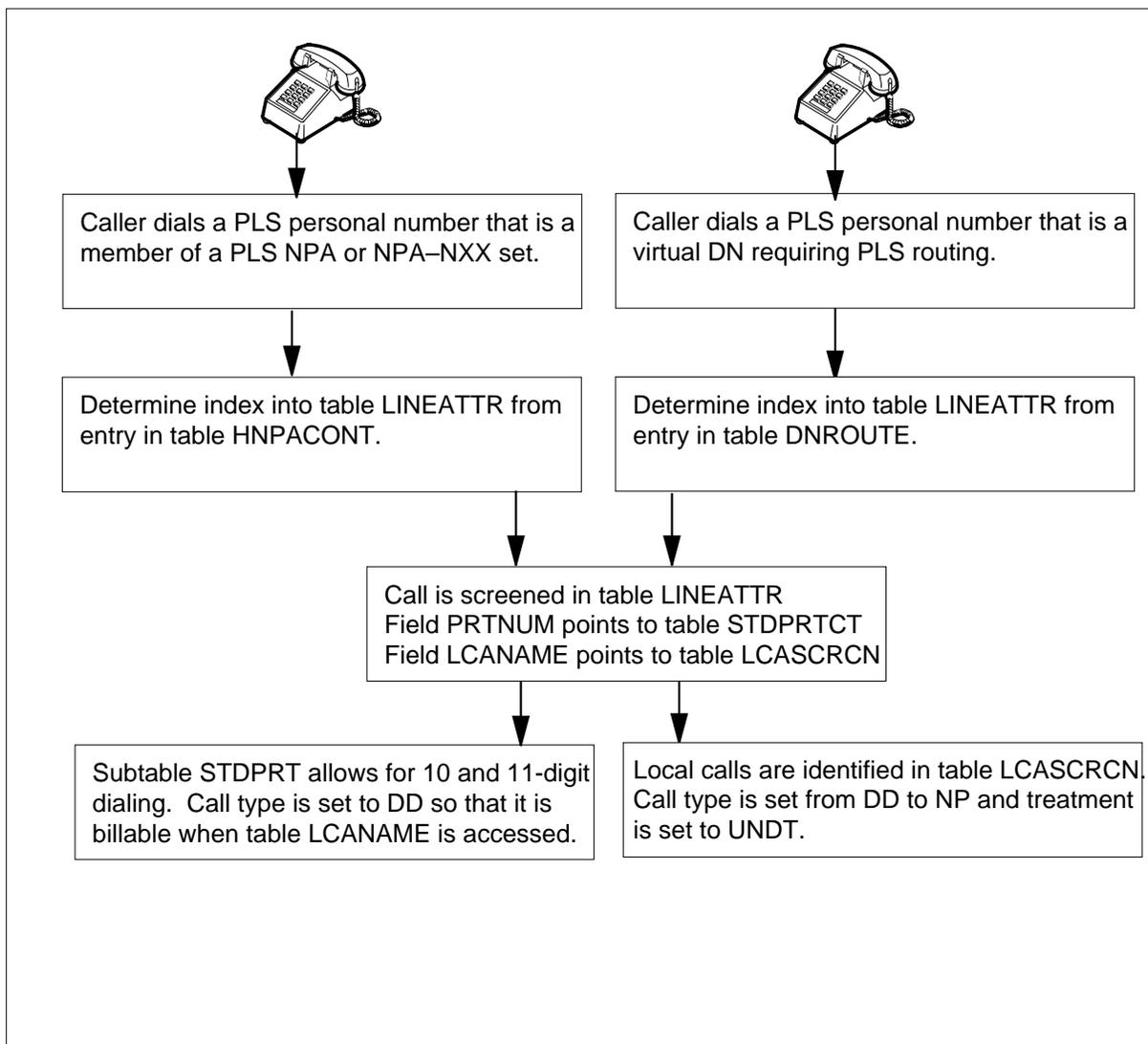
The Prime Line Select (PLS) translations tables are described in the following list:

- Table HNPACONT (Home Numbering Plan Code) contains a list of home numbering plan area code subtables.
- Table DNROUTE (Directory Number Route) contains information for writable DNs in the switch (such as a DN that identifies a route), rather than line equipment numbers (LEN). Table DNROUTE replaces table WRDN.
- Table LINEATTR (Line Attribute) contains line attributes which are assigned to regular lines in table LENLINES and to Meridian stations and attendant consoles in the Meridian Digital Centrex (MDC) translation tables.
- Table STDPRT (Standard Pretranslation) lists the names assigned by the operating company for each of the maximum standard pretranslator subtables.
- Table LCASCRCN (Local Calling Area Screening Control) determines if an AR call from a RES line to a private DN is a long distance call.
- Table PFXTREAT (Prefix Treatment) determines the call treatment to which a call is routed, based on the prefix selector from table LCASCRCN, the type of call from the standard pretranslator, and the local calling area status (local or toll) in subtable LCASCRCN. LCASCR.
- Table CLLI (Common Language Location Identifier) contains the CLASS announcement CLLI which specifies the maximum number of announcement members for all CMS/CLASS applications.
- Table ANNS (Announcements) contains data for analog and digital announcements that are assigned in the switching unit.
- Table ANNSMEM (Announcement Members) defines the circuits that are assigned to the various members of the CLASS announcement group.
- Table DRMUSERS (Digital Recorded Announcement Machine Users) provides denial announcements.
- Table NSCANNS (Network Control System Announcements) provides the capability to map 255 terminating (TERM) and 255 non-terminating (NTERM) announcement identifiers (ANNID) on a number service code (NSCCODE) basis.

The Prime Line Select (PLS) translation process is shown in the flowchart that follows.

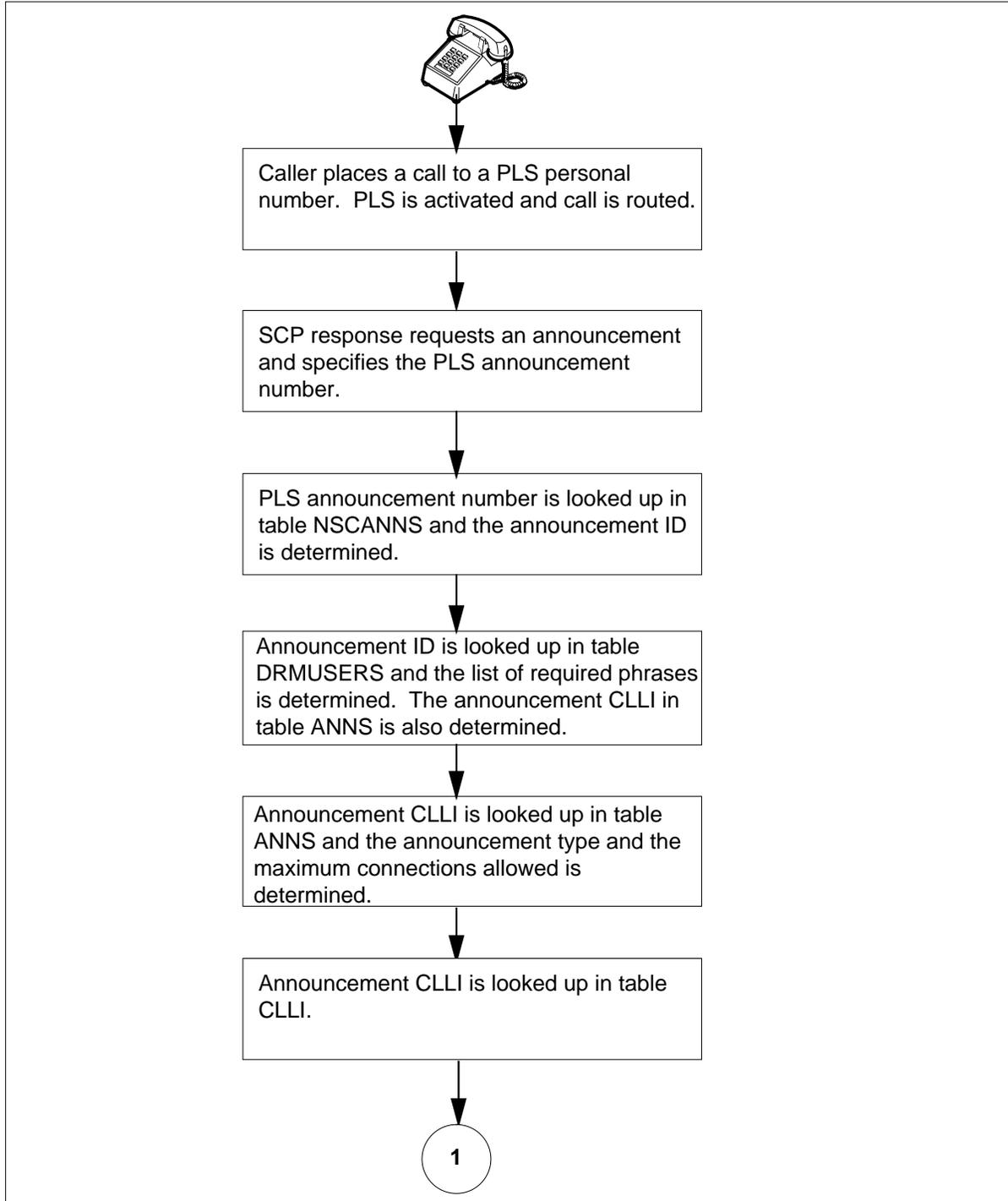
Prime Line Select (PLS) (continued)

Table flow for Prime Line Select (PLS)



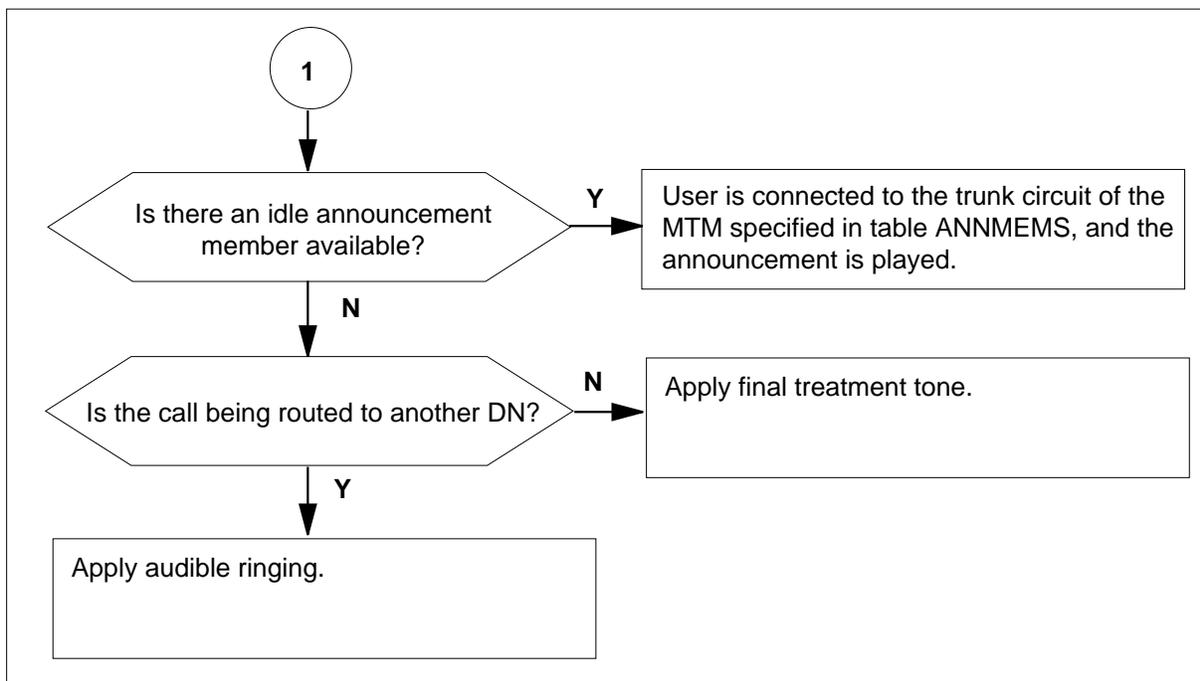
Prime Line Select (PLS) (continued)

Table flow for Prime Line Select (PLS) continued



Prime Line Select (PLS) (continued)

Table flow for Prime Line Select (PLS) continued



The following table lists the datafill content used in the flowchart.

Datafill example for Prime Line Select (PLS) (Sheet 1 of 2)

Datafill table	Example data
HNPACONT	500 500 NSC AIN 10 10 55
DNROUTE	613 621 7777 FEAT DNTRIG NONIBN 55
LINEATTR	55 1FR NONE NT FR01 0 613 PPLS LPLS TOPS 10 NIL NILSFC LATA1 0 NIL NIL 00 N \$
STDPRTCT	PPLS (2) (0) 0 SUBTABLE.STDPRT FROMDIGS TODIGS PRETRTE
LCASCRN	613 LPLS (4) PLS N
PFXTREAT	PLS DD Y NP UNDT
CLLI	AINPLSANN 62 3 PLS_ANNOUNCEMENT
ANNS	AINPLSANN AIN 0 1 0 1
ANNMEMS	AINPLSANN 0 DRAM DRA (0 MTM 14 25) \$

Prime Line Select (PLS) (continued)

Datafill example for Prime Line Select (PLS) (Sheet 2 of 2)

Datafill table	Example data
DRMUSERS	AINPLSANN 1 (SILENCE) (PLSANN1_FRENCH) (PLSANN1_ENGLISH) \$
NCSANNS	PVN NTERM 12 AINPLSANN 3

Limitations and restrictions

The following limitations and restrictions apply to Prime Line Select (PLS):

- ACD (automatic call distribution) and UCD (uniform call distribution) groups
- Automatic Call Back (ACB)
 - ACB enables an end user to make a call to the last station called by the end user. With ACB, the last station called by the end user can be busy or idle, answered or unanswered.
 - This feature does not apply in the context of PLS because ACB does not allow calls to a virtual number and the PLS DNs are virtual. In this situation, the caller will hear an ACB announcement saying that the feature can't be activated.
- Call forward (CFX and CFW)
 - All kinds of call forward are supported by FCR, but a limitation exists regarding the redirection information that can be provided. This is caused by the fact that whenever a location attempt is abandoned (for any reason, like no answer), all information about local redirections is cleared, including redirections that occurred before as well as after FCR initiation. As a consequence, in a call scenario where A calls B, B forwards to a PN, and the first two locations of this PN routes over ISUP, the redirection parameters of the IAM will not be populated identically. The first call attempt will fill the OCN with B's DN, and the RDN with the PN, as expected. However, on the second call

Prime Line Select (PLS) (continued)

attempt, B's redirection information is not available anymore and only the OCN will be populated with the PN.

- Call Transfer (CXF)
 - After a call transfer the same restrictions which apply to a 3WC conference also apply: i.e. the caller will hear the audible ringing supplied by PLS and force to call completion is not available.
- Ring AGain (RAG)
 - The RAG feature allows a caller encountering a busy signal to be notified when the called party becomes idle. If the caller accepts the recall, the original call is automatically redialed.
 - This feature does not apply in the context of PLS because RAG does not allow calls to a virtual number and the PLS numbers are virtual DNs. In this situation the caller will hear a RAG announcement saying that the feature can't be activated.
- Simplified Message Desk Interface (SMDI)
 - PLS supports the SMDI interface but interacts with the redirection parameter in SMDI messages similarly to the following features: KSH, AIN 0.1, LOD, and SCMP. Each of these features, including PLS, overrides the redirection parameter with its mailbox ID.
 - In the SMDI messages, the forwarding-from station DN (the redirection parameter) may be either the original called station DN (default) or the last forwarding station DN (if the LASTFWDN option has been assigned to the SMDI link). In the case that more than one redirecting-type feature is active on the call (e.g., LOD and PLS), there is competition to supply the last redirecting DN.
 - For example, if LOD (hunt group Line Overflow to Directory DN) overflows to a PLS PN, and the PN later terminates on a local voice mail (UCD group), both services will compete to build the redirection parameter of SMDI. If the interaction was provided and if the SMDI link was datafilled to use the first redirection, then the LOD end user would supply the redirection parameter. If the link was datafilled to use the last redirection, then the PLS service would supply the redirection parameter.
 - Currently, PLS will always supply the redirection parameter. This is also the case for KSH, AIN 0.1, LOD, and SCMP.
- Three-way call (3WC)
 - During a 3WC conference, the PLS comfort announcement normally played during routing is stopped. Force to call completion is not

Prime Line Select (PLS) (continued)

available. The two conferees will hear the audible ringing supplied by PLS while waiting for the third conferee to answer.

- For PLS calls terminating on ACD or UCD groups in the same switch, the caller will hear the treatments datafilled against the ACD/UCD group instead of the comfort treatments of PLS. If the ACD/UCD group is busy, a Network Busy condition is detected and the call is transferred to the next location. For more information on Network Busy see the heading "PLS SSP Call Routing" under "Operation". Force to call completion is not available with ACD or UCD groups.
- Office parameter MAX_NUM_PCM_RCVR indicates the number of receivers available for PLS usage. Whenever this limit is reached, no receiver can be attached to a requesting PLS call (the call proceeds normally but without a receiver).
- The PLS service is intended to be deployed on DMS 100 offices only.
- The PLS service can be deployed on DMS 100/200 or 100/200/TOPS offices. However, AIN 0.0 limitations on these types of office are also applicable to PLS, for example:
 - interaction with 800 service
 - interaction with TOPS
 - incoming call on ATC trunks not supported

Note: Some of these limitations may be overcome via use of looparound trunks.

- The number of PLS announcements which can be played simultaneously on an SSP is limited to the number of PLS announcement group members specified in table ANNMEMS.
- The duration of the comfort announcement played to the caller while routing to a location should be shorter than the minimum no-answer time-out. Otherwise, the call can be transferred to the next location while the announcement is still playing.
- Data calls or calls with a bearer capability which is not SPEECH or 3.1 KHz / 7 KHz AUDIO will not receive the comfort treatments (announcement, audible ringing) of PLS. They will not use a receiver because force to call completion is disabled for them. Busy and no-answer conditions are detected.
- Force to call completion is not performed when the current called party is an Attendant Console.
- When an Attendant Console is busy (no more lines are available), the Network Busy condition is detected and the call is transferred to the next

Prime Line Select (PLS) (continued)

location. For more information on Network Busy see the heading "PLS SSP Call Routing" under "Operation".

- PLS does not populate the redirection parameter of PRI. Voice mail systems with a PRI interface can terminate PLS calls only if the call first encounters an ISUP trunk before terminating to the voice mail PRI interface.
- If a receiver could not be attached when routing to one of the locations, PLS prevents the comfort announcement to be played. Instead, it applies audible ringing. This restriction is intended to prevent announcement referring to the "force to call completion" capability to be played when a receiver is not attached.
 - The following lists the cases for which a receiver cannot be attached while routing to a location:
 - There is no receiver available
 - PLS interacts with Three Way Call
- PLS only interworks with the AIN 0.0 3/6/10 PODP trigger and DN trigger. An attempt to invoke PLS from any other AIN 0.0 triggers will be caught by the PLS validation causing the following actions to result:
 - a TCAP100 log is generated on the SSP to print the content of the SCP message
 - the call is sent to the CCS7 application failure treatment
 - as part of the standard AIN 0.0 behavior, a NSCFILIC OM is pegged
- PLS will not play the final announcement if the call terminates on an MF trunk where no time-out value has been specified. The caller will hear audible ringing until he hangs up.

Interactions

The following paragraphs describe the interactions between Prime Line Select (PLS) and other functionalities.

Automatic Call Distribution (ACD)

The ACD feature allows calls to be evenly distributed to a number of ACD stations. If all the stations of the ACD group are busy, the call is put in a queue. When a station becomes idle, the first call waiting in the queue is connected to that station.

When PLS initiates a call to a DN in an ACD group, the call answer event is detected, if the call is answered. If the call is not answered within the PLS no answer timeout, the no answer timeout condition is detected.

Prime Line Select (PLS) (continued)

When PLS is calling an ACD group, the caller will hear the treatment provided by the ACD group (audible ringing, music, announcement, etc.). If the ACD queuing announcement is datafilled to return answer, PLS removes itself from the call. PLS does not provide force to call completion when interacting with ACD.

Note that when the ACD group is in a remote switch, PLS is not aware of its presence and applies its own comfort treatment (announcement, audible ringing). Also, force to call completion is then available.

Automatic Recall (AR)

AR enables an end user to make a call to the last station that called the end user independently of the fact that the call has been answered or not.

PLS is transparent to AR. An AR end user who has been called by PLS will be able to initiate an AR to the caller of the PLS number.

Call Forward Busy (CFB/CFBL)

The CFB/CFBL feature provides the ability to forward an incoming call from a base station to another station when the base station is busy.

If a called DN has CFB/CFBL against it, the CFB/CFBL option works properly, that is, if the line is busy, the call will be forwarded. If it is answered, the call answer event is reported and the call is completed. If the call is not answered within the no answer timeout, the end-user busy condition is detected since PLS knows that the terminating agent is busy. This is only possible if the called party is on the same switch as PLS or if the call has been routed over ISUP or PRI. In all other cases, the no answer condition is detected.

Call Forward Don't Answer (CFD/CFDA)

The CFD/CFDA feature allows the end user to specify a DN to forward calls to when the base station (or dialed DN) does not answer within an end user's specified timeout.

The CFD/CFDA feature is transparent to PLS when one of the DNs in the PLS list has CFD/CFDA against it. There are two possible situations. First, the PLS no answer timer is shorter than the CFD/CFDA timer. In this situation, PLS denies the CFD/CFDA feature. This results in the detection of the PLS no answer condition and the call then goes to the next location. Second, the CFD/CFDA timeout is shorter than the PLS no answer timeout. The call is then forwarded if the forwarded location is idle. The PLS no answer timeout is not reset when the call is forwarded so that if the call is not answered before it expires, a PLS no answer time out is reported. If the call is not forwarded

Prime Line Select (PLS) (continued)

because the forwarded location is busy, the CFD/CFDA base station will keep ringing until the PLS timeout expires.

Call Forward Universal (CFU/CFW)

The CFU/CFW feature allows stations to forward calls to end user-defined locations inside and outside the customer group.

If one of the DNs in the PLS list has CFU/CFW active, it is transparent to PLS. The call is forwarded and if it is answered, it is completed. A no answer condition is detected if the call is not answered within the PLS no answer timeout period.

Call Forwarding (IBN & POTS)

PLS supports more than one kind of call forwarding: Call Forward Universal (CFU/CFW), Call Forward Busy (CFB/CFBL) and Call Forward Don't Answer (CFD/CFDA).

There are two different situations to consider for call forward. In the first situation, a DN is forwarded to a PLS number. This case is identical for every call forward feature supported. It behaves as if the call was originated from any supported agent (e.g. a POTS line). The second situation is when one of the DN in the PLS list is call forwarded. This aspect is specific to each call forward option and it is described under each heading.

To detect loop, PLS uses the same counter as call forward.

Call Pickup (CPU)

The CPU feature allows an end user to pick up calls in a predefined call pickup group by dialing an access code. CPU allows a station to answer calls incoming to another station in the same pickup group.

A CPU end user is able to pick up a call initiated by PLS. The answer condition is detected and the call is completed.

Call Transfer (CXF)

Call Transfer allows a called party to transfer an incoming call to a second called party.

The second called party may be a PLS PN. After the call is transferred, the caller will be given audible ringing while PLS routes the first location. Force to call completion will not be available at this location.

Prime Line Select (PLS) (continued)

If PLS proceeds to a subsequent location after a no-answer time-out and if that location requests an announcement or the detection of force to call completion, then these features will be available.

Calling Number and Name Delivery (CND & CNAMD)

CND is an incoming call service that provides for delivery of the following information to a CND end user set:

- the DN of the calling party in a ten-digit format (NPA-NXX-XXXX)
- the date and time of the incoming call

CNAMD is an incoming call service that delivers the following information to a CNAMD end user set:

- the name of the calling party
- the date and time of the incoming call
- the long distance status of the call

If one or both of these two features are assigned to a DN called by PLS, the end user of the called DN will see the relevant information of the calling party on the display.

Calling Number and Name Delivery Blocking or Enabling (CNAB, CNDB, CNB, CNNB & CNND)

CNAB and CNDB are outgoing call services working on a per call basis. They allow the end user to control the delivery of his or her information (number/name) to a called party by toggling the default number/name suppression of the line. If the delivery of information is suppressed by default, they allow the end user to enable the delivery of his or her number/name to a called party station by entering an access code before dialing the called DN. If the information delivery is allowed by default, the end user can block his or her number/name delivery to a called party station.

CNB is an outgoing call service. CNB enables an end user to block the display of his or her number on the end user set of the called party. CNB is used on an individual call basis and is available to all end users who have the CNDB or CNAB line option.

CNNB is an outgoing call service. CNNB enables an end user to block the display of the number and name information on the end user set of the person being called. CNNB is used on an individual call basis and is available to all end users who have CNDB or CNAB line option.

Prime Line Select (PLS) (continued)

The CNND feature is available to end users who have the CNDB or CNAB line option. CNND allows the end user to deliver both number and name information to the called party, regardless of the permanent number and name suppression status of the line. CNND works on an individual call basis.

An end user to any of these features can initiate a PLS call and the display of the called DN will reflect the service requested by the calling party.

Call Waiting (CWT)

The CWT feature notifies the connected off-hook end user when another call arrives. The end user can place the current party on hold and answer the call that is waiting.

When PLS calls a DN that has CWT against it, the called DN receives the CWT tone and the end user can answer the call. If the end user answers the call, the call answer condition is detected by PLS and the call is completed. If the end user does not answer the call before the no answer timeout, PLS detects an end-user busy condition if the called party is on the same switch as PLS or if the call has been routed over ISUP. In all other cases, PLS detects a no answer condition.

Comfort Tones

The PVN Comfort Tones feature provides audio signals (call progress tones) on originating lines or incoming trunks when an SSP database query is sent for PVN service. When the call originates on a line or an incoming non-Equal Access trunk, the tones begin immediately following the launching of the SCP database query.

When the call originates on an Equal Access trunk, the tones begin after the wink (off-hook signal) has been returned to the originating office.

The tones stop when the network connection to an outgoing trunk or terminating line has been made, or when the call is routed to a service announcement.

Comfort tones are subscribed on a switch-wide, per-service basis. For PVN, each customer group may be exempt from comfort tone generation; in this case callers from that customer group will not be provided with comfort tones even when PVN itself has the option turned on.

The tones are a series of four 30 ms. bursts of high pitch separated by 60 ms. of silence. After the fourth tone, 540 ms. of silence is given before the cycle is repeated.

Prime Line Select (PLS) (continued)

When a call to a PN triggers in an SSP where PVN comfort tones are generated, and the PN is not a member of a comfort-tone-exempt customer group, the comfort tones end when the TCAP response message arrives and PLS is invoked. At this point PLS connects the caller to an announcement or audible ringing.

When PLS attempts termination to a DN which triggers an NSC service subscribing to comfort tones, the caller will again hear comfort tones until the TCAP response message is received. Thus, a caller could hear comfort tones a number of times during a PLS call: during the initial SCP query, and once for each database query on a routing DN. This would occur when a routing DN was either a PN, another DN causing an AIN 0.0 query, or an 800 number (with 800 comfort tone generation in force); and the routing DN triggered in the same SSP as the original PN did.

When PLS attempts routing to a DN which triggers at another SSP, the local terminating agent is a trunk and the caller will not hear comfort tones generated at a remote SSP.

Denied Termination (DTM)

A line with the DTM feature cannot receive any calls; it can only originate calls. If a call attempts to terminate to a line with DTM, the caller receives the denied terminating (DNTR) treatment.

If a PLS call tries to terminate on a DTM line, the no-answer condition is detected immediately by PLS only if the called party is on the same switch as PLS or if the call has been routed over ISUP or PRI.

Distinctive Ringing/Call Waiting (DRCW)

When the DRCW feature is activated for a line, certain terminating calls are identified by a distinctive pattern of alerting: a distinctive ring or if the line is busy, a distinctive call waiting tone. The caller receives a standard audible ringback tone.

Distinctive ringing is given when a call is received from a DN that is on the DRCW list. The distinctive call waiting tone is given to the end user if the calling DN is on the DRCW list and if the end user has standard call waiting assigned to the line.

The distinctive ringing is given to the DRCW end user when the calling party of PLS is on the DRCW list.

The interaction of the distinctive call waiting tone and PLS is the same with call waiting except the end user receives a special tone if the calling DN is on the DRCW list.

Prime Line Select (PLS) (continued)

Hunt Group Features

Hunting is a call-completion process that increases the likelihood of an incoming call being completed within an end user-defined group of lines. When attempting to terminate a call to a busy line that is assigned hunting, the switch scans a group of lines sequentially, searching for an idle line on which to complete the call. This group of lines is called a hunt group.

PLS will be able to make a call to these hunt groups: MultiLine Hunt (MLH), Directory Number Hunt (DNH) and Distributed Line Hunt (DLH). A description of these three features follows.

- **MultiLine Hunt (MLH).** MLH is a hunting feature consisting of only a pilot DN associated with the hunt group. The hunting is done sequentially, starting at the first line assigned to the pilot DN and ends at the last line.
- **Directory Number Hunt (DNH).** For DN hunting, each member in the DNH group has a unique DN. The hunt group can be accessed by dialing any DN in the hunt group, but the number of lines hunted depends on the hunting arrangement (that is, circular or sequential) assigned to the DNH group. Circular hunting hunts all lines in the hunt group regardless of the starting point. Sequential hunting starts at the number dialed and ends at the last number in the hunt group.
- **Distributed Line Hunt (DLH).** The DLH feature provides a hunting arrangement consisting of lines divided into groups. The hunt is sequential over all groups until a line is selected in an available group.

Keypad Short Hunt (KSH)

The KSH feature allows a keypad phone to accept multiple calls to its primary DN by diverting calls to its secondary DNs when the primary DN is busy. PLS will interact properly with this option. If a call is offered to a secondary DN and is not answered before the no-answer timeout expires, a no-answer event is reported to PLS.

Long Distance Signal (LDS)

The LDS feature applies a distinctive ringing pattern to the caller when the incoming call is a toll call. If the caller is busy, a distinctive call waiting tone is applied.

PLS calls are handled by the LDS feature. The call is deemed "toll" if the caller and the alerted location are identified as being a long distance call by the LDS software in the terminating switch.

As with call forward, it is possible for the caller and the alerted location to be in the same local area although the first leg (from caller to PN) and the second

Prime Line Select (PLS) (continued)

leg (from PN to location) are toll. In this situation the toll alert functionality would not be activated although billing records for both legs are generated.

Make Set Busy (MSB)

MSB is a terminating feature that allows an end user to make its line look like it is busy to all incoming calls. A call terminating to a line which has activated the MSB feature receives a busy tone.

When MSB is active on a DN called by PLS, the end-user busy condition is detected by PLS if the line is in the same switch or if the call was routed only over functional signaling trunks (ISUP, PRI).

Meet-Me Conference

The meet-me conference service provides the ability to setup a conference of up to 6 parties.

When PLS is calling a meet-me conference number, the call gets connected to the meet-me conference port and PLS is removed from the call. This behavior only occurs if the meet-me number is in the same switch as PLS. If the meet-me number is in another switch, the normal PLS behavior applies.

Multiple Appearance Directory Number (MADN)

The MADN feature allows a single DN to be associated with a group of end user lines. There are two possible arrangements: Single Call Arrangement (SCA) and Multiple Call Arrangement (MCA). The MADN SCA feature allows only one call to be active at a time on the MADN DN while the MADN MCA feature allows more than one call at a time to the MADN group.

PLS is able to call a DN which belongs to either an SCA or an MCA MADN group.

PLS - PLS Interaction

PLS can call a DN which is a PLS number. PLS allows another session of PLS to be started on the call. If the call attempted by the second PLS session does not complete before the no answer timeout of the first PLS session expires, the first session will detect the no answer condition and the second session of PLS will be dropped. If the second session of PLS completes the call, both PLS sessions will detect the answer condition and the users will be connected.

There is one special case of the PLS - PLS interaction to consider. If one of the PLS session routes to another PLS session that is registered to urgency screening, all the PLS sessions active on the call reports answer to their application and the caller then hears the urgency screening announcement.

Prime Line Select (PLS) (continued)

Because PLS allows interaction with itself, a loop protection mechanism is required to keep the resources usage within some limits when loops are entered between PLS sessions.

Private Virtual Network (PVN)

PLS can call a DN which is a PVN number. If the PVN query response is a routing response, the call goes through and PLS acts as if it is a normal call. If the PVN query response is either a play announcement or a prompt and collect response, the PLS application reports answers to the application and the caller hears the PVN announcement. PVN is then in control of the call.

Teen Services (Secondary Directory Numbers (SDN))

The SDN feature allows multiple DNs to be assigned to a single line without the expense of additional line equipment. Up to six SDNs can be supported on a single line, and each can be assigned one of four ringing patterns.

PLS is able to call either the primary DN or one of the secondary DNs of a teen services end user.

Three Way Call (3WC)

The 3WC feature allows an end user to add another party to an existing connection for a three-way conference.

When a user initiates a 3WC to a PLS number, PLS acts as if the second leg was a normal call. The user is allowed to do everything that a 3WC controller can do except when the 3WC controller is a MDC (EBS, M5xxx) telephone set and the 3WC controller is in the same switch of the trigger. In that special case, the controller is not able to conference the three parties before the third party answers the call if force to call completion is activated for that location. The controller may also hit the octothorpe “#” key to route to the call completion location.

If the second leg is conferenced in, the comfort announcement (if playing) is stopped and the two conferees will hear the audible ringing supplied by PLS. Force to call completion will not be available in this state. This restriction only applies when the 3WC user and the trigger are located on the same switch.

Uniform Call Distribution (UCD)

The UCD feature allows calls to be evenly distributed to a number of preassigned stations known as UCD stations. This feature is used to queue incoming calls to a message desk.

PLS is able to call a UCD group. If the call is put in the message queue and it is not answered before the no answer timeout expires, the no answer condition

Prime Line Select (PLS) (continued)

is detected. If the call is answered by an UCD station, PLS detects the call answer condition and the call is completed.

When PLS is calling a UCD group, the caller will hear the treatment provided by the UCD group (audible ringing, music, announcement, etc.). If the UCD queuing announcement is datafilled to return answer, PLS removes itself from the call. PLS does not provide force to call completion when interacting with UCD.

Note that when the UCD group is in a remote switch, PLS is not aware of its presence and applies its own comfort treatment (announcement or audible ringing). Also, force to call completion is then available.

Activation/deactivation by the end user

Activation/deactivation of Prime Line Select (PLS) by the end user

At your telephone:

- 1 Dial a personal DN
Response:
System software activates PLS and routes the call appropriately.
- 2 To activate force to call completion, press the octothorpe “#” key.
- 3 To deactivate PLS, call the customer service representative and ask that the service be removed.

Billing

There are two billing scenarios, the DN trigger and the PODP trigger. The billing legs in each scenario are illustrated in the following figures. During a PLS call two billing records can be generated, one for the leg between the originator and the PLS personal number location, and one for the leg between the PLS personal number location and the terminator. For the PODP trigger, the billing legs do not necessarily correspond to the voice path.

First leg billing

The first leg of a call, from the originator to the PLS personal number, is billed normally by the network, independently of the PLS SSP functionality. In the case that CAMA billing is being used, the system must be engineered such that a PLS call does not trigger before the call reaches the CAMA switch. Otherwise the first leg might not get billed.

Prime Line Select (PLS) (continued)

Second leg billing

For the second leg of a call, AIN 0.0 AMA record generation depends on the reception of the billing indicator from the SCP and on the SSP-based billing option in the following ways:

- for the PODP trigger, an AMA record is always generated if the billing indicator is received.
- for the DN trigger, an SSP-based billing option is provided through the office parameter AIN00_PCM_SSP_BILLING.
 - AMA_FOR_ALL_CALLS - an AMA record is always generated if the billing indicator is received.
 - NO_AMA_FOR_LOCAL_CALLS - when the billing indicator is received and an AMA record is generated only for billable calls with respect to the switch in which the trigger occurs.

Station Message Detail Recording

Prime Line Select (PLS) does not affect Station Message Detail Recording.

Prime Line Select (PLS) (continued)

Datafilling office parameters

The following table shows the office parameters used by Prime Line Select (PLS). For more information about office parameters, refer to *Office Parameters Reference Manual*.

Table name	Parameter name	Explanation and action
OFCENG	AIN00_PCM_SSP_BILLING	<p>This parameter provides an SSP-based billing option for the DN trigger. The possible values are:</p> <ul style="list-style-type: none"> • AMA_FOR_ALL_CALLS - (default) If a billing indicator is received, this value causes a PLS AMA record to be generated. • NO_AMA_FOR_LOCAL_CALLS - this value causes billing to be controlled by the SSP. When the billing indicator is received, an AMA record is generated only for billable calls with respect to the switch in which the trigger occurs.
	MAX_NUM_PCM_RCVR	<p>This parameter specifies the maximum number of receivers that are available for PLS usage. When this limit is reached, no receiver can be attached to a requesting PLS call (the call proceeds normally but without a receiver). The range is 0 to 4095.</p>
	FCR_NUM_EXT_BLKs	<p>This parameter indicates the number of FCR extension blocks that are available for PLS usage. If the number of extension blocks is increased, the change takes place immediately. If the number of extension blocks is decreased, the change takes effect after a cold restart. The range is 0 to 32767.</p>

Prime Line Select (PLS) (continued)**Datafill sequence**

The following table lists the tables that require datafill to implement Prime Line Select (PLS). The tables are listed in the order in which they are to be datafilled.

Table	Purpose of table
HNPACONT	Home Numbering Plan Code. This table contains a list of home numbering plan area code subtables.
DNROUTE	Directory Number Route. This table contains information for writable DNs on the switch (such as a DN that identifies a route), rather than LENS. Table DNROUTE replaces table WRDN.
LINEATTR	Line Attribute. This table contains line attributes which are assigned to regular lines in table LENLINES and to Meridian stations and attendant consoles in the MDC translation tables. It is not used by elements running on GSF call processing software.
STDPRTCT	Standard Pretranslation. This table lists the names assigned by the operating company for each of the maximum standard pretranslator subtables.
LCASCRCN	Local Calling Area Screening Control. This table determines if an AR call from a RES line to a private DN is a long distance call.
PFXTREAT	Prefix Treatment. This table determines the call treatment to which a call is routed, based on the prefix selector from table LCASCRCN, the type of call from the standard pretranslator, and the local calling area status (local or toll) in subtable LCASCRCN.LCASCRCN.
CLLI	Common Language Location Identifier. This table contains the CLASS announcement CLLI which specifies the maximum number of announcement members for all CMS/CLASS applications.
ANNS	Announcements. This table contains data for analog and digital announcements that are assigned in the switching unit.
ANNMEMS	Announcement Members. This table defines the circuits that are assigned to the various members of the CLASS announcement group.
DRMUSERS	Digital Recorded Announcement Machine Users. This table provides denial announcements.
NCSANNS	Network Control System Announcements. This table provides the capability to map 255 terminating (TERM) and 255 non-terminating (NTERM) announcement identifiers (ANNID) on a number service code (NSCCODE) basis.

Prime Line Select (PLS) (continued)

Datafilling table HNPACONT

The following table shows the datafill specific to Prime Line Select (PLS) for table HNPACONT. Only those fields that apply directly to Prime Line Select (PLS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table HNPACONT (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
FROMDIGS		numeric	From digits. Enter a string if the leading three digits represent an office code within the home numbering plan area (HNPA). This number represents either a single code or the first in a block of consecutive codes that have the same input data.
TODIGS		numeric	To digits. If field FROMDIGS represents a single code, enter the same single code as in field FROMDIGS. If field FROMDIGS represents the first number of a block of consecutive numbers, enter the last number in the block.
CDRRTMT		see subfield	Code type, route reference and treatment. This field consists of subfield CD.
	CD	NSC	Code type. Enter NSC for number service code and datafill refinement NSCCODE.

Prime Line Select (PLS) (continued)

Datafilling table HNPACONT (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
NSCCODE		AIN, 800P, E800, PVN, REPLDIGS, or VPN	<p>Number service code. Enter AIN and datafill refinements MINDIGS, MAXDIGS, and LINATTR_INDXX to invoke the 3/6/10 digit plain ordinary telephone set (POTS) processing.</p> <p>Entry 800P, 800 Plus service, is not a datafillable entry for subtable HNPACONT.HNPACODE.</p> <p>Enter E800 for Enhanced 800 service. E800 must be datafilled in table NSCDEFS, field NSCODE.</p> <p>Entry PVN, private virtual network service, is not a datafillable entry for subtable HNPACONT.HNPACODE.</p> <p>Enter REPLDIGS if a query to the REPLDIGS database in table REPLDATA is required.</p> <p>Entry VPN, virtual private network service, is not a datafillable entry for subtable HNPACONT.HNPACODE.</p> <p>All entries for field NSCCODE must be datafilled in table NSCDEFS before they can be entered in table HNPACONT.</p>
MNDIGS		1 to 18	<p>Minimum digits. Enter the minimum number of digits required to determine a match and start the service control point (SCP) query. This field also specifies the minimum number of digits that appear as the service key for SCP query messages. Indicated values outside of range are invalid.</p>
MAXDIGS		1 to 18	<p>Maximum digits. Enter the maximum number of digits required to determine a match and start the SCP query. This field also specifies the maximum number of digits that appear as the service key for the SCP query messages as additional digits are truncated. Indicated values outside of range are invalid.</p>
LINATTR_INDXX		0 to 2047	<p>Line attribute index. Enter the line attribute index (in table LINEATTR) to translate the routing number returned from a successful SCP query.</p>

Prime Line Select (PLS) (continued)

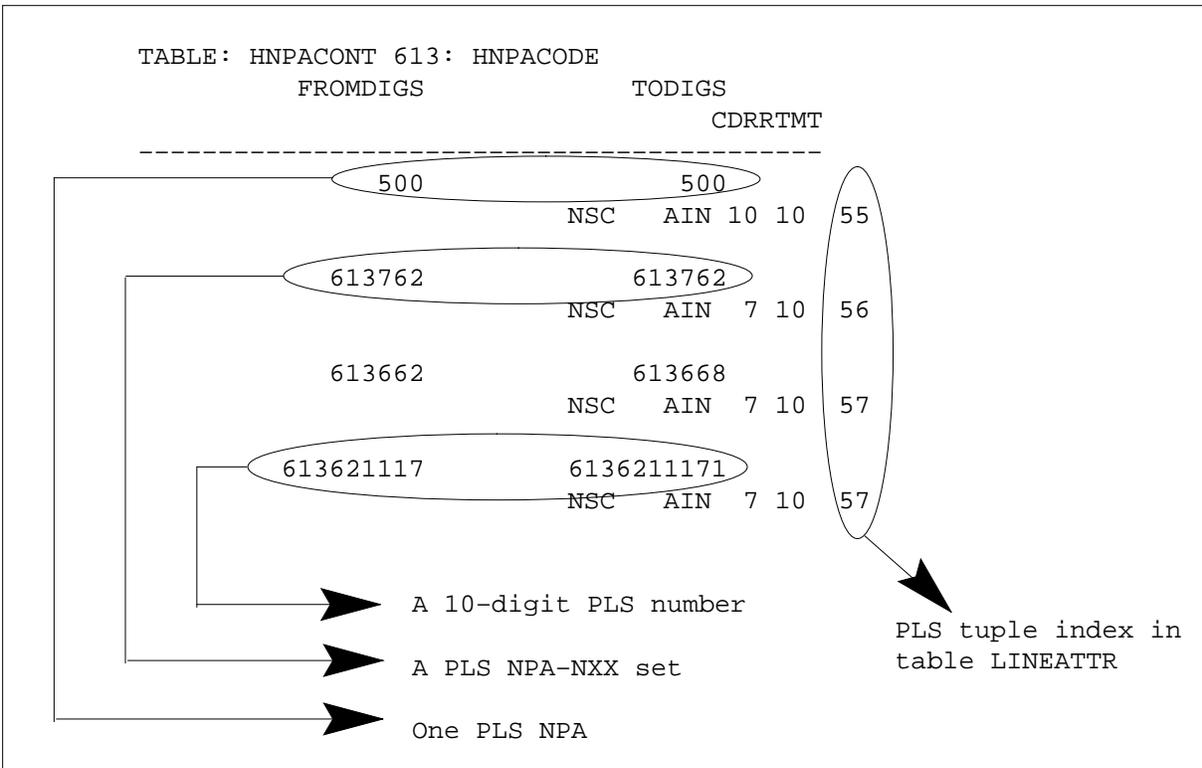
Datafill example for table HNPACONT

The following example shows sample datafill for table HNPACONT.

MAP display example for table HNPACONT

TABLE: HNPACONT						
FROMDIGS	TODIGS	CDRRTMT	NSCCODE	MNDIGS	MAXDIGS	LINATTR_INDX
500	500	NSC	AIN	10	10	55
613762	613762	NSC	AIN	7	10	56
613662	613668	NSC	AIN	7	10	57
613621117	6136211171	NSC	AIN	7	10	57

Example of a PLS PODP trigger



Datafilling DN triggers

The DN trigger detects all calls that terminate on virtual DNs known to require PLS SSP routing. The call is routed normally to the PLS switch serving the DN.

Prime Line Select (PLS) (continued)

For the DN trigger, an SSP-based billing option is provided through the office parameter AIN00_PCM_SSP_BILLING.

Datafilling table DNROUTE

The following table shows the datafill specific to Prime Line Select (PLS) for table DNROUTE. Only those fields that apply directly to Prime Line Select (PLS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table DNROUTE (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
AREACODE		0 to 9999999 (1 to 7 digits)	Area code. The area code identifies a major geographical area served by the switch. If office parameter ACTIVE_DN_SYSTEM in table OFCENG is set to North American, the area code must be three digits long.
OFCCODE		0 to 9999999 (0 to 7 digits)	Office code digit register. The office code is a subregion of the area code. If office parameter ACTIVE_DN_SYSTEM in table OFCENG is set to North American, the area code must be three digits in length. The office code must be specified in table TOFCNAME. Tuples can be added if the value of field OFCCODE is \$ as specified in table TOFCNAME. They cannot contain STNCODEs whose leading digits are an OFCCODE in the same area code.
STNCODE		0 to 99999999 (up to 8 digits)	Station code. The station code identifies a unique station within the terminating office (TOFC). If office parameter ACTIVE_DN_SYSTEM in table OFCENG is set to North American, the area code must be one or four digits in length. If one digit is entered, it is treated as a D-digit, where the D-digit represents the fourth digit in the format ABC-DEFG.

Prime Line Select (PLS) (continued)

Datafilling table DNROUTE (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
			<p>A D-digit is then given the appropriate DN result. For example, if area code 613 and office code 226 are entered, and if 5 is entered as the station code, any calls to a number beginning with 6132265 are automatically routed to the specified treatment. If 5 is the D-digit, and DNROUTE is datafilled as 613 226 5 D OPRT, any numbers for 6132265 are routed to the operator treatment as set in table TMTCNTL.</p> <p>Ambiguity within the STNCODEs of one TOFC is not permitted. For example, 8594 and 859 cannot be specified as STNCODEs within one TOFC.</p> <p>Note: STNCODE is in DEFG format.</p>
DNRESULT		see subfields	Directory number results. This field consists of subfields DN_SEL, FEATURE, and DNTRIG.
	DN_SEL	FEAT	Directory number selector. Enter the directory number (DN) selector FEAT.
	FEATURE	DNTRIG	Feature. Enter DNTRIG.
	DNTRIG	see subfields	Directory number trigger. This field consists of subfields DNTYPE, LINEATTR, CUSTGRP, SUBGRP, and SMDR.
	DNTYPE	IBN or NONIBN	Directory number type. Enter IBN for Integrated Business Network calls or NONIBN for residential DN types.
	LINEATTR	0 to 2047	Line attribute. Enter the line attribute associated with the DN trigger.

Datafill example for table DNROUTE

The following example shows sample datafill for table DNROUTE.

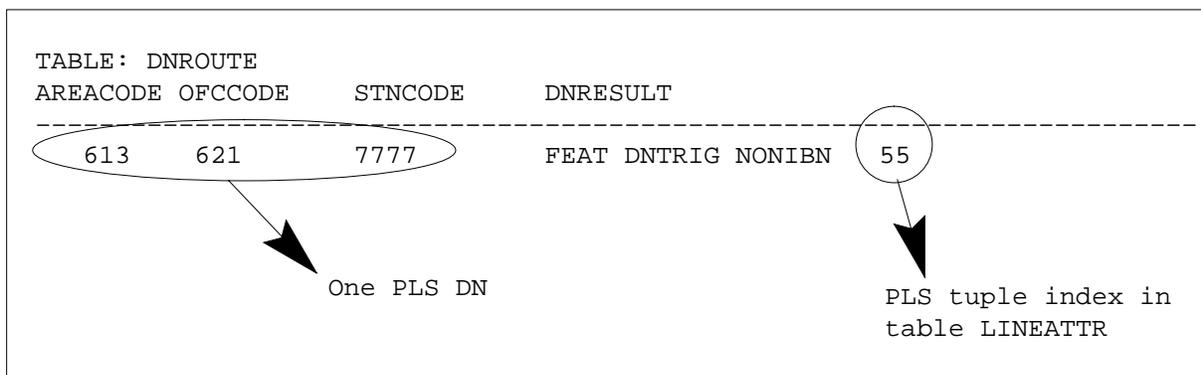
Prime Line Select (PLS) (continued)

MAP display example for table DNROUTE

```

Table:  DROUTE
AREACODE OFCCODE STNCODE  DNRESULT
-----
613      621      7777    FEAT DNTRIG NONIBN  55
    
```

Example of PLS DN trigger



Directory Number Selector FEAT

The directory number (DN) trigger (DNTRIG) capability allows a caller to dial a designated DN from any station in the public switched network to build and send a query to a service control point (SCP) database to obtain routing instructions for the call.

Datafilling table LINEATTR

The PODP and DN triggers contain the index to the tuples in table LINEATTR which contain PLS line attribute information. PLS lines are datafilled in this table the same as 1FR POTS lines with the exception of the following two fields.

- PRTNUM - This field points into table STDPRTCT. An extra field with a value of PPLS is added to allow PLS long distance calls without the 1+ prefix. Subtable STDPRT allows 10 and 11-digit calls. Note that for SSP-based billing the call type is set to Direct Dialing (DD) so that it is flagged as billable when table LCANAME is accessed.
- LCANAME - This field, with a value of LPLS, points to table LCASCRCN and is required to implement the SSP-based billing option.

Prime Line Select (PLS) (continued)

The following table shows the datafill specific to Prime Line Select (PLS) for table LINEATTR. Only those fields that apply directly to Prime Line Select (PLS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table LINEATTR

Field	Subfield or refinement	Entry	Explanation and action
PRTNM		alphanumeric (up to 4 characters) or NPRT	Standard pretranslator subtable name. If pretranslation of digits is required, enter the name of the standard pretranslator subtable assigned to the line attribute index. If standard pretranslation is not required, enter NPRT.
LCANAME		alphanumeric (up to 5 characters) or NLCA	Local calling area screening subtable name. If screening of local central office codes (NNX) is required, enter the name of the local calling area subtable assigned to the line attribute index. If screening of local NNX codes is not required, enter NLCA.

Datafill example for table LINEATTR

The following example shows sample datafill for table LINEATTR.

MAP display example for table LINEATTR

```

TABLE LINEATTR
LNATTIDX  LCC  CHGCLSS  COST  SCRNL  LTG  STS  PRTNM  LCANAME  ZEROMPOS  TRAFSNO
MRSA      SFC  LATANM   MDI   IXNAME  DGCLNAME  FANIDIGS              RESINF
-----
                    OPTIONS
-----
55         1FR   NONE     NT    FR01   0    613  PPLS   LPLS   TOPS    10
NIL        NILSFC LATA1    0     NIL    NIL   00   N
                    $
    
```

Datafilling table STDPRTCT

The following table shows the datafill specific to Prime Line Select (PLS) for table STDPRTCT. Only those fields that apply directly to Prime Line Select

Prime Line Select (PLS) (continued)

(PLS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table STDPRTCT

Field	Subfield or refinement	Entry	Explanation and action
EXTPRTNM		alphanumeric (up to 8 characters)	External standard pretranslator subtable name. Enter the name defined by the operating company to represent the standard pretranslator subtable. Standard pretranslator name C7PT is automatically used by ISDN user part (ISUP) trunks on test calls in offices with ISUP capability, as described in table STDPRTCT.STDPRT, and is not required to be datafilled.

Datafill example for table STDPRTCT

The following example shows sample datafill for table STDPRTCT.

MAP display example for table STDPRTCT

```

TABLE STDPRTCT
EXTPRTNM      STDPRT      AMAPRT
-----
PPLS  ( 2) ( 0)          0
SUBTABLE .STDPRT
FROMDIGS TODIGS          PRETRTE
-----
1          1 N DD 1 NA      NONE
          2          9 N DD 0 NA      NONE
    
```

Datafill example for tables LINEATTR and STDPRTCT

The following figure presents an example of PLS datafill and how the entries in the tables correspond to each other.

Prime Line Select (PLS) (continued)

Example of PLS translation datafill

Index specified by the trigger table
(DN or PODP trigger)

```

TABLE LINEATTR
LNATTIDX  LCC CHGCLSS COST SCRNL LTG STS PRTNM LCANAME ZEROMPOS TRAFSNO
MRSA      SFC  LATANM  MDI  IXNAME DGCLNAME FANIDIGS          RESINF
-----
55         1FR   NONE   NT   FR01  0 613 PPLS    LPLS    TOPS  10
NIL NILSFC  LATA1  0    NIL   NIL   00     $
-----
TABLE STDPRTCT
EXTPRTNM  S DPRT  AMAPRT
-----
PPLS ( 2) ( 0) 0
. SUBTABLE STDPRT
FROMDIGS TODIGS          PRETRTE
-----
.         1         1 N DD 1 NA  NONE
.         2         9 N DD 0 NA  NONE
    
```

Datafilling SSP-based service billing

The SSP-based billing option functions in accordance with the call type set by translations. When the call type is set to "direct dialed" the second leg is billable. When the call type is set to "no prefix" the second leg is not billable. In the case where PLS-specific translations are used, care must be taken not to generate a treatment during the local call screening. Additions to two tables are required in order for PLS billing to operate. Refer to the figure following the bullets for a graphical illustration.

- A PLS tuple must be added to screening table LCASCRCN to identify local calls. Subtable LCASCRCN contains all the NXXs and NPAs that are local to the PLS number.
- Table PFXTREAT is used to handle mismatches between the call type and the result from table LCASCRCN. PLS call types are set to Direct Dialing and a mismatch means that the call is a local call. Table PFXTREAT updates the call type to No Prefix and ensures that no treatment is set.

Datafilling table LCASCRCN

The following table shows the datafill specific to Prime Line Select (PLS) for table LCASCRCN. Only those fields that apply directly to Prime Line Select

Prime Line Select (PLS) (continued)

(PLS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table LCASCRN

Field	Subfield or refinement	Entry	Explanation and action
NPALOCNM		see subfields	NPA local calling area subtable name. This field consists of subfields STS and LCANAME.
	STS	numeric	Serving translation scheme. Enter a serving NPA code for the trunk group.
	LCANAME	alphanumeric (up to 4 characters)	Local calling area name. Enter the name of subtable LCASCRN.LCASCR. Entry NLCA is not allowed in table LCASCRN because it is reserved by DMS software to mean no local calling area screening. (Accidental addition of NLCA in table LCASCRN followed by deletion removes NLCA from tables such as LINEATTR field LCANAME, making the specification of no local calling area screening impossible.)
PFXSELEC		MAND, OPTL or alphabetic (up to 4 characters)	Prefix selector. Enter the name of the prefix selector that is assigned to the LCASCRN.LCASCR subtable. This is a four-character vector.

Datafill example for table LCASCRN

The following example shows sample datafill for table LCASCRN.

MAP display example for table LCASCRN

```

TABLE LCASCRN
NPALOCNM  LCASCR  PFXSELEC  PFXFOR10
-----
613 LPLS  ( 4)      MAND      N
. SUBTABLE LCASCR
. FROMDIGS TODIGS
    
```

Datafilling table PFXTREAT

The following table shows the datafill specific to Prime Line Select (PLS) for table PFXTREAT. Only those fields that apply directly to Prime Line Select

Prime Line Select (PLS) (continued)

(PLS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table PFXTREAT

Field	Subfield or refinement	Entry	Explanation and action
TYPLCLCD		see subfields	Type of call and local code. This field consists of subfields PFXSELEC, TYPCALL, and LOCCODE.
	PFXSELEC	OPTL, MAND, or alphabetic	Prefix selector. Enter the prefix selector assigned to the prefix treatment.
	TYPCALL	DD, NP or OA	Type of call. Enter either DD (direct dial), NP (no prefix), or OA (operator assisted) for the type of call.
	LOCCODE	Y or N	<i>Local code</i> If the record is for a local call, enter Y (yes). Enter N (no) if the prefix treatment record is for a non-local call.

Datafill example for table PFXTREAT

The following example shows sample datafill for table PFXTREAT.

MAP display example for table PFXTREAT

```

TABLE PFXTREAT
TYPLCLCD UPDTYPCA TREAT

-----
PLS DD Y   NP   UNDT
    
```

Datafill example for Tables LINEATTR, LCASCRCN and PFXTREAT

The following figure presents an example of PLS datafill and how the entries in the tables correspond to each other.

Prime Line Select (PLS) (continued)

Example of PLS billing datavfill

```

TABLE LINEATTR
LNATTIDX   LCC CHGCLSS COST SCRNL LGT STS PRTNM LCCANAME ZEROMPOS TRAFSNO
MRSAs      SFC  LATANM MDI  IXNAME DGCLNAME FANIDIGS          RESINF
          OPTIONS
-----
      55      1FR  NONE  NT   FR01  0 613  PPLS  LPLS  TOPS  10
NIL NILSFC  LATA1  0   NIL   NIL   00
          $
TABLE LCASCRN
NPALOCNM  LCASCR PFXSELEC PFXFOR10
-----
613 LPLS ( 4) PLS N
. SUBTABLE LCASCR
. FROMDIGS TODIGS
-----
TABLE PEXTREAT
TYPLCCLD UPDTYPCA TREAT
-----
PLS DD Y NP UNDT
    
```

For the PODP trigger, an AMA record is always generated if the billing indicator is received.

For the DN trigger, an SSP-based billing option is provided through office parameter AIN00_PCM_SSP_BILLING.

Support agents

PLS supports a variety of line and trunk types as originating and terminating agents on PLS switches. Because the originating agent is using the AIN 0.0 trigger mechanisms, the originating agent must be supported by AIN 0.0. Otherwise, PLS calls cannot be detected and no queries can be sent to the SCP. The following table lists the supported agents.

PLS supported agents (Sheet 1 of 2)

Agent types	Originating agent		Terminating agent
	PDDP trigger	DN trigger	
POTS (1FR, 2FR, 4FR, 8FR, 10FR, Coin)	X	X	X
RES (1FR)	X	X	X

Prime Line Select (PLS) (continued)**PLS supported agents (Sheet 2 of 2)**

Agent types	Originating agent		Terminating agent
	PDDP trigger	DN trigger	
MDC (IBN, EBS, M5xxx)	X	X	X
TI (MF, DP, ISUP TR317)	X	X	
TO (MF, DP, ISUP TR317)			X
T2 (MF, DP, ISUP TR317)	X	X	X
IBNTI (MF, DP, ISUP TR317, FX, PRI)	X	X	
IBNTO (MF, DP, ISUP TR317, PRI)			X
IBNT2 (MF, DP, ISUP TR317, FX, PRI)	X	X	X
PX (without AIOD) (MF, DTMF, DP, FX)		X	X
ISDN BRI	X	X	X
ISDN PRI	X	X	X
SC (MF)	X	X	X
OC (MF)			X
OP (MF, DP) (Wink & No ANI signaling)			X
AC (Attendant Console)			X
IT (MF, ISUP, TR317)	X	X	X
IT (MF FGD, ISUP TR394)			X
ATC (MF FGD, ISUP TR394)			X

Datafilling PLS announcements

The PLS specific announcements for every routing DN are specified in the routing response created using either the DRAMREC or EDRAM facility. The SSP follows the following procedure to play the announcement.

- 1 The announcement number received for every DN is used to index table NSCANNNS to determine the announcement ID.
- 2 Table DRMUSERS is indexed by the announcement ID to find the list of phrases which make up the announcement.

Prime Line Select (PLS) (continued)

- 3 The announcement group CLLI is used to index table ANNMEMS so that an idle announcement member of the given announcement group can be found. If an idle announcement member is found the user is connected to the trunk circuit of the maintenance trunk module specified in table ANNMEMS. If there is no idle announcement member, then one of the following two actions can occur:
- audible ringing is immediately applied for a routing DN (as if no announcement was received for the routing DN), or
 - a tone is applied for a final treatment (as if no final announcement was received).

Datafilling table CLLI

The following table shows the datafill specific to Prime Line Select (PLS) for table CLLI. Only those fields that apply directly to Prime Line Select (PLS)

Prime Line Select (PLS) (continued)

are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table CLLI (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
CLLI		alphanumeric (vector of up to 16 characters)	<p>Common language location identifier. Enter a CLLI code to uniquely identify the far end of each announcement, tone, or trunk group.</p> <p>Note: Only alphabetic characters, numeric characters, and _ (underscores) can be used to datafill this field. The first character must be alphabetic. The use of other special characters such as @, #, \$, %, ^, &, *, (,), -, +, =, /, ', ;, :, ;, }, and { can cause errors in the data in this field.</p> <p>For optimum use, a CLLI code must not contain more than 12 characters, as only the first 12 characters are displayed on the maintenance and administration position (MAP). When a CLLI code is displayed in a log report, the entire 16-character CLLI code appears.</p> <p>The recommended code for a gateway switching unit consists of the following elements:</p>
ADNUM		numeric (0 to 8191)	<p>Administrative trunk group number. Enter a number from 0 to a number one less than the size of table CLLI shown in table DATASIZE.</p> <p>It is not recommended that the operating company assign administrative numbers (ADNUM) below 51 to allow for future growth in the number of pseudo CLLI codes.</p> <p>ADNUMs for fixed CLLI codes and operating company defined CLLI codes must be in the range from 51 to the size of table CLLI defined in table DATASIZE minus one. ADNUMs for pseudo CLLI codes added by external (EXT) files must use the default value.</p> <p>The value of field ADNUM in table CLLI must be unique. Attempts to add a CLLI code with an ADNUM already in use are rejected.</p>

Prime Line Select (PLS) (continued)

Datafilling table CLLI (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
			<p>Field ADNUM in table CLLI cannot be modified if the operational measurement (OM) counts being reported to the Engineering and Administrative Data Acquisition System (EADAS) for data collection (EADAS/DC) are for OM groups TRK, NWMSILC, TRK250, or DCRICTRK or if the CLLI code is in the EADAS network management (EADAS/NM) trunk group schedule.</p> <p>The operating company can modify the ADNUM value only if its CLLI code is not referred to by any other tables in the switching unit.</p> <p>An ADNUM value cannot be changed without deleting the tuple containing the ADNUM value to be modified. The tuple must be deleted, the ADNUM value modified, and the tuple reentered in table CLLI.</p>

Prime Line Select (PLS) (continued)

Datafilling table CLLI (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
TRKGRSIZ		numeric (0 to 2047)	<p>Trunk group size. Enter the maximum quantity of trunk members that are expected to be assigned in the trunk group. This number is used to allocate storage, consequently it can be greater than the number of initial working trunks.</p> <p>The only change that can be made dynamically to this quantity is to increase the size. An attempt to decrease TRKGRSIZ results in an error message. The only size reduction permitted is to decrease the quantity entered in field TRKGRSIZ to 0 (zero). In this case, all members using this CLLI code must be deleted before decreasing the quantity to 0.</p>
ADMININF		alphanumeric (vector of up to 32 characters)	<p>Administrative information. Enter operating company administration information. The information in this field is not used by the switching unit.</p> <p>Note: Only alphabetic characters, numeric characters, and _ (underscores) can be used to datafill this field. The use of other special characters such as @, #, \$, %, ^, &, *, (,), -, +, =, /, ', ;, :, ?, }, and { can cause errors in the data in this field.</p> <p>The recommended entries in field ADMININF for a gateway switching unit are as follows: DIR, MED, SIG, SRVCAT, N6MODE, and MISC.</p>

Datafill example for table CLLI

The following example shows sample datafill for table CLLI.

Prime Line Select (PLS) (continued)

MAP display example for table CLLI

```

TABLE: CLLI
CLLI          ADNUM   TRKGRSIZ   ADMINIF
-----
AINPLSANN    62      3          PLS_ANNOUNCEMENT
    
```

Datafilling table ANNS

The following table shows the datafill specific to Prime Line Select (PLS) for table ANNS. Only those fields that apply directly to Prime Line Select (PLS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table ANNS (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
CLLI		alphanumeric (1 to 16 characters)	<p>Announcement CLLI key. Enter the code that represents the announcement in table CLLI.</p> <p>If the Attendant Busy feature is present in the switching unit, the suggested common language location identifier (CLLI) for Attendant Busy is ATTBUSY.</p> <p>If the Music On Hold feature is present in the switch, the suggested CLLI for the Music On Hold announcement is MUSIC.</p> <p>Each loudspeaker location must have its own Announcement CLLI associated with it.</p> <p>Enter fixed CLLI TOPSACTS if field ANTYPE is set to ACTS for automatic coin toll service. Office parameter TOPS_ACTS must be set to Y (yes) in table OFCENG.</p>

Prime Line Select (PLS) (continued)

Datafilling table ANNS (Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
ANTYPE		ACTS AIN AIS AOSSVR CFRA CLASS CNAL CNALT CNAT DMCT MCCS NFRA SACB SLEENG SLEFRE SPP STND or TOPSVR	Announcement type. Enter the announcement type as follows: <ul style="list-style-type: none"> • ACTS to specify Automatic Coin Toll Service • AIN to specify a given DMS user interface for each customer group • AIS to specify Automatic Intercept System announcement if the switch has the AIS feature • AOSSVR to specify AOSS Voice Response • CFRA to specify Call Forwarding Remote Access announcement • CLASS to specify Custom Local Area Signaling Services announcement • CNAL to specify Calling Number Announcement playback to a line • CNALT to specify Calling Number Announcement playback to a line and over a trunk to a loudspeaker • CNAT to specify Calling Number Announcement playback over a trunk to a loudspeaker • DMCT to specify Denied Malicious Call Termination • MCCS to specify Mechanized Calling Card Announcement • NFRA to specify Network facility Remote Access • SLEENG to specify Screening List Editing English

Prime Line Select (PLS) (continued)

Datafilling table ANNS (Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
			<p>Announcement type (continued). Enter the announcement type as follows:</p> <ul style="list-style-type: none"> • SLEFRE to specify Screening List Editing French • SPP to specify Station Programmable PIN (Personal Identification Number) • STND to specify Standard Announcement • SACB to specify Subscriber Activated Call Blocking • TOPSVR to specify TOPS Voice Response <p>Office parameter TOPS_ACTS must be set to Y in table OFCENG</p>
TRAFSNO		0 to 127	<p>Traffic separation numbers. If the switch has feature package NTX085AA (Traffic Separation Peg Count), enter the Traffic Separation number, 1 to 127, that is assigned to the announcement. If the traffic separation is not required, enter 0 (zero).</p> <p>For switches with package NTX085AA, the range of values for the traffic separation number depends on office parameter TFAN_OUT_MAX_NUMBER in table OFCENG.</p> <p>For switching units without package NTX085AA, the range of values for the traffic separation numbers is 0 to 15.</p> <p>Reserve the traffic separation numbers 1 to 9 for generic traffic separation numbers.</p> <p>Refer to table TFANINT for more information.</p>
MAXCONN		1 to 255	<p>Maximum connections. Enter the maximum number of simultaneous connections that are permitted on the announcement. An entry outside this range is invalid.</p>

Prime Line Select (PLS) (continued)

Datafilling table ANNS (Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
CYTIME		1 to 18 or 0	<p>Cycle times. Enter the time, in seconds, for one announcement cycle on one channel. An entry outside this range is invalid.</p> <p>Note 1: If your office is equipped with a Cook or equivalent announcement machine and table AUDIO is datafilled as ANNS, field CYTIME is changed to 0 (zero). This allows flexible announcement timing.</p> <p>Note 2: The cycle time for an audichron is 0 (zero) due to the variable length announcement feature on audichron. By setting the value of this field to 0 (zero), the length of the announcement is always matched.</p>
MAXCYC		1 to 255	<p>Maximum cycles. Enter the maximum number of times the complete announcement is heard before the call is advanced to the next route in the route list. An entry outside of this range is invalid.</p>

Datafill example for table ANNS

The following example shows sample datafill for table ANNS.

MAP display example for table ANNS

```

TABLE: ANNS

CLLI          ANTYPE  TRAFSNO  MAXCONN  CYTIME  MAXCYC
-----
AINPLSANN    AIN        0        1        0        1
    
```

Datafilling table ANNMEMS

The following table shows the datafill specific to Prime Line Select (PLS) for table ANNMEMS. Only those fields that apply directly to Prime Line Select

Prime Line Select (PLS) (continued)

(PLS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table ANNMEMS (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
ANNMEM		see subfields	Announcement member key. This field consists of subfields ANN and MEMBER.
	ANN	alphanumeric or blank	Announcement. If the trunk circuit is the first in the trunk list for the announcement member, enter the code that represents the announcement group in table CLLI. If the trunk circuit is other than the first in the trunk list, leave this field blank.
	MEMBER	0 to 255 or blank	Member. If the trunk circuit is the first in the trunk list for the announcement member, enter the number assigned to the member. If the trunk circuit is other than the first, leave this field blank. If digital, each announcement member can be assigned up to eight trunk circuits. If analog, each announcement can be assigned up to two trunk circuits.
HDWTYPE		AUDICHRON DRAM or blank	Hardware type. Enter AUDICHRON if the first entry for the member and hardware type is analog. Enter DRAM if the recorded announcement member is digital. If other than analog or digital, leave this field blank.
CARD		2X72AA 2X72AB 2X72AC 2X88AADRA or blank	Card code. Enter the card code if the member is analog. Enter DRA if trunk member is digital. If other than the analog or digital, leave this field blank. If a switching unit has an analog recorded announcement machine, a trunk circuit consists of one of the trunk circuits on a trunk card with peripheral equipment code NT2X72AA, AB, or AC, or NT2X88AA that is mounted on a TM8 trunk module type.

Prime Line Select (PLS) (continued)

Datafilling table ANNMEMS (Sheet 2 of 5)

Field	Subfield or refinement	Entry	Explanation and action
MEMINFO		see subfields	Memory information. This field consists of subfield TRCKLIST.
	TRCKLIST	see subfields	Track list. This field consists of subfields TRACK, PMTYPE, TMNO, and TMCKT.
	TRACK	0 to 31	<p>Track number. Enter the track number assigned to the trunk circuit.</p> <p>If the announcement is multilingual, it is recommended that each language be assigned to a different track (trunk circuit).</p> <p>The order in which the tracks are heard is determined by the sequence in which the tracks are listed in the announcement member trunk list. That is, if a member has three tracks listed in the following sequence 1, 5, and 3, then track 1 is heard first, followed by track 5 and then track 3.</p> <p>If announcements are bilingual, the track assigned to the priority language is the first track assigned in the member trunk list.</p>

Prime Line Select (PLS) (continued)

Datafilling table ANNMEMS (Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	PMTYPE	ATM, CTM, DTM, MTM, MTMA, OAU, PTM, RMM, RSM, STM, TAN, TMA, TM2, TM4, TM8, T8A	<p>Peripheral module type. Enter the type of peripheral module to which the trunk circuit is assigned.</p> <p>If the announcement member is digital, enter maintenance trunk module (MTM) or service trunk module (STM).</p> <p>If the announcement member is analog, enter TM8.</p> <p>If the announcement member is connected to an EDRAM (1X80), enter DTM.</p> <p>In the case of Mechanized Calling Card service (MCCS), the announcement channels are not dedicated to any particular announcement as in the case of standard recorded announcements. Instead, MCCS exists as a group in table ANNS with members in table ANNMEMS associated with up to 29 MTM dedicated channels (channel 0 is reserved for diagnostic purposes) on a particular digital recorded announcement machine (DRAM). Normally, a whole DRAM is dedicated as an MCCS machine. Any of the MCCS announcements can be played back through any one channel since the Traffic Operator Position System (TOPS) needs immediate connection to the MCCS announcements where a caller gets an audible ring while waiting to hear an announcement.</p> <p>Note: PTMs are manufacturer discontinued, MTM must be datafilled in place of PTM.</p>

Prime Line Select (PLS) (continued)

Datafilling table ANNMEMS (Sheet 4 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	TMNO	0 to 2047	<p>Trunk module number. Enter the trunk module number assigned to the trunk module to which the trunk circuit is assigned.</p> <p>If trunk module type is MTM, the range is 0 to 255.</p> <p>If the trunk type is TM8, STM or DTM, the range is 0 to 2047.</p> <p>If the switching unit has a DRAM, a trunk circuit consists of an assignment to one of the trunk circuits (channels) on the maintenance trunk module (MTM) or Service Trunk Module (STM) on which the DRAM is located. A trunk circuit cannot be assigned to trunk module circuit number 0 (zero) because this circuit is reserved for the DRAM controller.</p>

Prime Line Select (PLS) (continued)

Datafilling table ANNMEMS (Sheet 5 of 5)

Field	Subfield or refinement	Entry	Explanation and action																
	TMCKT	0 to 29	<p>Trunk module circuit number. Enter the trunk module circuit number to which the trunk circuit is assigned.</p> <p>For MTMs, the DRAM can be configured to function as an 8, 16, 24 or 30 trunk circuit interface depending on the dip switch settings on the controller card. There are four dip switches on the controller card, which enable the number of circuits shown below:</p> <table border="0"> <thead> <tr> <th data-bbox="812 777 974 808">Switch setting</th> <th data-bbox="1055 777 1315 808">Trunk circuits enabled</th> </tr> </thead> <tbody> <tr> <td data-bbox="812 829 925 850">• None</td> <td data-bbox="1112 829 1185 850">1 to 7</td> </tr> <tr> <td data-bbox="812 871 876 892">• 3</td> <td data-bbox="1112 871 1193 892">8 to 15</td> </tr> <tr> <td data-bbox="812 913 876 934">• 2</td> <td data-bbox="1112 913 1209 934">16 to 23</td> </tr> <tr> <td data-bbox="812 955 876 976">• 4</td> <td data-bbox="1112 955 1209 976">24 to 29</td> </tr> </tbody> </table> <p>Note: Circuits 1 to 7 are permanently enabled and have no switch setting.</p> <p>For STMs, only 15 circuits can be enabled. The DRAM controller switch setting and associated circuit number assignments for STMs are shown below:</p> <table border="0"> <thead> <tr> <th data-bbox="812 1249 974 1281">Switch setting</th> <th data-bbox="990 1249 1234 1281">Trunk circuits enabled</th> </tr> </thead> <tbody> <tr> <td data-bbox="812 1302 925 1323">• None</td> <td data-bbox="1128 1302 1201 1323">1 to 7</td> </tr> <tr> <td data-bbox="812 1344 876 1365">• 3</td> <td data-bbox="1128 1344 1226 1365">8 to 15</td> </tr> </tbody> </table> <p>One trunk circuit is required for each announcement track assigned to the announcement member.</p> <p>All trunk circuits assigned to an announcement member must be located on the same trunk module.</p> <p>For DTM, all channels can be used and there are no switches that need setting.</p>	Switch setting	Trunk circuits enabled	• None	1 to 7	• 3	8 to 15	• 2	16 to 23	• 4	24 to 29	Switch setting	Trunk circuits enabled	• None	1 to 7	• 3	8 to 15
Switch setting	Trunk circuits enabled																		
• None	1 to 7																		
• 3	8 to 15																		
• 2	16 to 23																		
• 4	24 to 29																		
Switch setting	Trunk circuits enabled																		
• None	1 to 7																		
• 3	8 to 15																		

Datafill example for table ANNMEMS

The following example shows sample datafill for table ANNMEMS.

Prime Line Select (PLS) (continued)

MAP display example for table ANNMEMS

TABLE : ANNMEMS						
ANNMEM	HDWTYPE	CARD	MEMINFO			

AINPLSANN 0	DRAM	DRA	(0	MTM	14	25)\$

Datafilling table DRMUSERS

The following table shows the datafill specific to Prime Line Select (PLS) for table DRMUSERS. Only those fields that apply directly to Prime Line Select (PLS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table DRMUSERS

Field	Subfield or refinement	Entry	Explanation and action
USERANN		see subfields	User announcement. This field consists of subfields CLLI and ANNUM.
	CLLI	alphanumeric (up to 16 characters)	Common language location identifier. Enter the name associated with the announcement group for MCCS as given in table ANNS.
	ANNUM	1 to 63	Announcement number. Enter the number assigned to the announcement.
PHSLIST		see subfield	Phrases list. This field consists of subfield PHSLIST.
	PHRASES	alphanumeric	Phrases. Enter vector of up to 32 phrases associated with an announcement. If less than 32 phrases are required, end the list with a \$ (dollar sign).

Datafill example for table DRMUSERS

The following example shows sample datafill for table DRMUSERS.

Prime Line Select (PLS) (continued)

MAP display example for table DRMUSERS

TABLE DRMUSERS				
USERANN	PHSLIST			
AINPLSANN	1 (	SILENCE)	(PLSANN1_FRENCH)	(PLSANN1_ENGLISH) \$
AINPLSANN	2 (	SILENCE)	(PLSANN2_FRENCH)	(PLSANN2_ENGLISH) \$
AINPLSANN	3 (	SILENCE)	(PLSANN3_FRENCH)	(PLSANN3_ENGLISH) \$

Datafilling table NSCANNS

The following table shows the datafill specific to Prime Line Select (PLS) for table NSCANNS. Only those fields that apply directly to Prime Line Select (PLS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table NSCANNS (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
NSCANN			Number service code announcement. This field consists of subfields NSCODE, ANNTYPE and ANNID.
	NSCODE	PVN	Number service code feature type. Enter PVN for private virtual network. PVN is the only supported number service code (NSC) announcement feature. All entries for field NSCODE must first be datafilled in table NSCDEFS, field NSCODE.
	ANNTYPE	NTERM or TERM	Announcement type. Enter the announcement type. Enter NTERM for an announcement that does not terminate the call. Enter TERM for an announcement that terminates the call.
ANNID		1 to 255	Announcement identifier. Enter the announcement value that is sent on the user interface. Exclusion of specific announcement identifiers are handled during call processing. Entries outside the indicated range are invalid.
ANNMENT		see subfields	Announcement. This field consists of subfields CLLI and ANNNUM.

Prime Line Select (PLS) (continued)**Datafilling table NSCANNS (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	CLLI	alphanumeric (1 to 16 characters)	Common language location identifier. Enter the common language location identifier (CLLI) associated with the announcement. This CLLI must be datafilled in tables CLLI, ANNS, and DRMUSERS.
	ANNNUM	1 to 255	Announcement number. Enter the announcement number for the announcement. This number must be datafilled in table DRMUSERS before it can be used in this table.

Datafill example for table NSCANNS

The following example shows sample datafill for table NSCANNS.

MAP display example for table NSCANNS

TABLE : NSCANNS			
NSCANN		ANNCMNT	

PVN NTERM	12	AINPLSANN	3
PVN NTERM	1	AINPLSANN	1
PVN NTERM	18	AINPLSANN	2

Datafill example for Tables NSCANNS, DRMUSERS, ANNMEMS, ANNS, and CLLI

The following figure presents an example of PLS datafill and how the entries in the tables correspond to each other.

Prime Line Select (PLS) (continued)

Example of PLS announcement datafill

PLS announcement numbers specified
in the SCP response

TABLE: NSCANN		NSCANN		ANNCMENT	
PVN NTERM	12	AINPLSANN	3		
PVN NTERM	1	AINPLSANN	1		
PVN NTERM	18	AINPLSANN	2		

TABLE DRMUSERS		USERANN		PHSLIST	
AINPLSANN	1	(SILENCE)	(PLSANN1_FRENCH)	(PLSANN1_ENGLISH)	\$
AINPLSANN	2	(SILENCE)	(PLSANN2_FRENCH)	(PLSANN2_ENGLISH)	\$
AINPLSANN	3	(SILENCE)	(PLSANN3_FRENCH)	(PLSANN3_ENGLISH)	\$

TABLE: ANNMEMS		ANNMEM		HDWTYPE		CARD		MEMINFO	
AINPLSANN	0								
		DRAM	DRA			(0	MTM	14 25)	\$

TABLE: ANNS		CLLI		ANTYPE		TRAFSNO		MAXCONN		CYTIME		MAXCYC	
AINPLSANN		AIN		0		1		0		1			

TABLE: CLLI		CLLI		ADNUM		TRKGRSIZ		ADMINIF	
AINPLSANN		62		3		PLS_ANNOUNCEMENT			

Translation verification tools

Prime Line Select (PLS) does not use translation verification tools.

Prime Line Select (PLS) (end)

SERVORD

Prime Line Select (PLS) does not use SERVORD.

Operational measurements

Prime Line Select uses OM group PCM to monitor PLS service performance. OM group PCM has the following registers:

- PCMORIG
- PCMORIG2
- PCMABDN1
- PCMABDN2
- PCMABDN3
- PCMCNDN1
- PCMCNDN2
- PCMCNDN3
- PCMFTCC
- PCMCNCC
- PCMRFAIL

Log reports

Prime Line Select generates an AUD600 log when a PLS call traps or dies while loading a PLS extension block.

3 Datafilling Local Services

Information on how to enter data in the Local Services (LOC) appears in this chapter.

Functional groups for Local Services

The LOC functional groups require the DMS SuperNode Platform—BASE0001, TEL00001, and BAS00003. The functional group name, ordering code and additional requirements for the LOC appear in the following paragraphs.

LOC Services, LOC0001

The LOC Services do not have requirements.

LOC Carrier Parameter, LOC00002

The LOC Carrier Parameter does not have requirements.

LOC Dialing Enhancements, LOC00004

To operate, the LOC Dialing Enhancements requires UDD Services, UDD00001.

LOC DOLP Selector, LOC00005

The LOC DOLP Selector does not have requirements.

LOC Resale/Unbundling, LOC00012

LOC Resale/Unbundling does not have requirements.

Local Service Provider-Networks, LOC00022

The Local Service Provider-Networks do not have requirements.

Local Call Area Screening, LOC00023

The Local Call Area Screening does not have requirements.

4 Datafilling LOC Carrier Parameter

The following chapter describes the LOC Carrier Parameter, LOC00002, functionality.

Carrier Identification Parameter

Ordering codes

Functional group ordering code: LOC00002

Functionality ordering code: does not apply

Release applicability

DMSCCM04 and later versions

Requirements

This document includes the datafill information for this functionality. You require specified software or hardware for complete installation.

Description

The Carrier Identification Parameter feature supports interexchange carrier (IXC) interconnection through the ISDN user part (ISUP) protocol. This feature allows the inclusion of the carrier identification parameter (CIP) in the ISUP Initial Address Message (IAM) for:

- feature group D (FGD)
- 700 calls on a trunk group and CIP value basis
- 800-NXX calls on a trunk group and CIP value basis
- 900-NXX calls on a trunk group and CIP value basis

Operation

The CIP is an optional parameter sent in the forward direction to the transit network. The CIP indicates the carrier that the originator selects. The IAM for ISUP connections includes the CIP. To control the inclusion of the CIP in the IAM, assign a set of CIP values against a trunk group. The value of a CIP is the carrier identification code (CIC) contained in the CIP.

You can enter a CIC set against an access to carrier (ATC) trunk group if you enter option CICSET in table TRKGRP. Trunk groups without the default option CICSET entered do not include the CIP in the IAM. If you enter option CICSET as SSET for a trunk group, the IAM for the trunk group always includes the CIP.

The system can deliver the CIP to the IXC on all signaling system 7 (SS7) FGD calls. Local exchange carriers (LEC) can optionally provide CIP delivery to IXCs on equal access (EA) FGD multifrequency (MF) to SS7 interworking calls.

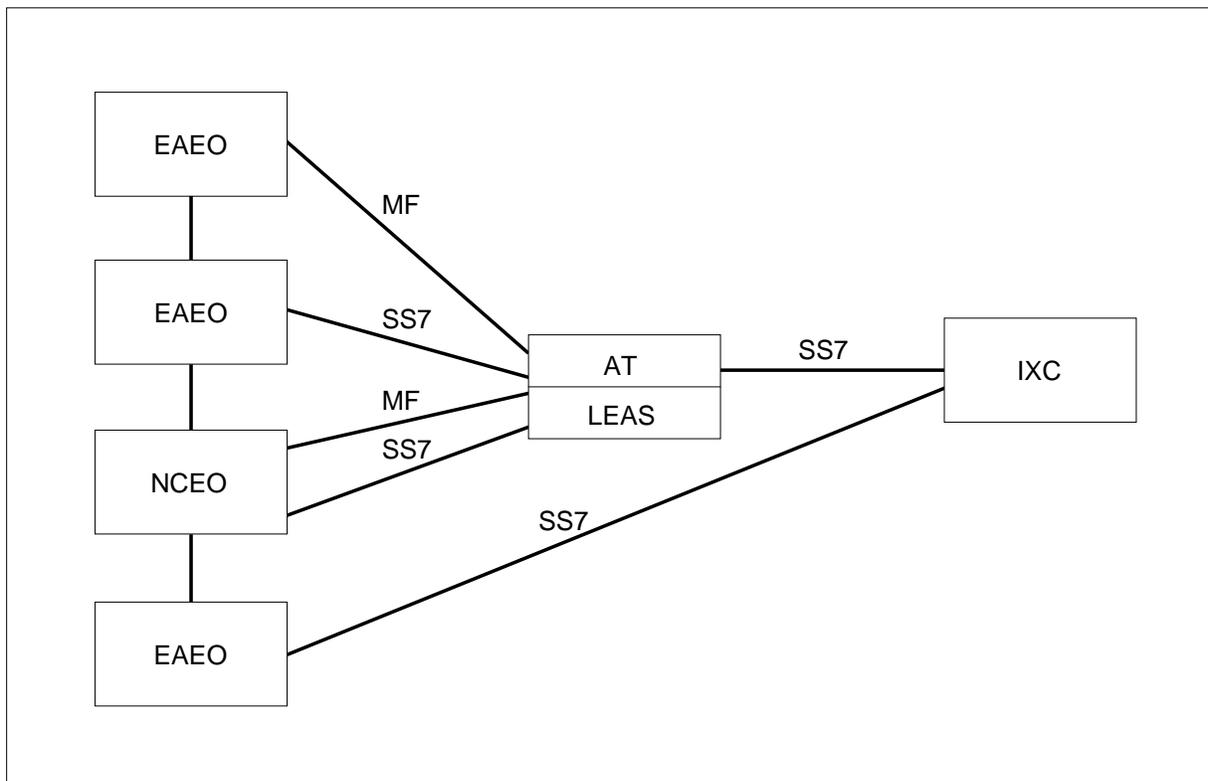
Carrier Identification Parameter (continued)

The CIP allows IXC's to combine services on one trunk group with one of the following:

- LEC equal access end office (EAEO)
- non-compliant end office (NCEO)
- access tandem (AT)

The preceding condition appears in the following figure:

Example IXC configuration

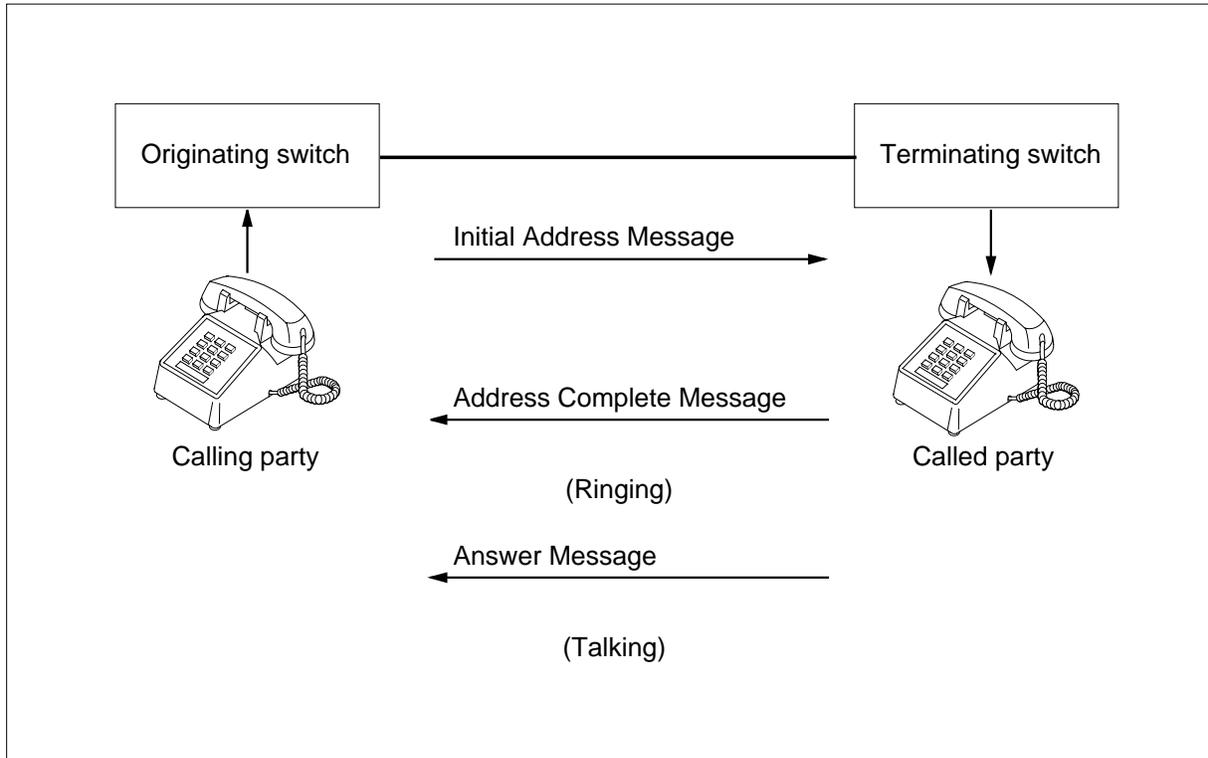


Initial address message

The IAM is the first message sent to setup an ISUP trunk call. The ISUP protocol uses dedicated signaling links to exchange information. The signaling in use to setup an ISUP trunk call without additions appears in the following figure:

Carrier Identification Parameter (continued)

ISUP trunk setup message sequence



Interexchange carriers

An IXC can be any of the following:

- an intra-LATA carrier that provides connections in a local access and transport area (LATA)
- an inter-LATA carrier that provides connections between LATAs and serving area. The location of calling and called subscribers are in World Zone 1.
- an international carrier that provides connections between subscribers in and outside the United States
- a consolidated carrier that serves as an inter-LATA or intra-LATA carrier and an international carrier.

Carrier identification parameter optionality

Non-interworking SS7 calls that terminate on an IXC include the CIP when the IXC requests CIP. The IXC can request the CIP based on:

- a specified trunk group
- a CIP value on a specified trunk group

Carrier Identification Parameter (continued)

An SS7 AT can send the CIP received from the EAEO based on:

- a specified outgoing trunk group
- CIP value on a specified outgoing trunk group

The system can route an AT call to a trunk group that is not a requirement to include the CIP. If this type of AT call receives a CIP, the system deletes the CIP. The system deletes a CIP, with a value that the IXC on a trunk group did not request, at the AT. The AT can designate the trunk groups that require the CIP. The AT can designate the CIP values for a trunk group that the IAM requires.

The originating EAEO can include the CIP based on a specified trunk group. This EAEO can include the CIP or based on a CIP value on a specified trunk group. An originating EAEO that terminates to an IXC includes the CIP based on the following:

- a specified trunk group
- a CIP value on a specified trunk group

An EAEO that terminates to an AT always includes the CIP.

The system generates the CIP that the IXC requests for these types of database calls:

- FGD
- 700
- 800-NXX
- 900-NXX
- 800

The call characteristics determine if IAM must include the CIP.

Carrier identification parameter and call characteristics

The digits collected from the caller determine the CIP value. The trunk group or CIP value and trunk group determines if the IAM includes the CIP.

The 0/1+ calls use the presubscribed carrier information to determine the CIP value. The alternative dialing plans 10XXX +7/10 digits and 101XXXX +7/10 digits use the X digits to determine the IXC for the call. The CIP is loaded with the CIC for the IXC.

The 700+NXX+XXXX calls use the presubscribed carrier information to determine the CIP value. The alternative dialing plans 10XXX+700+... and

Carrier Identification Parameter (continued)

101XXXX+700+... use the X digits to determine the IXC for the call. The CIP is loaded with the CIC for the IXC.

The 800-NXX and 900-NXX calls have carriers that the system assigns the NXX value. The EAEO translates the NXX value to obtain the IXC for the call. The CIP contains the CIC of the translated IXC if the IXC requires a CIP.

The E800 database calls from an EAEO that terminate on an AT service switching point (SSP) always contain the CIP. The EAEO cannot have the correct CIP value when the AT performs the SSP function. The SSP determines the carrier for the call. The transaction capabilities application part (TCAP) response message from the SSP contains the carrier identifier.

The EAEO functions as an SSP for the E800 database calls. The E800 database calls do not use the presubscribed carrier code of the originator. The SSP determines the carrier for the call. The TCAP response message from the SSP contains the carrier identifier.

The EA FGD MF to SS7 interworking calls, include the CIP based on an LEC option. The X digits received in the KP+0ZZ+XXX(X)+ST help determine the CIP value for national calls. International calls require the XXX(X) code in the KP+1N/N'X+XXX(X)+CCC+ST.

Note: The KP = key pulse. The 0ZZ = domestic identification digits. The OZZ digits indicate the call type for direct-dialed and operator-assisted calls. The XXX = carrier identification code. The 1NX = international direct dial identification digits. The 1'NX = international operator-assisted identification digits. The ST = start pulse. The CCC = three-digit pseudo-country code.

The 950-XXXX calls to a feature group B (FGB) carrier do not have support on SS7 trunks. The 950-XXXX calls do not use the CIP parameter.

The CIP has support for FGD LATA Equal Access System (LEAS) calls.

Control of CIP inclusion

The system controls inclusion of the CIP in the IAM. The system controls inclusion of the CIP when the system assigns a set of CIP values against a trunk group. The value of a CIP is the CIC contained in the CIP.

This feature adds option CICSET to table TRKGRP for ATC trunk groups. Enter option CICSET with either the name of a CIC set in table CICSETS defined earlier or the string SSET. An option CICSET value of SSET indicates that all CICs are sent in a CIP on the trunk group.

Carrier Identification Parameter (continued)

The system sends the CIP for intertoll trunks. The system does not perform checks for assigned CIC sets.

The system performs a set search to determine if the system must send the CIP. The search occurs when a the system assigns the CIC set from table CICSETS against an ATC trunk group. The CIC loads in the CIP for the IAM if the set assigned against the trunk group contains the CIC.

An ATC trunk group without option CICSET entered in table TRKGRP does not include the CIP in outgoing IAMs. No assigned CIC set is the default for tuples in table TRKGRP.

The EA FGD SS7 to SS7 calls that arrive at the AT without the CIP do not contain the CIP in the outgoing IAM. You cannot determine the appropriate CIP at the AT.

Table CICSETS

This feature introduces table CICSETS. This table defines and stores CIC sets for the control of CIP inclusion in the IAM. Use this table to perform the following actions:

- define CIC set names
- add CICs to CIC sets
- delete CICs from CIC sets

Tuples in table CICSETS contain the 1- to 16-character CIC set name. These tuples contain the CIC value 0000-9999.

A CIC set in table CICSETS includes all tuples with the same CIC set name. Tuples are in order of CIC set name and CIC value.

You cannot change current tuples in table CICSETS. Additions and deletions can occur.

EA FGD MF to SS7 interworking

This feature defines a new extension block type. The extension block stores the first 0ZZ+XXX(X) or 1N/N'X+XXX(X)+CCC for EA FGD MF to SS7 calls. The system stores these calls until the calls terminate or the system abandons the call. The extension block is referenced to determine the CIP value for the IAM. To determine if you must send the CIP, see "Control of CIP inclusion" in this feature description.

Carrier Identification Parameter (continued)

Office parameter EA_FGD_MFTOSS7_CIP

This feature adds office parameter EA_FGD_MFTOSS7_CIP to table OFCVAR. This parameter controls the inclusion of the CIP in the outgoing IAM for EA FGD MF to SS7 calls. A value of Y (yes) for this parameter indicates that the outgoing IAM must include the CIP. A value of N (no) indicates that the outgoing IAM must not include the CIP.

Office parameter EA_MF_SS7_EXT_BLOCK_COUNT

This feature adds office parameter EA_MF_SS7_EXT_BLOCK_COUNT to table OFCENG. This parameter indicates the number of extension blocks available to store digit stream information for EA FGD MF to SS7 calls. All North American DMS-100/200 switch loads contain this parameter. You can set the value from 0 to 800.

Office parameter EA_MF_SS7_EXT_BLOCK_COUNT must be non-zero in offices that require the CIP on EA FGD MF to SS7 interworking calls.

Note: If the system cannot allocate an extension block for an EA FGD MF to SS7 call, the system generates log EQAC100. The system routes the call to treatment. Generation of log EQAC100 indicates that the value of office parameter EA_MF_SS7_EXT_BLOCK_COUNT must increase.

Translations table flow

The Carrier Identification Parameter does not affect translations table flow.

Limits

The Carrier Identification Parameter does not have limits.

Interactions

The Carrier Identification Parameter does not have functionality interactions.

Activation/deactivation by the end user

The Carrier Identification Parameter does not require activation or deactivation by the end user.

Billing

The Carrier Identification Parameter does not affect billing.

Station Message Detail Recording

The Carrier Identification Parameter does not affect Station Message Detail Recording (SMDR).

Carrier Identification Parameter (continued)

Datafilling office parameters

The office parameters that the Carrier Identification Parameter uses appear in the following table. Refer to *Office Parameters Reference Manual* for additional information about office parameters.

Office parameters that are used by Carrier Identification Parameter

Table name	Parameter name	Explanation and action
OFCVAR	EA_FGD_MFTOSS7_CIP	Indicates that this parameter controls the inclusion of the CIP in the outgoing IAM for EA FGD MF to SS7 calls. Enter Y to indicate that the outgoing IAM must include the CIP. Enter N if this condition does not apply. The default value is N.
OFCENG	EA_MF_SS7_EXT_BLOCK_COUNT	This parameter indicates the number of extension blocks available to store digit stream information for EA FGD MF to SS7 calls. Enter a value from 0 to 800. The default value is 0.

Datafill sequence

The tables that require datafill to install Carrier Identification Parameter, appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Carrier Identification Parameter

Table	Purpose of table
CICSETS	CIC Sets. This table defines and stores CIC sets for the control of CIP inclusion in the IAM.
TRKGRP	Trunk Group. This table contains information about trunk groups.

Datafilling table CICSETS

The datafill for Carrier Identification Parameter for table CICSETS appears in the following table. The fields that apply to Carrier Identification Parameter

Carrier Identification Parameter (continued)

appear in the table. See the data schema section of this document for a description of the other fields.

Datafilling table CICSETS

Field	Subfield or refinement	Entry	Explanation and action
LTKEY		16-character Set Name string number between 0000-9999	Indicates logical Tuple key. This field contains the 16-character Set Name string and the CIC value. The CIC value is between 0000 and 9999.

Datafill example for table CICSETS

Sample datafill for table CICSETS appears in the following example:

MAP example for table CICSETS

```

LTKEY
-----
CARRIER_A_DATA      0468
CARRIER_A_DATA      0838
CARRIER_A_SPEECH    0063
CARRIER_B_DATA      9742
    
```

Error messages for table CICSETS

The following error message applies to table CICSETS.

Error message for table CICSETS

Error message	Explanation and action
CIC set is assigned against an ATC trunk group type in table TRKGRP.	Indicates table CICSETS must contain a minimum of one tuple with a specified set name before the system can assign the tuple. The system must assign the tuple with option CICSET in table TRKGRP. Attempts to delete the last tuple for a CIC set assigned against an ATC trunk group tuple in table TRKGRP cannot occur.

Carrier Identification Parameter (continued)

Datafilling table TRKGRP

Datafill for Carrier Identification Parameter for table TRKGRP appears in the following table. The fields that apply to Carrier Identification Parameter appear in the table. See the data schema section of this document for a description of the other fields.

Datafilling table TRKGRP

Field	Subfield or refinement	Entry	Explanation and action
	OPTIONS	see subfield	Indicates options. This field contains subfield OPTION and refinements.
	OPTION	CICSET	Indicates option. To indicate the carrier identification code set option, enter CICSET and datafill refinement CICSET.
	CICSET	alphanumeric (1 to 16 characters) or SSET	Indicates carrier identification code set name. If the entry in field OPTION is CICSET, enter the 1- to 16-character CIC set name from table CICSETS. You can enter SSET to indicate that IAM for the trunk group must include the CIP. If field OPTION and refinement CICSET are blank, the system assumes the default value. If the CICSET is blank, a CIC set for the trunk group is not assigned.

Datafill example for table TRKGRP

Sample datafill for table TRKGRP appears in the following example:

MAP example for table TRKGRP

```

GRPKEY                GRPINFO
-----
ISUP2WITT
      ATC 0 ELO NCRT 2W NIL MIDL EAP1 NSCR 613 ITT Y EAPLAN
Y 0 COMB N (CICSET CARRIER_A_DATA)$
    
```

Carrier Identification Parameter (end)

Error messages for table TRKGRP

The following error message applies to table TRKGRP:

Error message for table TRKGRP

Error message	Explanation and action
CIC set not defined yet in table CICSETS.	Indicates attempts to assign a CIC set not entered in table CICSETS to an ATC trunk group in table TRKGRP cannot occur.

Tools for verifying translations

The Carrier Identification Parameter does not use tools for verifying translations.

SERVORD

The Carrier Identification Parameter does not use SERVORD.

Carrier Identification Parameter for SS7

Ordering codes

Functional group ordering code: LOC00002

Functionality ordering code: does not apply

Release applicability

DMSCCM04 and later versions

Requirements

This document includes all the datafill information for this functionality. This functionality can require specified software or hardware for complete installation.

Description

The Carrier Identification Parameter for SS7 feature supports interexchange carrier (IXC) interconnection with the ISDN user part (ISUP) protocol. This feature allows the inclusion of the carrier identification parameter (CIP) in the ISUP Initial Address Message (IAM). This feature allows the inclusion of the CIP for feature group D (FGD), 700, 800-NXX and 900-NXX calls based on the trunk groups and CIP values.

Operation

The CIP is an optional parameter sent in the forward direction to the transit network. The CIP indicates the carrier that the originator selected. The IAM used in ISUP connections includes the CIP. The assignment of a set of CIP values against a trunk group controls CIP inclusion in the IAM. The set of CIP values assigned to a trunk determines if the IAM includes the CIP. The value of a CIP is the carrier identification code (CIC) contained in the CIP.

Data entry of a CIC set can occur against an access to carrier (ATC) trunk group. To enter a CIC set against an ATC trunk group, you must enter option CICSET in table TRKGRP. Trunk groups without the entry of the default option CICSET do not include the CIP in the IAM. If data entry of option CICSET as SSET occurs for a trunk group, the IAM for the trunk group includes the CIP.

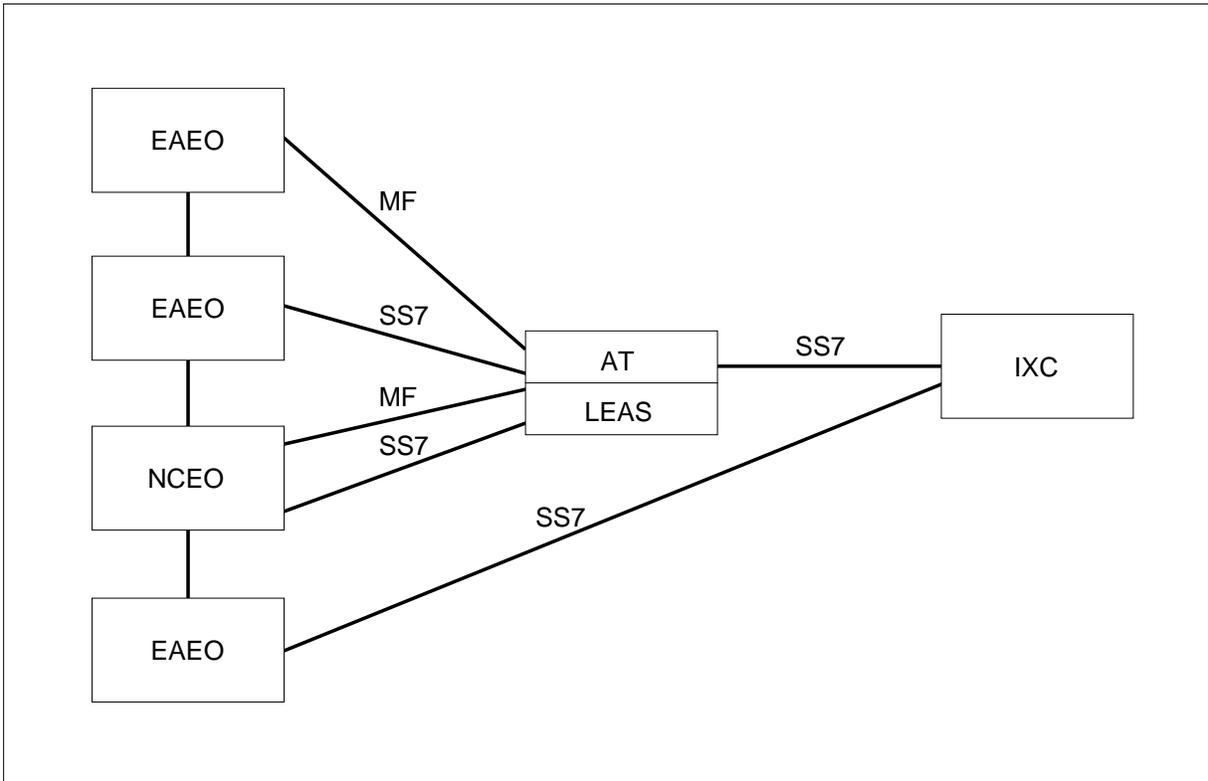
The system can deliver the CIP to the IXC on all signaling system 7 (SS7) FGD calls. Local exchange carriers (LEC) can also provide CIP delivery to IXCs on equal access (EA) FGD multifrequency (MF) to SS7 interworking calls.

Carrier Identification Parameter for SS7 (continued)

The CIP allows IXC's to combine services on a single trunk group with one of the following:

- LEC equal access end office (EAEO)
- non-compliant end office (NCEO)
- access tandem (AT)

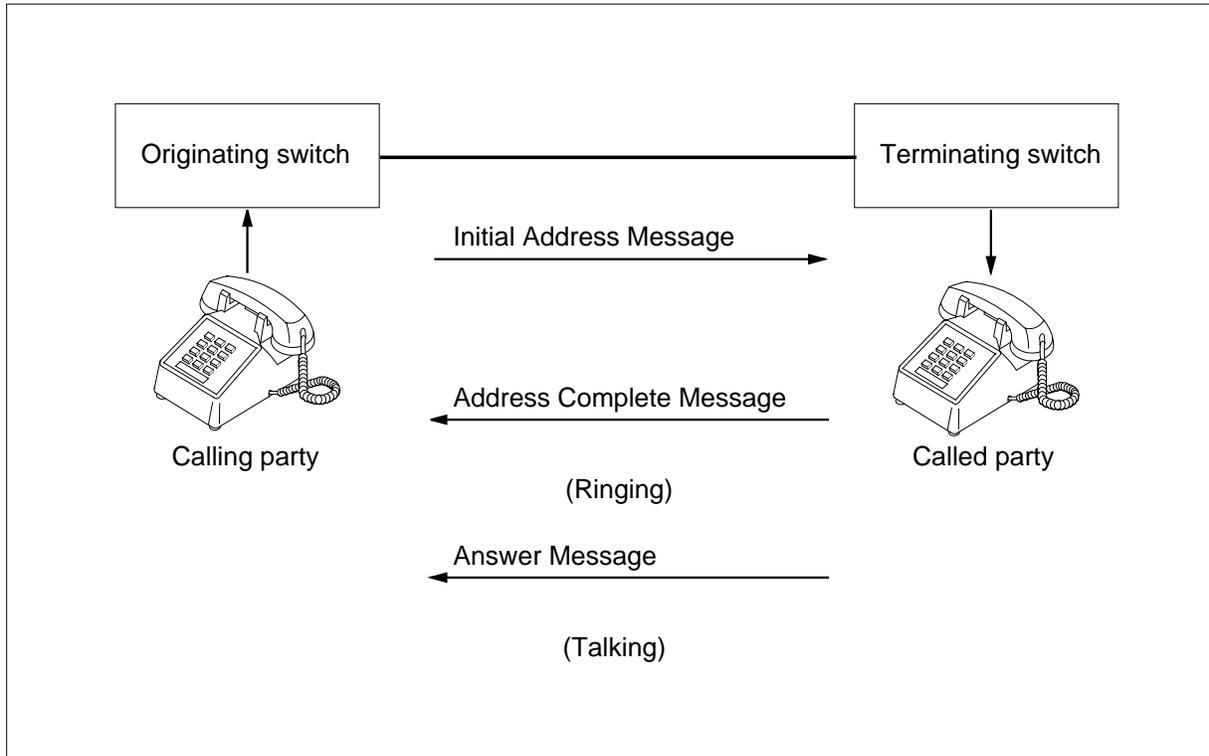
Example IXC configuration



Initial address message

The IAM is the first message sent to set up an ISUP trunk call. The ISUP protocol uses dedicated signaling links to exchange information. The signaling used to set up an ISUP trunk call appears in the following figure:

Carrier Identification Parameter for SS7 (continued)

ISUP trunk setup message sequence**Interexchange carriers**

An IXC can be any of the following:

- an intra-LATA carrier that provides connections within a local access and transport area (LATA)
- an inter-LATA carrier that provides connections between LATAs and serving areas. The location of the calling and called subscribers is in World Zone 1
- an international carrier that provides connections between subscribers within and outside of the United States
- a consolidated carrier that functions as both an inter-LATA or intra-LATA carrier and an international carrier

Carrier identification parameter optionality

All non-interworking SS7 calls that terminate on an IXC include the CIP when the IXC requests the CIP. The IXC can request the CIP based on a specified trunk group. The IXC can request the CIP based on a CIP value on a specified trunk group.

Carrier Identification Parameter for SS7 (continued)

An SS7 AT can transmit the CIP that the EAEO sends, based on the following:

- specified outgoing trunk group
- CIP value on a specified outgoing trunk group.

The originating EAEO can include the CIP based on the following:

- a specified trunk group
- a CIP value on a specified trunk group

An originating EAEO that terminates to an IXC includes the CIP based on the following:

- a specified trunk group
- a CIP value on a specified trunk group

The system generates the CIP that the IXC requests for all of the following calls:

- FGD
- 700
- 800-NXX
- 900-NXX
- 800 database calls

Carrier identification parameter and call characteristics

The digits collected from the caller determine the the CIP value. The trunk group or CIP value and trunk group determines if the IAM includes the CIP.

The 0/1+ calls use the presubscribed carrier information to determine the CIP value. The alternative dialing plans 10XXX +7/10 digits and 101XXXX +7/10 digits use the X digits to determine the IXC for the call. The system loads the CIP with the CIC for the IXC.

The 700+NXX+XXXX calls use the presubscribed carrier information to determine the CIP value. The alternative dialing plans 10XXX+700+... and 101XXXX+700+... use the X digits to determine the IXC for the call. The system loads the CIP with the CIC for the IXC.

The 800-NXX and 900-NXX calls have carriers with an assigned NXX value. The EAEO translates the NXX value to obtain the IXC for the call. The CIP contains the CIC of the translated IXC if the IXC requires a CIP.

Carrier Identification Parameter for SS7 (continued)

The E800 database calls from an EAEO that terminate on an AT service switching point (SSP) always contain the CIP. The correct CIP value can or cannot be present at the EAEO when the AT performs the SSP function. The SSP determines the carrier for the call. The transaction capabilities application part (TCAP) response message from the SSP contains the carrier identifier.

The E800 database calls that the EAEO functions for, as an SSP do not use the presubscribed carrier code of the originator. The SSP determines the carrier for the call. The TCAP response message from the SSP contains the carrier identifier.

The EA FGD MF to SS7 interworking calls, include the CIP for each LEC option. The X digits received in the KP+0ZZ+XXX(X)+ST determine the CIP value for national calls. International calls use the XXX(X) code in the KP+1N/N'X+XXX(X)+CCC+ST.

Note: KP = key pulse. 0ZZ = domestic identification digits. These digits indicate the call type for direct-dialed and operator-assisted calls. XXX = carrier identification code. 1NX = international direct dial identification digits. 1'NX = international operator-assisted identification digits. ST = start pulse. CCC = three-digit pseudo-country code.

The SS7 trunks do not support 950-XXXX calls to a feature group B (FGB) carrier. The SS7 trunks do not use the CIP parameter.

The CIP has support for FGD LATA Equal Access System (LEAS) calls.

Control of CIP inclusion

The set of CIP values assigned to a trunk group determines if the IAM includes the CIP. The value of a CIP is the CIC contained in the CIP.

This feature adds option CICSET to table TRKGRP for ATC trunk groups. Option CICSET contains the name of a CIC set defined earlier in table CICSETS or the string SSET. An option CICSET value of SSET indicates that the system sends all CICs in a CIP on the trunk group.

The system always sends the CIP for intertoll trunks. The system does not perform checks for assigned CIC sets.

The system performs a set search. The search determines if the system must send the CIP when an ATC trunk has an assigned CIC set. If the set assigned to the trunk group contains the CIC, the system loads the CIC in the CIP for the IAM.

Carrier Identification Parameter for SS7 (continued)

An ATC trunk group without option CICSET entered in table TRKGRP does not include the CIP in outgoing IAMs. The tuples in table TRKGRP do not have an assigned CIC set as the default.

The EA FGD SS7 to SS7 calls that arrive at the AT without the CIP do not contain the CIP in the outgoing IAM. You cannot determine the correct CIP at the AT.

Table CICSETS

This feature introduces table CICSETS. This table defines and stores CIC sets for the control of CIP inclusion in the IAM. Use this table to define CIC set names and add or delete CICs from CIC. Tuples in table CICSETS contain the following:

- 1- to 16-character CIC set name
- CIC value is 0000-9999

A CIC set in table CICSETS contains all tuples with the same CIC set name. Determine the order of the tuples by CIC set name and CIC value.

You cannot modify current tuples in table CICSETS. You can add and delete tuples in table CICSETS.

EA FGD MF to SS7 interworking

This feature defines a new extension block type. The extension block stores the first 0ZZ+XXX(X) or 1N/N'X+XXX(X)+CCC for EA FGD MF to SS7 calls. The extension block stores the call until the call terminates or is abandoned. The system refers to the extension block to determine the CIP value for the IAM. See *Control of CIP inclusion*, in this feature description.

Office parameter EA_FGD_MFTOSS7_CIP

This feature adds office parameter EA_FGD_MFTOSS7_CIP to table OFCVAR. This parameter controls the inclusion of the CIP in the outgoing IAM for EA FGD MF to SS7 calls. A value of Y (yes) for this parameter indicates that the outgoing IAM must include the CIP. A value of N (no) indicates that the outgoing IAM does not include the CIP.

Office parameter EA_MF_SS7_EXT_BLOCK_COUNT

This feature adds office parameter EA_MF_SS7_EXT_BLOCK_COUNT to table OFCENG. This parameter indicates the number of extension blocks available to store digit stream information for EA FGD MF to SS7 calls. This parameter is present in all North American DMS-100/200 switch loads. Set the value from 0 to 800.

Carrier Identification Parameter for SS7 (continued)

Office parameter EA_MF_SS7_EXT_BLOCK_COUNT must not be zero in offices that require the CIP on EA FGD MF to SS7 interworking calls.

Note: If the system cannot allocate an extension block for an EA FGD MF to SS7 call, the system generates log EQAC100. The system also routes the call to treatment. The generation of log EQAC100 indicates that the value of office parameter EA_MF_SS7_EXT_BLOCK_COUNT must increase.

Tools for verifying translations

The Carrier Identification Parameter for SS7 does not affect tools for verifying translations.

Limits

The Carrier Identification Parameter for SS7 does not have limits.

Interactions

The Carrier Identification Parameter for SS7 does not have functionality interactions.

Activation/deactivation by the end user

The Carrier Identification Parameter for SS7 does not require activation or deactivation by the end user.

Billing

The Carrier Identification Parameter for SS7 does not affect billing.

Station Message Detail Recording

The Carrier Identification Parameter for SS7 does not affect Station Message Detail Recording (SMDR).

Carrier Identification Parameter for SS7 (continued)

Datafilling office parameters

The office parameters for Carrier Identification Parameter for SS7 appear in the following table. Refer to *Office Parameters Reference Manual* for more information about office parameters,.

Office parameters by Carrier Identification Parameter for SS7

Table name	Parameter name	Explanation and action
OFCVAR	EA_FGD_MFTOSS7_CIP	This parameter controls the inclusion of the CIP in the outgoing IAM for EA FGD MF to SS7 calls. Enter Y to indicate that the outgoing IAM must include the CIP. If the IAM does not require the CIP, enter N. The default value is N.
OFCENG	EA_MF_SS7_EXT_BLOCK_COUNT	This parameter indicates the number of extension blocks available to store digit stream information for EA FGD MF to SS7 calls. Enter a value from 0 to 800. The default value is 0.

Datafill sequence

The tables that require datafill to provide the Carrier Identification Parameter for SS7 appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Carrier Identification Parameter for SS7

Table	Purpose of table
CICSETS	CIC Sets. This table defines and stores CIC sets for the control of CIP inclusion in the IAM.
TRKGRP	Trunk Group. This table contains information about trunk groups.

Datafilling table CICSETS

Datafill for the Carrier Identification Parameter for SS7 for table CICSETS appears in the following table. The fields that apply to Carrier Identification

Carrier Identification Parameter for SS7 (continued)

Parameter for SS7 appear in the table. See the data schema section of this document for a description of the other fields.

Datafilling table CICSETS

Field	Subfield or refinement	Entry	Explanation and action
LTKEY		16-character Set Name string number between 0000-9999	Logical Tuple key. This field contains the 16-character Set Name string and the CIC value. The CIC value is between 0000 and 9999.

Datafill example for table CICSETS

Sample datafill for table CICSETS appears in the following example:

MAP example for table CICSETS

```

LTKEY
-----
CARRIER_A_DATA      0468
CARRIER_A_DATA      0838
CARRIER_A_SPEECH    0063
CARRIER_B_DATA      9742
    
```

Error messages for table CICSETS

The following error message applies to table CICSETS:

Error message for table CICSETS

Error message	Explanation and action
CIC set is assigned against an ATC trunk group type in table TRKGRP.	Table CICSETS must contain a minimum of one tuple with a specified set name. This table must contain a tuple before you can assign option CICSET to the tuple in table TRKGRP. You cannot delete the last tuple for a CIC set assigned against an ATC trunk group tuple in table TRKGRP fail.

Carrier Identification Parameter for SS7 (continued)

Datafilling table TRKGRP

Datafill for the Carrier Identification Parameter for SS7 for table TRKGRP, appears in the following table. The fields that apply to Carrier Identification Parameter for SS7 appear in the table. See the data schema section of this document for a description of the other fields.

Datafilling table TRKGRP

Field	Subfield or refinement	Entry	Explanation and action
	OPTIONS	see subfield	Options. This field contains subfield OPTION and refinements.
	OPTION	CICSET	Option. To indicate the carrier identification code set option, enter CICSET and enter refinement CICSET.
	CICSET	alphanumeric 1- to 16-character or SSET	Carrier identification code set name. If the entry in field OPTION is CICSET, enter the 1- to 16-character CIC set name from table CICSETS. You can also enter SSET to indicate that the IAM includes the CIP for the trunk groups. If field OPTION and refinement CICSET are blank, the default value applies. The default applies when the trunk group does not have an assigned CIC set.

Datafill example for table TRKGRP

Sample datafill for table TRKGRP, appears in the following example:

MAP example for table TRKGRP

```

GRPKEY                GRPINFO
-----
ISUP2WITT
      ATC 0 ELO NCRT 2W NIL MIDL EAP1 NSCR 613 ITT Y EAPLAN
Y 0 COMB N (CICSET CARRIER_A_DATA)$
    
```

Carrier Identification Parameter for SS7 (end)

Error messages for table TRKGRP

The following error message applies to table TRKGRP.

Error message for table TRKGRP

Error message	Explanation and action
CIC set not defined yet in table CICSETS.	Attempts to assign a CIC set that table CICSETS does not contain to an ATC trunk group in table TRKGRP fail.

Tools for verifying translations

The Carrier Identification Parameter for SS7 does not use tools for verifying translations.

SERVORD

The Carrier Identification Parameter for SS7 does not use SERVORD.

5 Datafilling LOC Dialing Enhancements

The following chapter describes the LOC Dialing Enhancements, LOC00004, functionality.

International 15-Digit Dialing

Ordering codes

Functional group ordering code: LOC00004

Functionality ordering code: not applicable

Release applicability

NA004 and later versions

International 15-Digit Dialing was introduced in NA004.

Requirements

International 15-Digit Dialing requires the U.S. Direct Distance Dialing Service, UDD00001.

Description

The International Telecommunications Union (ITU) established the standards for expanded dialing formats in August 1991. The ITU *Recommendation E.164, Numbering Plan for the ISDN Era* contains the specifications for 15 digit numbers. *Recommendation E.165, Timetable for Coordinated Implementation of the Full Capability of the Numbering Plan for the ISDN Era* establishes the time for global network readiness. The time is 23 hours 59 minutes Coordinated Universal Time (6:59 p.m. Eastern Standard Time) on December 31, 1996. The ITU refers to this as Time T.

North America retains an 11-digit format. To maintain international dialing services for subscribers, local and interexchange carriers must perform system updates. These updates must occur to store and process international numbers to a maximum of 15 digits.

Operation

The international numbering plan divides the dialed number in two parts:

- the country code (CC)
- the national significant number (NSN)

The CC can have one, two, or three digits under the current and expanded dialing plans. The limit of the NSN is now 11 digits. The NSN unit can increase to 14 digits when the expanded dialing plan takes effect. Together the CC and NSN cannot exceed 12 digits. The CC and NSN cannot exceed 15 digits under the expanded dialing plan.

The 15-Digit International Dialing requirement combines with the EA dialing plan. This collection creates a maximum of 25 dialed digits (101XXXX + 011

International 15-Digit Dialing (continued)

+ 15-digit CC + NSN) for a plain old telephone service (POTS) call. The 15 digit dialing requirement combines with equal access and centrex dialing plans. This collection creates a maximum of 28 dialed digits.

The caller dials the carrier access code (10XXX or 101XXXX) in casual access conditions. These conditions occur when the caller wants a carrier different from the carrier set for the calling station.

A centrex subscriber uses a centrex access code to reach the public network. A centrex access code can contain a maximum of three digits.

The expansion from 12 digits to 15 digits impacts the following areas in DMS-100 and DMS-200 software:

- line and trunk digit collection
- digit storage
- outpulsing
- data schema
- automatic message accounting (AMA)
- translation and verification
- logs
- service orders

The system must accommodate and process a larger set of digits than in the previous software release in these areas. This description covers data schema, AMA, translation and verification, and service orders.

Refer to "Log Report Reference Manual" for more information on logs. The affected logs include the following:

- CFW100
- CFW102
- LINE138
- SLE101
- TRK138

International 15-Digit Dialing (continued)

The following features improve to support International 15-Digit Dialing:

- POTS Call Forwarding features, including
 - Call Forwarding (CFW)
 - Call Forward Busy Line (CFBL)
 - Call Forwarding Do Not Answer (CFDA)
 - Call Forwarding Group Do Not Answer (CFGDA)
 - Remote Call Forwarding (RCF)
 - Remote Call Forwarding Equal Access (RCFEA)
- POTS Speed Calling types SC1 and SC2
- Last Number Redial (LNR)
- Selective Call Forwarding (SCF)
- Enhanced 800 (E800) and 800 Plus (800P) services improve to attach the E.164 number module code to call code 142. These services also improve to output a maximum of 15-digit CC + NSN. The E.164 number module code attaches to call code 141 for E800 service.
- The Lata Equal Access System (LEAS) feature improves for AMA to append the E.164 number module code to call code 110. This feature improves to output a maximum of a 15-digit CC + NSN.
- Equal Access Intermediate Tandem (EAIT)
- Automatic Line (AUL) expands to support a maximum of a 21-digit number that allows 011 + (15-digit CC + NSN) for POTS. For Meridian Digital Centrex (MDC) calls made using AUL, the 21-digit number includes the Integrated Business Network (IBN) access code and the 011 + (15-digit CC + NSN). The system can support a 14-digit international number with a 1-digit IBN access code. The system can support a 12-digit international number with a 3-digit IBN access code.
- Cellular mobile carrier (CMC) MF monitor allows monitoring of the third stage of FGD signaling. The monitoring occurs for inclusion in AMA call codes 066 and 110.
- Feature Group D (FGD) digit collection for multifrequency (MF) to integrated services digital network (ISDN) user part (ISUP) interworking calls
- The command interpreter (CI) commands QCM (Query Call Memory) and WCM (Write Call Memory)
- The digital recorded announcement machine (DRAM) utility

International 15-Digit Dialing (continued)

Equal access switching point (EASP) and warm line software do not require changes to support International 15-Digit Dialing.

Installation of International 15-Digit Dialing does not add new functionalities to the DMS-100 and DMS-200 software. The installation adds the ability to support 15-digit international dialing.

Translations table flow

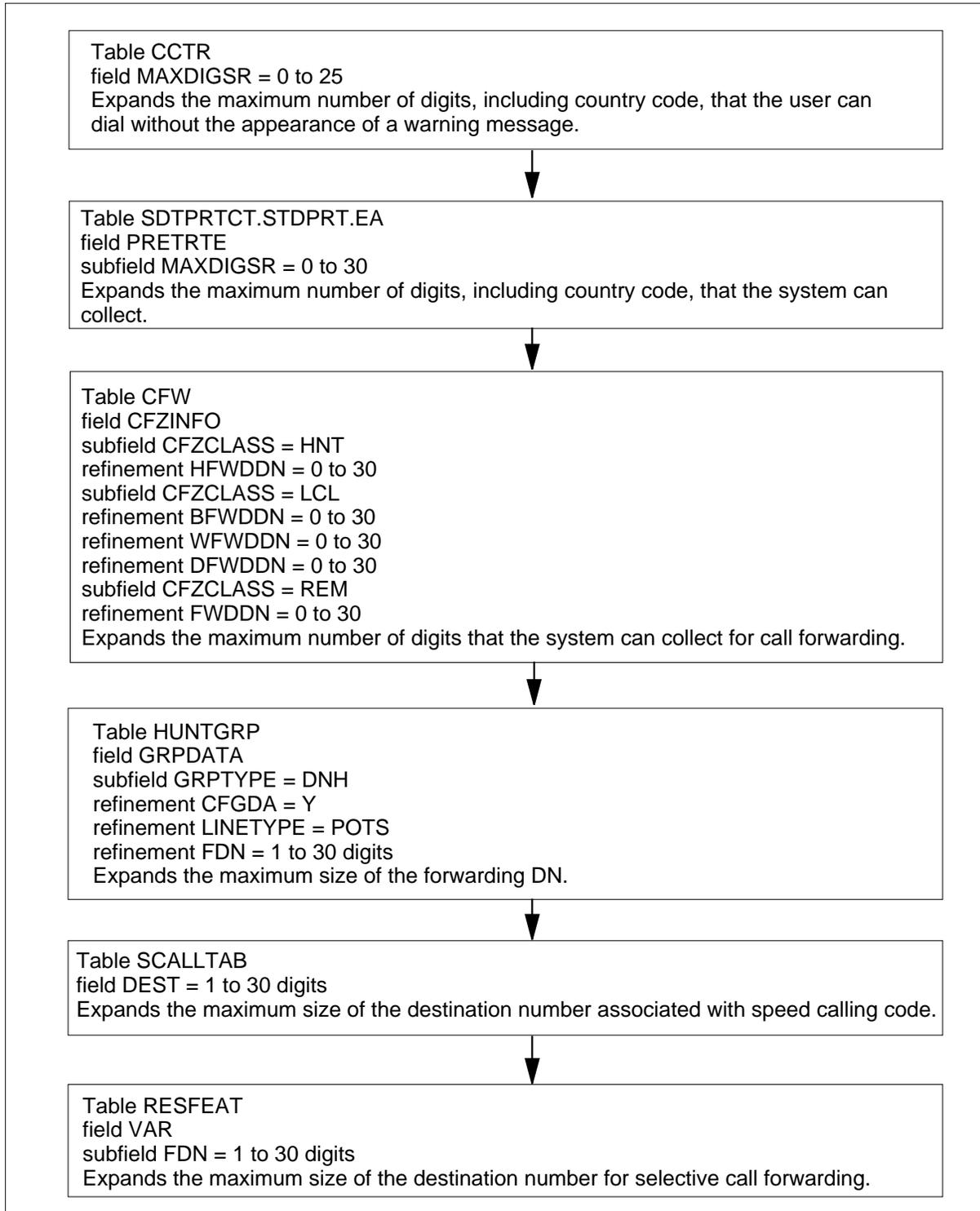
The description of the International 15-Digit Dialing translations tables appears in the following list:

- Table CCTR (Country Code) is a requirement in local, toll, or combined local/toll switching units. The arrangement of the switching units is for direct-dial overseas routing.
- Table STDPRTCT.STDPRT Selector EA (Standard Pretranslation route selector: EA) translates EA calls in one or two pretranslation stages.
- Table CFW (Regular and Remote Call Forwarding) allows POTS subscribers to use Call Forwarding and Remote Call Forwarding. The POTS subscribers can use Call Forwarding and Remote Call Forwarding to correct directory numbers (DN) of a maximum of 25 digits.
- Table HUNTGRP (Hunt Group) contains the data for each hunt group assigned in the switching unit.
- Table SCALLTAB (Speed Calling) contains the digits of the destination number.
- Table RESFEAT (Residential Line Feature) contains the assignment of the CLASS feature for residential lines.

The International 15-Digit Dialing translation process appears in the following flowchart.

International 15-Digit Dialing (continued)

Table flow for International 15-Digit Dialing



International 15-Digit Dialing (continued)

Datafill example for International 15-Digit Dialing

Datafill table	Example data
CCTR	42 T 042 7 15 T OFRT 6 Y
STDPRTCT. STDPRT Selector EA	1010115 1010115 EA DD 7 P CAR1 Y OFRT 700 8 25 Y
CFW	0 REM RE 613 6215432 1010333011431234567890123 10 150 N UNDT 1 N
HUNTGRP	1001 909 9509151 DNH DNH (N N N RCVD N N Y POTS NSCR 10 12 1010999011431234567890123 N N N 5 \$
SCALLTAB	HOST 00 0 00 00 S SC1 3 2258493
RESFEAT	HOST 05 0 01 05 0 SCF SCF NOAMA INACT 38743984738472348

Limits

International 15-Digit Dialing does not have limits.

Interactions

International 15-Digit Dialing does not have functionality interactions.

Activation/deactivation by the end user

International 15-Digit Dialing does not require activation or deactivation by the end user.

Billing

The user can use the E.164/X.121 number module, module code 164, for the installation of International 15-Digit Dialing. Module code 164 attaches to Bellcore AMA Format (BAF) structures when the international number dialed exceeds 12 digits.

An example of an AMA record the system generates for call code 110 appears in the following figure. The system attaches a module code 164 to the record.

International 15-Digit Dialing (continued)

Call code 110

```

HEX ID:AA  STRUCTURE CODE:40625C  CALL CODE:110C  SENSOR TYPE:036C
SENSOR ID:0000000C  REC OFFICE TYPE:036C  REC OFFICE ID:0000000C
DATE:40429C  TIMING IND:00000C  STUDY IND:0000000C  CLD PTY OFF-HK:1C
SERVICE OBSERVED:0C  OPER ACTION:0C  SERVICE FEATURE:000C  ORIG NPA:613C
ORIG NUMBER:6212061C  OVERSEAS IND:8C  TERM NPA:00000C
TERM NUMBER:0000000C  CONNECT TIME:1550518C  ELAPSE TIME:000098182C
IC/INC PREFIX:00001C  CC DATE:40429C  CC TIME:1550518C
ELAPSED CC:000000000C  IC/INC EVENT STATUS:010C  TRUNK GROUP NUMBER:20230C
ELAPSED CC:000000000C  IC/INC EVENT STATUS:010C  TRUNK GROUP NUMBER:20230C
ROUTING INDICATOR:1C  DIALING INDICATOR:1C  ANI INDICATOR:1C
MODULE CODE:164C  NUMBER IDENTITY:2C  COUNTRY CODE/DNIC:20020C
SIGNIFICANT DIGITS IN NEXT FIELDS:013C  DIGITS:003455759042145C
MODULE CODE:000C
  
```

An ordered list of fields for module code 164 appears in the following table.

Module code 164

Information	Field number	Number of characters
Module code	88	4
Number identity	76	2
County code or Data Network Identification Code	165	6
Important digits in next field	55	4
Digits	126	16

Information for data field 88 appears in the following table.

Data field 88

Character	Value	Meaning
1-3	164	E.164/X.11 number module
4	C	Sign (hex C)

International 15-Digit Dialing (continued)

Information for data field 76 appears in the following table.

Data field 76

Character	Value	Meaning
1	1	Calling party
	2	Called party <i>Note:</i> This value is always 2. North American dialing plan software does not support an originating number greater than ten digits.
	3-9	Reserved
2	C	Sign (hex C)

Information for data field 165 appears in the following table.

Data field 165

Character	Value	Meaning
1	1	E.164 number with one-digit country code
	2	E.164 number with two-digit country code
	3	E.164 number with three-digit country code
	4	X.121 number
2-5	Digit(s)	Country Code or Data Network ID code
6	C	Sign (hex C)

Information for data field 55 appears in the following table.

Data field 55

Character	Value	Meaning
1-3	Digit(s)	Number of important digits
4	C	Sign (hex C)

International 15-Digit Dialing (continued)

Information for data field 126 appears in the following table.

Data field 126

Character	Value	Meaning
1-15	digits	A maximum of a 15-digit number
16	C	Sign (hex C)

Station Message Detail Recording

International 15-Digit Dialing does not affect Station Message Detail Recording. Refer to *International 15-Digit Dialing for MDC*.

Datafilling office parameters

International 15-Digit Dialing does not affect office parameters.

Datafill sequence

The tables that require datafill to implement International 15-Digit Dialing appear in the following table.

Datafill requirements for International 15-Digit Dialing

Table	Purpose of table
CCTR	Country Code. Local, toll, or combined local/toll switching units require this table. Configuration the combined local/toll switching units allows direct-dial overseas routing. Translation can enter this feature if the standard pretranslator specifies international for the prefix digits.
STDPRTCT. STDPRT Selector EA	Standard Pretranslation (route selector EA). This table translates EA calls in one or two pretranslation stages.
CFW	Regular and Remote Call Forwarding. This table allows POTS subscribers to use Call Forwarding and Remote Call Forwarding to correct DNs. The DN must have a maximum of 25 digits. The 25 digits include the 10XXX or 101XXXX prefix digits that signify the carrier. This DN length allows Call Forwarding to an international DN.
HUNTGRP	Hunt Group. This table contains the data for each hunt group assigned in the switching unit.
SCALLTAB	Speed Calling. This table contains the digits of the destination number.
RESFEAT	Residential Line Feature. This table contains the assignment of the CLASS feature for residential lines.

International 15-Digit Dialing (continued)

Datafilling table CCTR

Datafill for International 15-Digit Dialing for table CCTR appears in the following table. The field that applies to International 15-Digit Dialing appears in this table.

Datafilling table CCTR

Field	Subfield or refinement	Entry	Explanation and action
MAXDIGSR		0 to 25	Maximum digits required. This field contains the maximum digits required, including the country code. Enter the maximum number of digits supported to the country.

Datafill example for table CCTR

Sample datafill for table CCTR appears in the following example. This datafill produces the warning message that appears in "Error messages for table CCTR" following the example.

MAP example for table CCTR

CCNAME	GIVENCC	MINDIGSR	MAXDIGSR	TMTORRTE
42	T 042	7	15	T OFRT 6 Y

Error messages for table CCTR

The following error message applies to table CCTR. The following error message is the same message that appears after the installation of International

International 15-Digit Dialing (continued)

15-Digit Dialing. The previous version of this message warned of datafill in excess of 13 digits. Table control modifies the previous version.

Error messages for table CCTR

Error message	Explanation and action
<p>*****WARNING***** THE MAXIMUM NUMBER OF COUNTRY CODE PLUS NATIONAL SIGNIFICANT DIGITS IS 15. SETTING THE FIELD MAXDIGSR GREATER THAN 15 MAY HAVE SERIOUS CONSEQUENCES.</p>	<p>This error message appears when the user enters the field MAXDIGSR with a number larger than 15. Reduce the MAXDIGSR datafill total to a maximum of 15.</p>

Datafilling table STDPRTCT.STDPRT selector EA

Datafill for International 15-Digit Dialing for table STDPRTCT.STDPRT selector EA appears in the following table. The fields that apply to International 15-Digit Dialing appear in this table.

Datafilling table STDPRTCT.STDPRT selector EA (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
PRETRTE		see subfield	Pretranslation route. This field contains subfield PRERTSEL and several refinements. This feature affects refinement RTEAREA.
	RTEAREA	see subfield	Route area. This field contains the subfield RTEPRSNT.

International 15-Digit Dialing (continued)

Datafilling table STDPRTCT.STDPRT selector EA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	RTEPRSNT	Y or N	<p>Route present. When RTEPRSNT is Y, the following refinements require datafill:</p> <ul style="list-style-type: none"> • EXTRTEID • MINDIGSR • MAXDIGSR • OCS <p>When RTEPRSNT is N, refinements are not requirements. Enter Y.</p>
	MAXDIGSR	0 to 30	<p>Maximum digits received. This refinement equals the maximum number of digits to be collected, excluding any IBN prefix digits. Enter the maximum number of digits to be collected, excluding IBN prefix digits.</p>

Datafill example for table STDPRTCT.STDPRT selector EA

Sample datafill where MAXDIGSR equals 25 appears in the following example. A tuple in table STDPRTCT.STDPRT selector EA appears in the following example.

MAP example for table STDPRTCT.STDPRT selector EA

```

FROMDIGS  TODIGS  PRETRTE
-----
1010115   1010115  EA  DD 7 P CAR1 Y OFRT 700 8 25 Y
    
```

Error messages for table STDPRTCT.STDPRT selector EA

If field MAXDIGSR is datafilled with a number larger than 25, the following error message appears:

```

*****WARNING*****
THE MAXIMUM NUMBER OF DIGITS (INCLUDING
15 INTERNATIONAL DIALING PLAN DIGITS) IS 25.
SETTING THE FIELD MAXDIGSR GREATER THAN 25
MAY HAVE SERIOUS CONSEQUENCES.
    
```

Reduce the MAXDIGSR datafill total to 25 or less.

International 15-Digit Dialing (continued)

Datafilling table CFW

Datafill for International 15-Digit Dialing for table CFW appears in the following table. The fields that apply to International 15-Digit Dialing appear in this table. Refinements FWDDN, HFWDDN, WFWDDN, BFWDDN, and DFWDN contain of a vector of a maximum of 30 digits.

Datafilling table CFW (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CFZINFO		see subfield	Call forwarding information. This field contains subfield CFZCLASS.
	CFZCLASS	see refinements	Call forwarding selector type. This subfield contains refinements LCL, REM, and HNT. Enter LCL for regular call forwarding. This feature affects CFW_OPT and several of the refinements of CFW_OPT. Enter REM for remote call forwarding. This feature affects refinement FWDDN. Enter HNT for remote call forwarding from a hunt group. This feature affects refinement HFWDDN.
	CFW_OPT	see subfield	Call forwarding options. This subfield contains subfield CFW.
	CFW	Y or N	Call forwarding. If the line has the Call Forwarding functionality, enter Y. Enter the appropriate refinements. This feature affects refinement WFWDDN. If the line does not have the Call Forwarding functionality, enter N. Skip to refinement CFBL_OPT.
	WFWDDN	numeric (1 to 30 digits)	Call forwarding directory number. Contains the DN where the system forwards the call.
	CFBL_OPT	see subfield	Call forwarding busy options. This subfield contains the subfield CFBL.

International 15-Digit Dialing (continued)

Datafilling table CFW (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	CFBL	Y or N	<p>Call forwarding busy line. If the line has the Call Forwarding functionality when the line is busy, enter Y. Enter data in the appropriate refinements. This feature affects refinement BFWDDN.</p> <p>If the line does not have the Call Forwarding functionality when the line is busy, enter N. Skip to field CFDA_OPT.</p>
	BFWDDN	numeric (1 to 30 digits)	<p>Busy line call forwarding directory number. Contains the DN where the system forwards the call when the base station is busy.</p>
	CFDA_OPT	see subfield	<p>Call forwarding don't answer options. This field contains subfield CFDA.</p>
	CFDA	Y or N	<p>Call forwarding no answer. If the line has the Call Forwarding functionality and an answer does not occur, enter Y. Enter the appropriate refinements. This feature affects refinement DFWDDN.</p> <p>If the line does not have the Call Forwarding feature and an answer does not occur, enter N. Additional datafill is not a requirement.</p>
	DFWDDN	numeric (1 to 30 digits)	<p>No answer call forwarding directory number. Contains the DN where the system forwards the call. The system forwards the call after the base station rings the number of times that field DTIME specifies.</p>

International 15-Digit Dialing (continued)

CFZCLASS=REM

If the entry in subfield CFZCLASS is REM, enter data in the appropriate refinements. This feature affects refinement FWDDN only.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	FWDDN	numeric (1 to 30 digits)	Forwarding directory number. Enter the DN where the system forwards the call. This DN can be correct DNs. The DN cannot start with 0. The system normally blocks calls forwarded out of world zone 1. The system does not block calls forwarded out of world zone 1 when the calls route by carrier.

CFZCLASS=HNT

If the entry in subfield CFZCLASS is HNT, enter data in the appropriate refinements. This feature affects refinement HFWDDN.

Field descriptions for conditional datafill

Field	Subfield or refinement	Entry	Explanation and action
	HFWDDN	numeric (1 to 30 digits)	Forwarding directory number. Enter the DN where the system forwards the call. This DN can correct DNs. The DNs cannot start with 0. The system normally blocks all calls forwarded out of world zone 1. The system does not block calls forwarded out of world zone 1 when the calls route by carrier.

Datafill example for table CFW

Sample datafill for table CFW appears in the following example.

MAP example for table CFW

```

CFZKEY
                                CFZINFO
-----
0 REM RE 613 6215432 1010333011431234567890123 10 150 N UNDT 1 N
    
```

International 15-Digit Dialing (continued)

Datafilling table HUNTGRP

International 15-Digit Dialing improves POTS Call Forwarding features. International 15-Digit Dialing allows the storage of a longer forwarding DN through refinement FDN. The system prompts for refinement FDN when the user enters CFGDA against a POTS hunt group pilot DN.

Datafill for table HUNTGRP appears in the following table. The fields that apply to International 15-Digit Dialing appear in this table.

Datafilling table HUNTGRP

Field	Subfield or refinement	Entry	Explanation and action
GRPDATA		see subfield	Hunt group data. This field contains subfield GRPTYPE and the refinements of subfield GRPTYPE.
	GRPTYPE	BNN, CPU, DLH, DNH, MLH, MPH, PRH, or UA	<p>Hunt group type. For this feature, enter one of the following types of hunt groups:</p> <ul style="list-style-type: none"> • BNN - Bridged night number • DLH - Distributed line hunt • DNH - Directory number hunt • MLH - Multi-line hunt • PRH - Preferential hunt <p>Note: The preceding entries requires the entry of data in several refinements. This feature does not affect these refinements. The refinements that apply appear in this table.</p>
	CFGDA	Y or N	Call forwarding group don't answer. For this feature, enter Y. The switching unit has Enhanced Call Forwarding-POTS and the hunt group has CFGDA.
	LINETYPE	MDC or POTS	<p>Line type. For this feature, enter POTS. The CFGDA applies to a POTS hunt group.</p> <p>Note: An entry of POTS requires the entry of data in several refinements. This feature affects refinement FDN.</p>
	FDN	a maximum of 30 digits	Forwarding directory number. Enter the number where the system routes a call that is not answered.

International 15-Digit Dialing (continued)

Datafill example for table HUNTGRP

Sample datafill for table HUNTGRP appears in the following example.

MAP example for table HUNTGRP

HTGRP	SNPA	DN	GRPTYP	GRPDATA
1001	909	9509151	DNH	DNH (N N N RCVD N N Y POTS NSCR 10 12 1010999011431234567890123 N N N 5 \$

Datafilling table SCALLTAB

Datafill for International 15-Digit Dialing for table SCALLTAB appears in the following example. The fields that apply to International 15-Digit Dialing appear in this table. Field DEST contains a vector of a maximum of 30 digits.

Datafilling table SCALLTAB

Field	Subfield or refinement	Entry	Explanation and action
DEST		numeric (a maximum of 30 digits)	Destination digits. Contains the digits of the destination number that associates with the speed calling code.

Datafill example for table SCALLTAB

Sample datafill for table SCALLTAB appears in the following example.

MAP example for table SCALLTAB

	LINECODE	DEST
HOST 00 0 00 00 S	SC1 3	2258493

International 15-Digit Dialing (continued)

Datafilling table RESFEAT

Datafill for International 15-Digit Dialing for table RESFEAT appears in the following table. The fields that apply to International 15-Digit Dialing appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table RESFEAT

Field	Subfield or refinement	Entry	Explanation and action
FEAT		see subfields	Class feature. For this feature enter SCF for selective call forwarding.
VAR		see subfields	Variable data. This field contains several subfields. This feature affects subfield DF.
	DF	SCF	Class feature. Enter the same value as for field FEAT.
	FDN	1 to 30 digits	SCF DN. If the entry in subfield DF is SCF, enter data in this refinement. Enter the DN where the system forwards the SCF calls when SCF is active.

Datafill example for table RESFEAT

Sample datafill for table RESFEAT appears in the following example.

MAP example for table RESFEAT

LINE	KEY	FEAT	VAR

HOST 05 0 01 05	0	SCF	SCF 38743984738472348 NOAMA INACT

Tools for verifying translations

The output from TRAVER, when TRAVER verifies International 15-Digit Dialing, appears in the following example.

International 15-Digit Dialing (continued)

TRAVER output example for International 15-Digit Dialing

```
>traver 1 6215955 1010223011421234567890123 b
TABLE LINEATTR
0 1FR NONE NT FR01 0 613 P621 L613 TSPS 10 NIL NILSFC LATA1 0
NIL NIL 00 Y RESGRP 0 2 $
LCABILL OFF-BILLING DONE ON BASIS OF CALLTYPE
TABLE OFCVAR
AIN_OFFICE_TRIGGRP NIL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 (1) (0)0
.SUBTABLE STDPRT
WARNING:CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING. CALL TYPE DEFAULT IS NP. PLEASE REFER TO DOCUMENTATION.
.1010223 1010223 EA DD 7 P CAR1 CAR Y OFRT 889 8 25 Y
..TABLE OFRT
.. 889 CND ES INTNL SK 3
.. S D OGEACAR
.. S D ISUP2WCAR
.. CND ALWAYS SK 2
.. N D OGEACAR 15 D121 N
.. N D ISUP2WCAR 15 D121 N
..EXIT TABLE OFRT
.TABLE STDPRTCT
.CAR1 (1)(0)0
..SUBTABLE STDPRTWARNING:CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING. CALL TYPE DEFAULT IS NP. PLEASE REFER TO DOCUMENTATION.
..011 011 EA DD 3 T IN CAR N
.SUBTABLE AMAPRT
.KEY NOT FOUND
.DEFAULT VALUE IS: NONE OVRNONE N
```

—continued—

International 15-Digit Dialing (continued)

TRAVER output example for International 15-Digit Dialing (continued)

```

TABLE CCTR
42 T 042 7 15 T OFRT 887 Y
AIN Info Collected TDP: no subscribed trigger.
AIN Info Analyzed TDP: no subscribed trigger.
TABLE OFRT
887CND EA INTNL SK2
  SD LNTOPS
  CND ALWAYS SK1
  N D LNTOPS 0 1 N
EXIT TABLE OFRT
OVERLAP CARRIER SELECTION (OCS) APPLIES
TABLE OCCINFO
CAR 0223 TRANS Y Y Y Y N N N Y Y Y Y LONG 14 FGRPD Y N Y N N
N N N Y N N N
TABLE EASAC
TUPLE NOT FOUND
Using Equal Access (EA) route  OFRT 889 from Pretranslation
TABLE OFRT
889 CND EA INTNL SK 3
  S D OGEACAR
  S D ISUP2WCAR
  CND ALWAYS SK 2
  N D OGEACAR 15 D121 N
  N D ISUP2WCAR 15 D121 N
EXIT TABLE OFRT

+++ TRAVER:SUCCESSFUL CALL TRACE +++

DIGIT TRANSLATION ROUTES

1 OGEACAR      D121      ST
2 ISUP2WCAR    D121      ST

TREATMENT ROUTES.  TREATMENT IS:GNCT
1 T120

+++ TRAVER:SUCCESSFUL CALL TRACE +++

```

—end—

SERVORD

Use of the SERVORD Add Option (ADO) command adds options SCF, CFW, CFBL, CFDA, and CFGDA to the line.

International 15-Digit Dialing (continued)

The FDN is the forward number to which the line translates and routes. The line translates and routes to this FDN when the conditions to forward the incoming call are met. With the expansion to International 15-Digit Dialing, the FDN must support a maximum of a 25-digit number.

The number of digits that the user can enter for a RCF or RCFEA DN increases.

International 15-Digit Dialing expands the maximum number of digits that the user can enter for an automatic line DN (AULDN) to 18.

SERVORD limits

International 15-Digit Dialing does not have SERVORD limits.

SERVORD prompts

The SERVORD prompts that the installation of International 15-Digit Dialing affects appear in the following table.

SERVORD prompts for International 15-Digit Dialing

Prompt	Correct input	Explanation
FDN	a maximum of 30 digits	Number of digits the user can enter on the following line options for prompt FDN expands from 24 to 30: <ul style="list-style-type: none"> • SCF • CFW • CFBL • CFDA • CFGDA
FWD_DN	a maximum of 30 digits	Number of digits the user can enter on RCF or RCFEA DNs for prompt FWD_DN expands from 24 to 30.
AULDN	a maximum of 18 digits	Number of digits the user can enter on current line option AUL for prompt AULDN expands from 15 to 18.

SERVORD example to specify a 25-digit FDN for International 15-Digit Dialing

Use of International 15-Digit Dialing with line option CFW appears in the following SERVORD example. The user specifies a 25-digit FDN with the ADO command in the following example.

International 15-Digit Dialing (continued)

SERVORD example to specify a 25-digit FDN with line option CFW for International 15-Digit Dialing in prompt mode

```

> ADO
SONUMBER:  NOW 94 9 29 AM
>
DN_OR_LEN
> 6215001
OPTION:
> CFW
CFWTYPE:
> F
SCFNCL:
> NSCR
NUMCALLS:
> 10
STATE: I
>
FDN:
> 1010999011431234567890123
OPTION:
> $

```

SERVORD example for specifying a 25-digit FDN with line option CFW for International 15-Digit Dialing in no-prompt mode

```
>ADO $ 6215001 CFW F NSCR 10 $ 1010999011431234567890123 $
```

SERVORD example to create a 25-digit RCFEA DN for International 15-Digit Dialing

Use of the International 15-Digit Dialing to create a 25-digit RCFEA DN appears in the following SERVORD example. The user uses the NEWDN command to create a 25-digit RCFEA DN in the following example.

International 15-Digit Dialing (continued)

SERVORD example to create a 25-digit RCFEA DN for International 15-Digit Dialing in prompt mode

```
> NEWDN
SONUMBER:  NOW 94 9 29 AM
>
SNPA:
> 613
BLOCK_OF_DNS:
> NO
DN:
> 6215001
DNATYPE:
> RCFEA
FWD_DN:
> 1010999011431234567890123
MAXCALLS:
> 10
BLK_TOLL_COM:
> N
BLOCK_TOLL_TREATMENT:
> UNDT
OM_INDEX:
> 1
SCRNCL:
> NSCR
LATANM:
> LATA2
PRTNM:
> P621
```

SERVORD example to create a 25-digit RCFEA DN for International 15-Digit Dialing in no-prompt mode

```
>NEWDN $ 613 NO 6215001 RCFEA 1010999011431234567890123 10 N
UNDT 1 NSCR LATA2 P621 $
```

SERVORD example to specify an 18-digit AULDN for International 15-Digit Dialing

Use of the International 15-Digit Dialing with line option AUL to specify an 18-digit AULDN appears in the following SERVORD example. The user uses the ADO command to specify an 18-digit AULON in the following example.

International 15-Digit Dialing (end)

SERVORD example to specify an 18-digit AULDN for International 15-Digit Dialing in prompt mode

```
> ADO
SONUMBER: NOW 94 9 29 AM
>
DN_OR_LEN
>6215001
OPTION:
> AUL
AULDN:
>011431234567890123
OPTION:
> $
```

SERVORD example to specify an 18-digit AULDN for International 15-Digit Dialing in no-prompt mode

```
> ADO $ 6215001 AUL 011431234567890123 $
```

International 15-Digit Dialing for MDC

Ordering codes

Functional group ordering code: LOC00004

Functionality ordering code: not applicable

Release applicability

NA004 and later versions

Requirements

All the datafill information for this functionality is in this document. Complete implementation of this functionality can require requirement software or hardware.

Description

The International Telecommunications Union (ITU) established the standards for expanded dialing formats in August 1991. The ITU *Recommendation E.164, Numbering Plan for the ISDN Era*, contains the specifications for 15-digit numbers. *Recommendation E.165, Timetable for Coordinated Implementation of the Full Capability of the Numbering Plan for the ISDN Era* establishes the time for global network readiness. This time is 23 h 59 min Coordinated Universal Time (6:59 p.m. Eastern Standard Time) on December 31, 1996. The ITU refers to this as Time T.

North America retains the 11-digit format. To maintain international dialing services for subscribers, local and interexchange carriers must update the systems. This system update allows systems to store and process international numbers for a maximum of 15 digits.

Operation

This document describes the changes that occurred to the Meridian Digital Centrex (MDC) software to support International 15-Digit Dialing for MDC. The modified areas of MDC software include the following:

- Attendant Activate/Deactivate Call Forwarding Universal/Call Forwarding Intragroup
- Attendant-Auto Dial
- Attendant Speed Calling
- Direct Inward System Access (DISA)
- Integrated Business Network (IBN) call forwarding
- IBN Network Speed Calling

International 15-Digit Dialing for MDC (continued)

- IBN speed calling/autodial
- Power features autodial
- Power features Call Forwarding programming
- Preset Conference
- Private Virtual Network (PVN)

Attendant Activate/Deactivate Call Forwarding Universal/Call Forwarding Intragroup

The enhancement of this feature allows the use of expanded digit registers. This feature allows the attendant to activate, deactivate, or program Call Forwarding against a customer group line.

Attendant-Auto Dial

The enhancement of Attendant-Auto Dial allows the use of expanded registers. The attendant presses the Auto Dial Key for the number to dial called numbers that the attendant calls often. The Attendant-Auto Dial allows the attendant to perform this action.

Attendant Speed Calling

The attendant presses the Speed Calling Key and dials a one-digit or two-digit code. The attendant does not dial the complete number. The Attendant Speed Calling allows the attendant to perform this action to access dialed numbers that the attendant dials often. Another name for a one-digit or two-digit code is a cell. The cell contains the number the attendant programmed. The modification of this software allows the use of expanded digit registers occurs.

Direct Inward System Access

The DISA allows authorized outside callers to dial from switched networks directly into a DMS-100 switch. The DISA also allows the caller to gain access to network facilities without the help of an attendant. The DISA feature data blocks are compatible with the use of expanded digit registers.

IBN call forwarding

The enhancement of IBN Call Forwarding feature allows the support of expanded digit registers. The following tables store the IBN Call Forwarding DNs:

- CFX (Call Forwarding)
- IBNFEAT (IBN Line Feature)
- KSETFEAT (Business Set and Data Unit Feature)

International 15-Digit Dialing for MDC (continued)

- RESFEAT (Residential Line Feature)
- HUNTGRP (Hunt Group)

IBN speed calling/autodial

The IBN speed calling/autodial allows a subscriber to store DNs used often in memory cells. The subscriber presses an Automatic Dial (AUD) key to dial one of these numbers in store. The subscriber can dial an asterisk and the number of the memory cell to dial one of the stored numbers. The expansion of storage cells for this feature in table IBNSC (IBN Speed Calling List) occurs.

IBN Network Speed Calling

The IBN Network Speed Calling feature allows a member of a specified customer group to access directory numbers. A specified customer group can access a set of a maximum of 1000 directory numbers programmed earlier. The enhancement of table REPLCODE allows storage of longer Network Speed Calling DNs.

Private Virtual Network

Improvements to the PVN feature include the following:

- Automatic Message Accounting (AMA) improvements to append the E.164 number module code to the 162 call code
- feature group D (FGD) digit collection improvements to allow the collection of a 15-digit CC+MSM at an access tandem service switching point (SSP)
- outpulsing enhancements to allow the outpulsing of a maximum of a 15-digit CC + NSN

Power features autodial

The enhancement of power features autodial allows the feature to handle a longer DN. The power features autodial expansion affects two areas. The two areas are DN programming and DN retrieval.

For DN programming, enhancement of power features autodial allows subscribers to program a longer DN to an AUD key. In some conditions, the current subscriber equipment does not allow the display of a longer number. For these conditions, the programmed number occurs as entered. The system truncates numbers in excess of display capacity.

For DN retrieval, the enhancement of capacity of power features autodial allows the feature to retrieve longer DNs. In some conditions, the current subscriber equipment does not permit the display of a longer number. For

International 15-Digit Dialing for MDC (continued)

these conditions, the number the system retrieves is like the entry for this number. The system truncates numbers in excess of display capacity occurs.

Power features call forwarding programming

The enhancement of power features call-forwarding programming (CFWP) allows this feature to be partly compatible with international dialing.

Before, a CFWP subscriber with 14-digit programming ability was able to affect a call forward waiting (CFW) result. The subscriber was able to add or modify a CFW result to a destination of a maximum of 14 digits. This feature expands that capability from 14 digits to 17 digits. The three added digits equal the increase in the international number. This expansion maintains the earlier level of support for CFWP for international dialing.

A CFWP subscriber can retrieve a current CFW result of a maximum of 24 digits from table CFX. In conditions where the result the system retrieves exceeds 24 digits, the system truncates excess digits. The capacity of the equipment of the CFWP subscriber does not affect truncation. A CFWP subscriber can view a current Call Forwarding destination of a maximum of 24 digits. The Service Order System (SERVORD) or table control must handle the programming of destinations greater than 17 digits.

Preset Conference

Preset Conference allows a subscriber to dial a preset conference directory number. This action activates the simultaneous ringing of a maximum of 50 selected conference members. The modification of Preset Conference software to accept and store longer numbers occurs.

Translations table flow

A description of the International 15-Digit Dialing for MDC translations tables appears in the following list:

- An operating company uses table AUDPRGM (Automatic Dial Key Program) to define the entry of digits on an AUD key.
- Table HUNTGRP (Hunt Group) contains the data for each hunt group assigned in the switching unit.
- Table IBNFEAT (IBN Line Feature) contains the line features for the IBN lines in table IBNLINES.
- Table IBNSC (IBN Speed Calling List) stores information for each number of the following:
 - IBN station
 - data unit

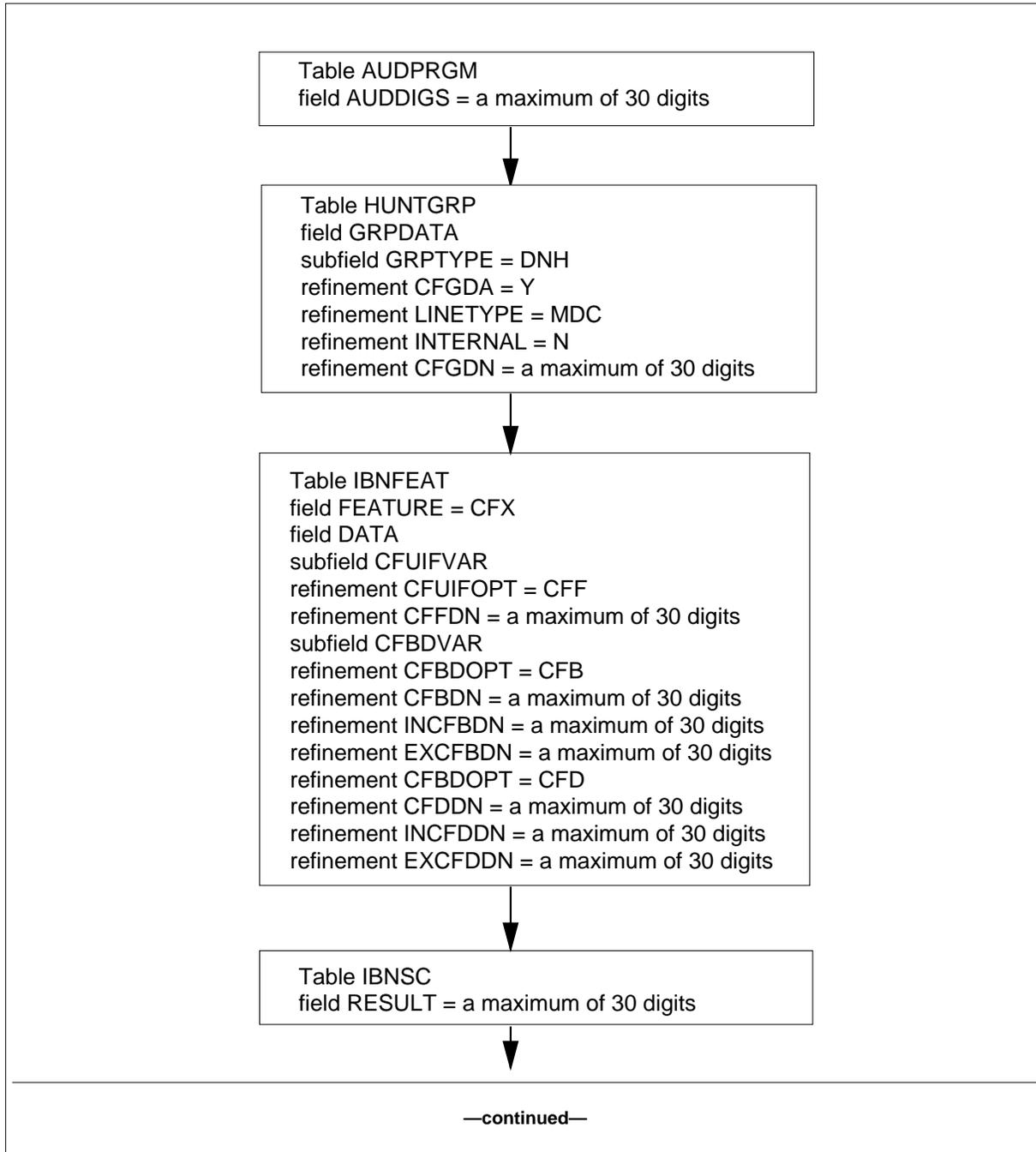
International 15-Digit Dialing for MDC (continued)

- business telephone speed calling
- automatic dial list
- Table IBNXLA (IBN Translation) stores the data for the digit translation of calls from the following:
 - an IBN station
 - an attendant console (AC)
 - an incoming side of a two-way IBN trunk group
- Table KSETFEAT (Business Set and Data Unit Feature) contains the line features for the business sets and data units in table KSETLINE.
- Table RESFEAT (Residential Line Feature) contains the assignment of the Custom Local Area Signaling Services (CLASS) features for residential lines.

The International 15-Digit Dialing for MDC translation process appears in the following flowchart.

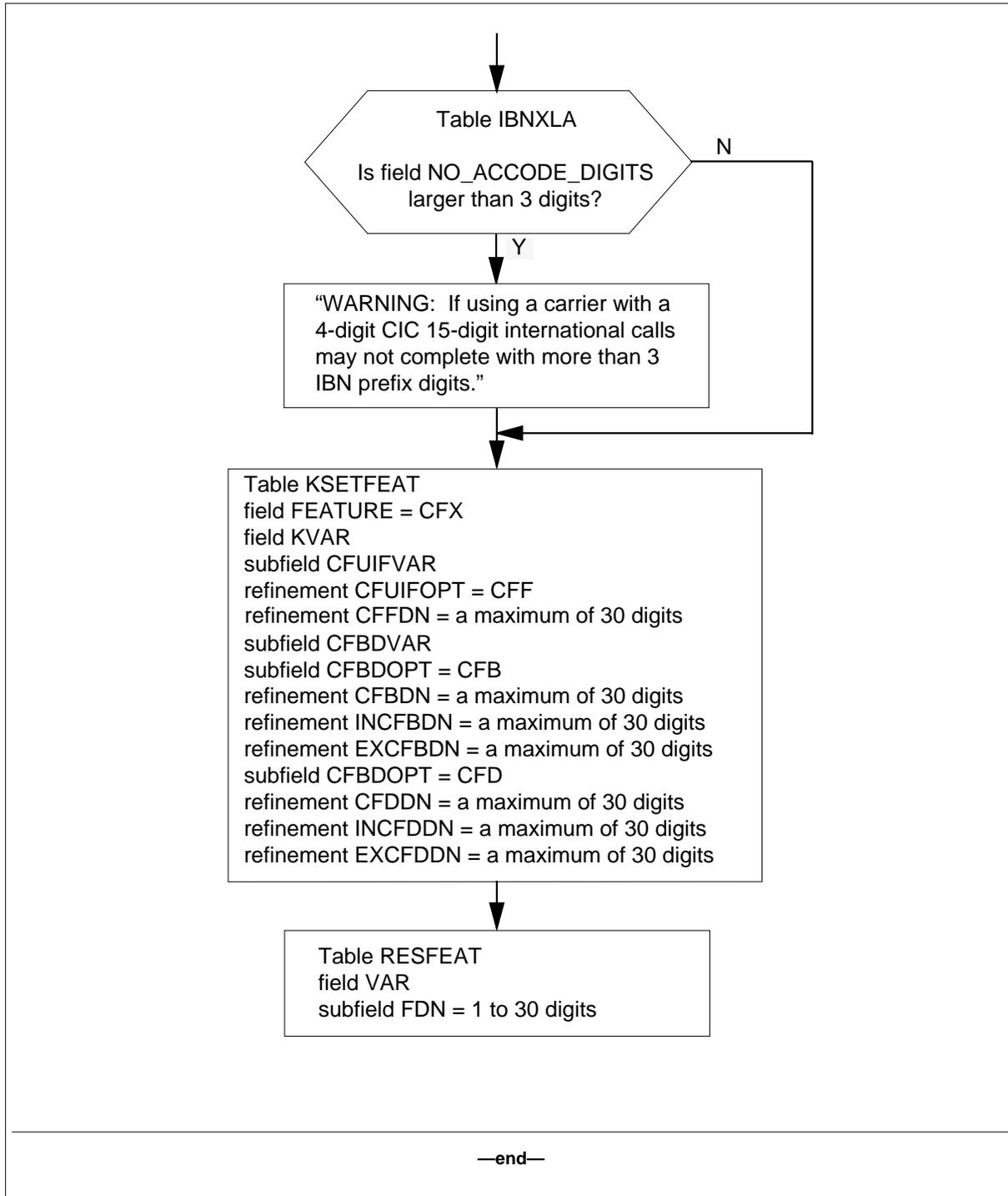
International 15-Digit Dialing for MDC (continued)

Table flow for International 15-Digit Dialing for MDC



International 15-Digit Dialing for MDC (continued)

Table flow for International 15-Digit Dialing for MDC (continued)



International 15-Digit Dialing for MDC (continued)

The datafill content in the flowchart appears in the following table.

Datafill example for International 15-Digit Dialing for MDC

Datafill table	Example data
AUDPRGM	POTSDATA E911 B69
HUNTGRP	5 613 6211097 DNH N N N RCVD N N Y MDC N 91010999011431234567890123 N N N Y 0 N 10 \$
IBNFEAT	HOST 02 0 10 06 0 CFX CFX CFU Y CFBD N CBU 9101334401134567132 F N 5551212 N
IBNSC	HOST 00 0 02 10 SCS 7 91010999011431234567890123
IBNXLA	CGAXLA 987 NET Y Y N 3 Y POTS N N GEN (LATR 42) (EA C541 Y 0) \$ \$
KSETFEAT	HOST 05 0 00 21 1 CFB CFB F IECFB 5678 91010999011431234567890123 \$
RESFEAT	HOST 05 0 01 05 0 SCF SCF 38743984738472348 NOAMA INACT

Limits

The use of the equal access (EA) option for field NET GEN in table IBNXLA can occur. When this event occurs, only 3 IBN prefix digits are acceptable for a 15-digit international call.

The system only supports International 15-Digit Dialing with Virtual Access to Private Network (VAPN) for CCS7 trunk interface.

Interactions

International 15-Digit Dialing for MDC does not have functionality interactions.

Activation/deactivation by the end user

International 15-Digit Dialing for MDC does not require activation or deactivation by the end user.

Billing

The use of E.164/X.121 number module, module code 164, for the installation of International 15-Digit Dialing for MDC occurs. The system appends module code 164 to Bellcore AMA Format (BAF) structures when the international number dialed is greater than 12 digits.

International 15-Digit Dialing for MDC (continued)

Station Message Detail Recording

International 15-Digit Dialing for MDC affects Station Message Detail Recording (SMDR). Collection and polling devices and end-user equipment require modification to accept the longer records or expanded record formats. The collection and polling devices gather SMDR data. The end-user equipment defines and processes the data.

The additional digits that result from the expanded dialing formats require changes to the following SMDR records:

- D3 long-format SMDR call record
- D4 long-format Network Evaluation, Reporting, and Verification (NERVE) call record
- D5 extension record

The system generates D4 records when the specification of NERVE for a customer group in table CUSTSMDR occurs. The expansion of the last field of D3 and D4 records from 24 to 30 digits accommodates the longer international numbers. The last field of D3 and D4 records captures called digits. This change increases the character length of a D3 or D4 record from 78 to 84 characters.

The specification of RAO in table CUSTSMDR can provision a D5 extension record on a customer group. A "Digits-as-Outpulsed" field in the record captures the digits the system sends over an outgoing trunk. The number of digits that this field can store increases from 23 to 29. If the system outpulses more than 29 digits, a 1 appears in the "Digits Missing" field. The overall character length of a D5 extension record increases from 26 to 32.

An example of a record as outpulsed extension (D5) record that supports 29 outpulsed digits appears in the following figure.

Record as outpulsed (D5) extension record

```
*CALL BLK HDR ID:C1C1 DAY=100 TIME:HR=09 CALL BLK CNT:00001
OFC ID:619351

*REC CODE:D1 CUSTGRP CLLI:FFF ORIGTYPE:A ORIGID:AAAAAAAAAAAA
DATA CALL ID:A INFO DIGS:40 CONS NO:FF SUBGRP:0 TRM TYPE:A
TRM ID:AAAAAAAAAAAA RTE INFO:0 DAY=100 TIME:HR=09 MIN=07 SEC=05
ELAPSED TIME=000000 ORIG FC:0 TERM FC:0 CLD NO:96221234AAAA

*REC CODE:D5 DIGS AS OUTPULSED:81962212345678912345678901234
DIGS MISSING:0
```

International 15-Digit Dialing for MDC (continued)

A patch (KSH26) is in NA004, NA005, and NA006. The patch allows the enabling of old or new format in each central office. In NA007, the discontinuation of the patch occurs and the longer formats become standard.

Patch BNM32_000029 allows the business network manager (BNM) to receive expanded SMDR records. This patch allows the BNM to pass the records to downstream systems. End users normally operate the downstream systems. The installation of this patch in the BNM must occur before the DMS-100 can send expanded-format records. The patch provides table settings that allow the BNM to receive records in the current format or the expanded format. The current format is the default state. The BNM can specify the format for each end user that receives the records in the delivery of records downstream. The patch allows the BNM to perform this specification.

Datafilling office parameters

International 15-Digit Dialing for MDC does not affect office parameters.

Datafill sequence

The tables that require datafill to implement International 15-Digit Dialing for MDC appear in the following table. The tables appear in the correct entry order.

Datafill requirements for International 15-Digit Dialing for MDC (Sheet 1 of 2)

Table	Purpose of table
AUDPRGM	Automatic Dial Key Program. An operating company uses this table to define the entry of digits on an AUD key.
HUNTGRP	Hunt Group. This table contains the data for each hunt group assigned in the switching unit.
IBNFEAT	IBN Line Feature. This table contains the line features for the IBN lines that appear in table IBNLINES.
IBNSC	IBN Speed Calling List. This table stores information for each number of the following: <ul style="list-style-type: none"> • IBN station • data unit • business telephone speed calling • automatic dial list

International 15-Digit Dialing for MDC (continued)

Datafill requirements for International 15-Digit Dialing for MDC (Sheet 2 of 2)

Table	Purpose of table
IBNXLA	<p>IBN Translation. This table stores the data for the digit translation of calls from the following:</p> <ul style="list-style-type: none"> • an IBN station • an AC • an incoming side of a two-way IBN trunk group
KSETFEAT	<p>Business Set and Data Unit Feature. This table contains the line features for the business sets and data units that appear in table KSETLINE.</p>
RESFEAT	<p>Residential Line Feature. This table contains the assignment of the CLASS features for residential lines.</p>

Datafilling table AUDPRGM

Datafill for International 15-Digit Dialing for MDC for table AUDPRGM appears in the following table. The fields that apply to International 15-Digit Dialing for MDC appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table AUDPRGM (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
AUDKEY		see subfields	Automatic dial key. This field is the key to the table. This field contains subfields CUSTGRP and FEATNAME.
	CUSTGRP	alphanumeric (1 to 16 characters)	Customer group name. Enter an MDC customer group name that appears in table CUSTENG (Customer Group Engineering).

International 15-Digit Dialing for MDC (continued)

Datafilling table AUDPRGM (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	FEATNAME	alphanumeric (1 to 16 characters)	Feature name. Enter a feature or service name. You can define a maximum of 16 feature names at a time.
AUDDIGS		vector of a maximum of 30 digits, *, and #	<p>Automatic dial key digits. This field contains the digits programmed on an AUD key in the customer group for the feature.</p> <p>Note 1: The asterisk character is acceptable as the first character in this field, if field FEATNAME does not contain the entry STD.</p> <p>Note 2: The letter b represents the asterisk (*) in the DMS-100 switch. The letter c represents the # sign.</p>

Datafill example for table AUDPRGM

Sample datafill for table AUDPRGM appears in the following example.

MAP example for table AUDPRGM

	AUDKEY	AUDDIGS
POTSDATA	E911	B69

Datafilling table HUNTGRP

Datafill for International 15-Digit Dialing for MDC for table HUNTGRP appears in the following table. The fields that apply to International 15-Digit

International 15-Digit Dialing for MDC (continued)

Dialing for MDC appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table HUNTGRP (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
GRPDATA		see subfield	Hunt group data. This field contains subfield GRPTYPE and the refinements.
	GRPTYPE	BNN, CPU, DLH, DNH, MLH, MPH, PRH, or UA	<p>Hunt group type. Enter the type of hunt group:</p> <ul style="list-style-type: none"> • BNN (bridged night number) • CPU (call pickup) • DLH (distributed) • DNH (directory number) • MLH (multiline) • MPH (multiple position) • PRH (preferential hunt) • UA (universal access) <p>Any entry outside the range for this field is not correct.</p> <p>Note: The above listed entries require the entry of data in several refinements that this feature does not affect. The refinements that apply appear.</p>
	CFGDA	Y or N	Call forwarding group don't answer. Enter Y if the switching unit has Enhanced Call Forwarding-POTS and the hunt group has feature CFGDA. Enter N if the switching unit has Enhanced Call Forwarding-POTS and the hunt group does not have feature CFGDA. Enter N if Enhanced Call Forwarding-POTS is not loaded.
	LINETYPE	MDC or POTS	Line type. For this feature, enter MDC if CFGDA applies to an MDC hunt group. For other conditions, enter POTS if CFGDA applies to a POTS hunt group.

International 15-Digit Dialing for MDC (continued)

Datafilling table HUNTGRP (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	INTERNAL	Y or N	Internal. For this feature, enter N if the call is to forward to a DN. Enter Y if the call forwards to the next member in the hunt group.
	CFGDN	numeric (a maximum of 30 digits)	Extended digit register. Enter the DN to which the system routes the unanswered hunt group station.

Datafill example for table HUNTGRP

Sample datafill for table HUNTGRP appears in the following example.

MAP example for table HUNTGRP

```

HTGRP SNPA                DN
                          GRPTYP
                          GRPDATA
-----
5  613                6211097
                          DNH  N   N   N  RCVD N
                          N     Y  MDC N 91010999011431234567890123
                          N     N   N
                          Y     0
                          N     10          $
    
```

Datafilling table IBNFEAT

Datafill for International 15-Digit Dialing for MDC for table IBNFEAT appears in the following table. The fields that apply to International 15-Digit Dialing for MDC appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table IBNFEAT (Sheet 1 of 8)

Field	Subfield or refinement	Entry	Explanation and action
DF		CFX	Data feature. Enter CFX for the Call Forwarding feature.
FEATURE		CFX	Data feature. Enter CFX.

International 15-Digit Dialing for MDC (continued)

Datafilling table IBNFEAT (Sheet 2 of 8)

Field	Subfield or refinement	Entry	Explanation and action
DATA		see subfields	Data. This field contains several subfields. Subfields CFUIFVAR and CFBDVAR apply to this feature. To enter subfields, separate each subfield with a space.
	CFUIFVAR	see subfield	Call Forward Universal Intragroup Fixed variables. This subfield contains subfield CFUIFOPT.
	CFUIFOPT	CFF, CFI, CFK, CFU, or N	Call Forward Universal Intragroup Fixed option. Enter one of the following values: <ul style="list-style-type: none"> • Enter CFF if the line has only the Call Forward Fixed feature. Enter data in refinement CFFDN. • Enter CFI if the line has only the Call Forward Intragroup feature. Enter data in field CFBDVAR. • Enter CFK if the line has only the Call Forward Universal per Key feature. Enter data in field CFBDVAR. • Enter CFU if the line has only the Call Forward Universal feature. Enter data in refinement OVRDACR. • Enter N if the line does not have any of the above options. Enter data in field CFBDVAR.
	OVRDACR	Y or N	Override account code required. If the entry in subfield CFUIFOPT is CFU, enter data in this refinement. Enter Y if account code requirements for CFU calls. The system overrides. For other conditions, enter N.
	CFFDN	numeric (1 to 30 digits)	Call Forward Fixed directory number. If the entry in subfield CFUIFOPT is CFF, enter data in this refinement. Enter the DN to which the system forwards calls when activation of feature CFF occurs.
	CFBDVAR	see subfields	Call Forward Busy Don't Answer variables. This subfield contains subfield CFBDOPT.

International 15-Digit Dialing for MDC (continued)

Datafilling table IBNFEAT (Sheet 3 of 8)

Field	Subfield or refinement	Entry	Explanation and action
	CFBDOPT	CFB, CFBD, CFD, or N	<p>Call Forward Busy Don't Answer option. Enter one of the following values:</p> <p>Enter CFB if the line has only the Call Forward Busy feature. Enter data in the following refinements:</p> <ul style="list-style-type: none"> • CFBCNTL • CBTYPE • CFBDN • INCFBDN • EXCFBDN
	CFBDOPT (continued)		<p>Enter CFBD if the line has both the Call Forward Busy and Call Forward Don't Answer features. Enter data in the following refinements:</p> <ul style="list-style-type: none"> • CFBCNTL • CBTYPE • CFBDN • INCFBDN • EXCFBDN • CFDCNTL • CDTYPE • CFDDN • INCFDDN • EXCFDDN

International 15-Digit Dialing for MDC (continued)

Datafilling table IBNFEAT (Sheet 4 of 8)

Field	Subfield or refinement	Entry	Explanation and action
			<p>Enter CFD if the line has only the Call Forward Don't Answer feature. Enter data in the following refinements:</p> <ul style="list-style-type: none"> • CFDCNTL • CDTYPE • CFDDN • INCFDDN • EXCFDDN <p>Enter N if the line does not have any of the above features. Refinements do not require data entry.</p>
	CFBCNTL	F, N, or P	<p>Call Forward Busy control. Enter F (fixed) if the user activates or deactivates the CFB feature. The operating company enters field CFBDN. The user supplies field CFBDN during application.</p> <p>Enter N if feature CFB is always active. Entry N is the default.</p> <p>Enter P (programming) if the user activates or deactivates feature CFB.</p>

International 15-Digit Dialing for MDC (continued)

Datafilling table IBNFEAT (Sheet 5 of 8)

Field	Subfield or refinement	Entry	Explanation and action
	CBTYPE	CBE, CBECBU, CBI, CBICBU, CBU, IECFB, IECFBCBU, or N	<p>Call Forward Busy type. If the entry in refinement CFBCNTL is P, enter the CFB selector that follows. Go to refinement CFDCNTL.</p> <p>Enter CBE to deny external calls forwarded when the line is busy. External calls are outside the customer group. Intragroup calls forward to remote stations in the customer group.</p> <p>Enter CBECBU to deny external calls forwarded. External calls are outside the customer group. Intragroup calls forward to remote stations in or outside the customer group. Intragroup calls are not restricted.</p> <p>Enter CBI to deny intragroup calls forwarded. External calls forward to remote stations in the customer group.</p> <p>Enter CBICBU to deny intragroup calls forwarded. External calls forward to remote stations in or outside the customer group. External calls are not restricted.</p>
	CBTYPE (continued)		<p>Enter CBU to have all calls forwarded to remote stations in or outside the customer group. These calls do not have limits.</p> <p>Enter IECFB to forward internal and external calls to remote stations. These remote stations are in the customer group that refinements INCFBDN and EXCFBDN specify in the specified sequence. Internal calls are inside the customer group. External calls are outside the customer group.</p> <p>Enter IECFBCBU to forward internal and external calls to remote stations. These stations are in or outside the customer group that refinements INCFBDN and EXCFBDN specify in the sequence given.</p> <p>Enter N to forward all calls to remote stations in the customer group.</p>

International 15-Digit Dialing for MDC (continued)

Datafilling table IBNFEAT (Sheet 6 of 8)

Field	Subfield or refinement	Entry	Explanation and action
	CFBDN	numeric (1 to 30 digits)	Call Forward Busy directory number. The entry in refinement CFBCNTL can be F or N. The entry in refinement CBTYPE can be CBE, CBI, CBECBU, CBICBU, CBU, or N. When these entries are present, enter the DN to which the system forwards calls when the line is busy.
	EXCFBDN	numeric (1 to 30 digits)	Call Forward Busy external directory number. The entry in refinement CFBCNTL can be F or N. The entry in refinement CBTYPE can be IECFB or IECFBCBU. When these entries are present, enter the external DN to which the system forwards calls when the line is busy.
	INCFBDN	numeric (1 to 30 digits)	Call Forward Busy internal directory number. The entry in refinement CFBCNTL can be F or N. The entry in refinement CBTYPE can be IECFB or IECFBCBU. When these entries are present, enter the internal DN to which the system forwards calls when the line is busy.
	CFDCNTL	F, N, or P	<p>Call Forward Don't Answer control. For control of activation, deactivation and programming of feature CFD, enter F (fixed). Enter F if the user activates or deactivates the CFD feature. The operating company enters data in field CFDDN.</p> <p>Enter N if feature CFD is always active. Entry N is the default. The operating company enters data in field CFDDN.</p> <p>Enter P (programming) if the user activates or deactivates feature CFD. The user supplies the entry for field CFDDN during activation.</p>

International 15-Digit Dialing for MDC (continued)

Datafilling table IBNFEAT (Sheet 7 of 8)

Field	Subfield or refinement	Entry	Explanation and action
	CDTYPE	CDE, CDECDU, CDI, CDICDU, CDU, IECFD, IECFDCDU, or N	<p>Call Forward Don't Answer type. If the entry in refinement CFDCNTL is P, enter a CD selector that appears below.</p> <p>To forward calls when the line has feature Call Forward Don't Answer, enter CDE to deny external calls forwarded. Intragroup calls forward to remote stations in the customer group.</p> <p>Enter CDECDU to deny external calls forwarded. Intragroup calls forward to remote stations in or outside the customer group. Intragroup calls are not restricted.</p> <p>Enter CDI to deny intragroup calls forwarded. External calls forward to remote stations in the customer group.</p> <p>Enter CDICDU to deny intragroup calls forwarded. External calls forward to remote stations in or outside the customer group. External calls are not restricted.</p>
	CDTYPE (continued)		<p>Enter CDU to call forward all calls to remote stations in or outside the customer group. These calls are not restricted.</p> <p>Enter IECFD to forward internal and external calls to remote stations. These remote stations are in the customer group that refinement INCFDDN and EXCFDDN specify in the sequence given.</p> <p>Enter IECFDCDU to forward internal and external calls to remote stations. These remote stations are in or outside the customer group that refinements INCFDDN and EXCFDDN specify in the sequence given.</p> <p>Enter N to call forward all calls to remote stations in the customer group.</p>

International 15-Digit Dialing for MDC (continued)

Datafilling table IBNFEAT (Sheet 8 of 8)

Field	Subfield or refinement	Entry	Explanation and action
	CFDDN	numeric (1 to 30 digits)	Call Forward Don't Answer directory number. The entry in refinement CFDCNTL can be F or N. The entry in refinement CDTYPE can be CDE, CDECDU, CDI, CDICDU, CDU, or N. When these entries are present, enter the DN to which the system forwards calls when the calls cannot complete.
	EXCFDDN	numeric (1 to 30 digits)	Call Forward Don't Answer external directory number. The entry in refinement CFDCNTL can be F or N. The entry in refinement CDTYPE can be IECFD or IECFDCDU. When these entries are present, enter the external DN to which the system forwards calls when the calls cannot complete.
	INCFDDN	numeric (1 to 30 digits)	Call Forward Don't Answer internal directory number. The entry in refinement CFDCNTL can be F or N. The entry in refinement CDTYPE can be IECFD or IECFDCDU. When these entries are present, enter the internal DN to which the system forwards calls when the calls cannot complete.

Datafill example for table IBNFEAT

Sample datafill for table IBNFEAT appears in the following example.

MAP example for table IBNFEAT

LEN	DNNO	DF	FEATURE	DATA
HOST	02 0 10 06	0	CFX CFX CFU Y CFBD N CBU	9101334401134567132 F N 5551212 N

Datafilling table IBNSC

Datafill for International 15-Digit Dialing for MDC for table IBNSC appears in the following table. The fields that apply to International 15-Digit Dialing

International 15-Digit Dialing for MDC (continued)

for MDC appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table IBNSC

Field	Subfield or refinement	Entry	Explanation and action
IBNSCKEY		see subfields	Integrated business network speed calling key. This field contains subfields LEN, DF, and CODE.
	LEN	see subfields	Line equipment number. This subfield defines the location of the equipment that connects to a specified telephone line.
	DF	AUD, SCL, or SCS	Feature. Enter AUD for an automatic dial list for one of the following: <ul style="list-style-type: none"> • a Meridian business set (MBS) or data unit • SCL for a long speed calling list • SCS for a short speed calling list for an IBN station, data unit, or MBS.
	CODE	0 to 70	Code. This subfield contains the speed calling code. The speed calling code can be 0 to 9 for a short list or 0 to 70 for a long list. The speed calling code can be the logical key number, 2 to 70, of an MBS or data unit. Any entry outside the range of specified values for this subfield is not correct.
RESULT		numeric (a maximum of 30 digits)	Integrated business network speed calling code digits. This field contains the digits of the destination number that associates with the speed calling code of a IBN station. The destination number can associate with the speed calling or logical key number of an MBS or data unit.

Datafill example for table IBNSC

Sample datafill for table IBNSC appears in the following example.

International 15-Digit Dialing for MDC (continued)

MAP example for table IBNSC

IBNSCKEY	RESULT
HOST 00 0 02 10	SCS 7 91010999011431234567890123

Datafilling table IBNXLA

The use of option EA for a general network (NET GEN) selector can occur. When this event occurs, a maximum of three IBN prefix digits for a 15-digit international call are correct.

Datafill for International 15-Digit Dialing for MDC for table IBNXLA appears in the following table. The fields that apply to International 15-Digit Dialing for MDC appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table IBNXLA (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
KEY		see subfields	Key. This field contains subfields XLANAME and DGLIDX.
RESULT		see subfields	Result. This field contains several subfields. Subfields NO_ACCODE_DIGITS and OPTION apply to this feature.
	NO_ACCODE_DIGITS	0 to 7	Number of access code digits. Enter the number of digits in the access code.
	OPTION	EA	Option. For the equal access option, enter EA. Enter data in refinements PIC, CHOICE, and INVEAFLX.
	PIC	alphanumeric or NILC	Preferred inter-local access and transport area (LATA) carrier. Enter the preferred inter-LATA carrier. If a call cannot occur through this carrier, the system sends the call to treatment.

International 15-Digit Dialing for MDC (continued)

Datafilling table IBNXLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	CHOICE	Y or N	Choice. Enter Y if the caller can dial a 10XXX or 101XXXX prefix to choose a carrier manually. For other conditions, enter N. Enter N to block all EA calls translated to route to a carrier other than the carriers specified by refinement PIC. This condition includes calls with a 10XXX or 101XXXX prefix.
	INVEAFLX	0 to 63	Invalid flexible intercept number. Enter the invalid flexible intercept number. If a call cannot occur through this carrier, the system sends the call to treatment.

Datafill example for table IBNXLA

Sample datafill for table IBNXLA appears in the following example.

MAP example for table IBNXLA

KEY	RESULT
CGAXLA	987
NET Y Y N 3 Y POTS N N GEN (LATTR 42) (EA C541 Y 0) \$ \$	

Error messages for table IBNXLA

The following error message applies to table IBNXLA.

Error message for table IBNXLA

Error message	Explanation and action
WARNING: If using a carrier with a 4-digit CIC 15-digit international calls may not complete with more than 3 IBN prefix digits.	This message appears if more than 3 IBN prefix digits are in use for 15-digit international calls on a carrier with a 4-digit carrier identification code (CIC).

Datafilling table KSETFEAT

Datafill for International 15-Digit Dialing for MDC for table KSETFEAT appears in the following table. The fields that apply to International 15-Digit

International 15-Digit Dialing for MDC (continued)

Dialing for MDC appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table KSETFEAT (Sheet 1 of 7)

Field	Subfield or refinement	Entry	Explanation and action
FEATKEY		see subfields	KSET feature key. This field contains subfields LEN, KEY, and FEAT.
	LEN	see subfields	Line equipment number. This subfield defines the location of the equipment that connects to a specific telephone line.
	KEY	1 to 69	Physical key. Enter the number that associates with the physical key to which the assignment of the feature occurs. For code access features, the assignment of the feature to key 1 occurs. Key 1 is the primary directory number (PDN) key.
	FEAT	CFX	Feature. Enter CFX for the Call Forwarding feature.
FEATURE		CFX	Feature. Enter CFX.
KVAR		see subfields	Key variable area. This field contains several subfields. Subfields CFUIFVAR and CFBDVAR apply to this feature. To enter subfields, separate each subfield with a space.
	CFUIFVAR	see subfield	Call Forward Universal Intragroup Fixed variables. This subfield contains subfield CFUIFOPT.
	CFUIFOPT	CFF, CFI, CFK, CFU, or N	Call Forward Universal Intragroup fixed option. Enter CFF if the line has only the Call Forward Fixed feature. Enter data in refinement CFFDN.
	CFFDN	numeric (1 to 30 digits)	Call Forward Fixed directory number. If the entry in subfield CFUIFOPT is CFF, enter data in this refinement. Enter the DN to which the system forwards calls when the user activates feature CFF.
	CFBDVAR	see subfield	Call Forward Busy Don't Answer variables. This subfield contains subfield CFBDOPT.

International 15-Digit Dialing for MDC (continued)

Datafilling table KSETFEAT (Sheet 2 of 7)

Field	Subfield or refinement	Entry	Explanation and action
	CFBDOPT	CFB, CFBD, CFD, or N	<p>Call Forward Busy Don't Answer option. Enter one of the following values:</p> <p>Enter CFB if the line has only the Call Forward Busy feature. Enter data in the following refinements:</p> <ul style="list-style-type: none"> • CFBCNTL • CBTYPE • CFBDN • INCFBDN • EXCFBDN <p>Enter CFBD if the line has both the Call Forward Busy and Call Forward Don't Answer features. Enter data in the following refinements:</p> <ul style="list-style-type: none"> • CBTYPE • CFBCNTL • CFBDN • INCFBDN • EXCFBDN • CFDCNTL • CDTYPE • CFDDN • INCFDDN • EXCFDDN

International 15-Digit Dialing for MDC (continued)

Datafilling table KSETFEAT (Sheet 3 of 7)

Field	Subfield or refinement	Entry	Explanation and action
	CFBDOPT (continued)		<p>Enter CFD if the line has only the Call Forward Don't Answer feature. Enter data in the following refinements:</p> <ul style="list-style-type: none"> • CFDNCTL • CDTYPE • CFDDN • INCFDDN • EXCFDDN <p>Enter N if the line does not have any of the above features. The entry of data in refinements is not a requirement.</p>
	CFBCNTL	F, N, or P	<p>Call Forward Busy control. Enter F (fixed) if the user activates or deactivates the CFB feature. The operating company enters data in field CFBDDN. The user supplies field CFBDDN during application.</p> <p>Enter N (the default) if feature CFB is always active.</p> <p>Enter P (programming) if the user activates or deactivates feature CFB.</p>

International 15-Digit Dialing for MDC (continued)

Datafilling table KSETFEAT (Sheet 4 of 7)

Field	Subfield or refinement	Entry	Explanation and action
	CBTYPE	CBE, CBECBU, CBI, CBICBU, CBU, IECFB, IECFBCBU, or N	<p>Call Forward Busy type. If the entry in refinement CFBCNTL is P, enter the CFB selector that follows. Go to refinement CFDCNTL.</p> <p>Enter CBE to deny external calls forwarded when the line is busy. External calls are outside the customer group. Intragroup calls forward to remote stations in the customer group.</p> <p>Enter CBECBU to deny external calls forwarded. Intragroup calls forward to remote stations in or outside the customer group (not restricted).</p> <p>Enter CBI to deny intragroup calls forwarded. External calls forward to remote stations in the customer group.</p> <p>Enter CBICBU to deny intragroup calls forwarded. External calls forward to remote stations in or outside the customer group. External calls are not restricted.</p> <p>Enter CBU to forward all calls to remote stations in or outside the customer group. These calls are not restricted.</p> <p>Enter IECFB to forward internal and external calls to remote stations. These remote stations are in the customer group that refinements INCFBDN and EXCFBDN specify, in the sequence given.</p>
	CBTYPE (continued)		<p>Enter IECFBCBU to forward internal and external calls to remote stations in or outside the customer group. Refinements INCFBDN and EXCFBDN specify the customer group, in the sequence given.</p> <p>Enter N to forward all calls to remote stations in the customer group.</p> <p>If the entry in subfield CFBDOPT is CFB and the entry in refinement CFBCNTL is P, go to subfield OPTVAR.</p> <p>If the entry in subfield CFBDOPT is CFBD and the entry in refinement CFBCNTL is P, go to subfield CFDCNTL.</p>

International 15-Digit Dialing for MDC (continued)

Datafilling table KSETFEAT (Sheet 5 of 7)

Field	Subfield or refinement	Entry	Explanation and action
	CFBDN	numeric (1 to 30 digits)	Call Forward Busy directory number. The entry in refinement CFBCNTL can be F or N. The entry in refinement CBTYPE can be CBE, CBI, CBECBU, CBICBU, CBU, or N. When these entries are present, enter the DN to which the system forwards calls when the line is busy.
	INCFBDN	numeric (1 to 30 digits)	Call Forward Busy internal directory number. The entry in refinement CFBCNTL can be F or N. The entry in refinement CBTYPE can be IECFB or IECFBCBU. When these entries are present, enter the internal DN to which the system forwards calls when the line is busy.
	EXCFBDN	numeric (1 to 30 digits)	Call Forward Busy external directory number. The entry in refinement CFBCNTL can be F or N. The entry in refinement CBTYPE can be IECFB or IECFBCBU. When these entries are present, enter the external DN to which the system forwards calls when the line is busy.
	CFDCNTL	F, N, or P	<p>Call Forward Don't Answer control. To control activation, deactivation, and programming of feature CFD, enter F (fixed) if the user activates or deactivates the CFD feature. The operating company enters data in field CFDDN.</p> <p>Enter N (default) if the user always activates feature CFD. The operating company enters data in field CFDDN.</p> <p>Enter P (programming) if the user activates or deactivates feature CFD. The user supplies the entry for field CFDDN during activation.</p>

International 15-Digit Dialing for MDC (continued)

Datafilling table KSETFEAT (Sheet 6 of 7)

Field	Subfield or refinement	Entry	Explanation and action
	CDTYPE	CDE, CDECDU, CDI, CDICDU, CDU, IECFD, IECFDCDU, or N	<p>Call Forward Don't Answer type. If the entry in refinement CFDCNTL is P, enter a CD selector that follows. Go to subfield OPTVAR.</p> <p>To forward calls when the line has feature Call Forward Don't Answer, enter CDE to deny external calls forwarded. Intragroup calls forward to remote stations in the customer group.</p> <p>Enter CDECDU to deny external calls forwarded. Intragroup calls forward to remote stations in or outside the customer group. Intragroup calls are not restricted.</p> <p>Enter CDI to deny intragroup calls forwarded. External calls forward to remote stations in the customer group.</p>
	CDTYPE (continued)		<p>Enter CDICDU to deny intragroup calls forwarded. External calls forward to remote stations in or outside the customer group. External calls are not restricted.</p> <p>Enter CDU to call forward all calls to remote stations in or outside the customer group. These calls are not restricted.</p> <p>Enter IECFD to forward internal and external calls to remote stations in the customer group. Refinement INCFDDN and EXCFDDN specify the customer group, in the sequence given.</p> <p>Enter IECFDCDU to forward internal and external calls to remote stations in or outside the customer group. Refinements INCFDDN and EXCFDDN specify the customer group, in the sequence given.</p> <p>Enter N to call forward all calls to remote stations in the customer group.</p>

International 15-Digit Dialing for MDC (continued)

Datafilling table KSETFEAT (Sheet 7 of 7)

Field	Subfield or refinement	Entry	Explanation and action
	CFDDN	numeric (1 to 30 digits)	Call Forward Don't Answer directory number. The entry in refinement CFDCNTL can be F or N. The entry in refinement CDTYPE can be CDE, CDECDU, CDI, CDICDU, CDU, or N. When these entries are present, enter the DN to which the system forwards calls when calls cannot complete.
	INCFDDN	numeric (1 to 30 digits)	Call Forward Don't Answer internal directory number. The entry in refinement CFDCNTL can be F or N. The entry in refinement CDTYPE can be IECFD or IECFDCDU. When these entries are present, enter the internal DN to which the system forwards calls when calls cannot complete.
	EXCFDDN	numeric (1 to 30 digits)	Call Forward Don't Answer external directory number. The entry in refinement CFDCNTL can be F or N. The entry in refinement CDTYPE can be IECFD or IECFDCDU. When these entries are present, enter the external DN to which the system forwards calls when calls cannot complete.

Datafill example for table KSETFEAT

Sample datafill for table KSETFEAT appears in the following example.

MAP example for table KSETFEAT

		FEATKEY	FEATURE	KVAR
-----	-----	-----	-----	-----
HOST	05 0 00 21 1	CFB	CFB	
	F	IECFB 5678	910109990114312345567890123	\$

Datafilling table RESFEAT

Datafill for International 15-Digit Dialing for MDC for table RESFEAT appears in the following table. The fields that apply to International 15-Digit

International 15-Digit Dialing for MDC (continued)

Dialing for MDC appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table RESFEAT

Field	Subfield or refinement	Entry	Explanation and action
FEAT		SCF	CLASS feature. Enter SCF for Selective Call Forwarding.
VAR		see subfields	Variable data. This field contains several subfields. Only subfields DF, FDN, AMA, and STATUS apply to this feature.
	DF	SCF	CLASS feature. Enter the same value as for field FEAT.
	FDN	1 to 30 digits	Selective Call Forwarding directory number. If the entry in subfield DF is SCF, enter data in this refinement. Enter the DN to which the system forwards SCF calls when SCF is active.
	AMA	AMA or NOAMA	Automatic message accounting. Enter AMA if the system generates an AMA record is for the feature. Enter NOAMA if an AMA record is not a requirement.
	STATUS	ACT, INACT, UNIVA, or UNIVI	Status. Enter ACT (active) if the feature is active on the line. For other conditions, enter INACT (inactive). The entries UNIVA and UNIVI indicate that a common user activates or deactivates the feature.

Datafill example for table RESFEAT

Sample datafill for table RESFEAT appears in the following example.

International 15-Digit Dialing for MDC (continued)

MAP example for table RESFEAT

LINE	KEY	FEAT	VAR
HOST 05 0 01 05	0		SCF
		SCF 38743984738472348 NOAMA INACT	

Tools for verifying translations

International 15-Digit Dialing for MDC does not use tools for verifying translations.

SERVORD

International 15-Digit Dialing for MDC increases the number of digits you can enter for the following SERVORD prompts corresponding to IBN Call Forwarding options. You can use the SERVORD add option (ADO) command to enter these Call Forwarding options. When you perform this action, SERVORD can display one or more of the following prompts. The display of the prompt depends on the option added.

- CFBDN
- CFDDN
- CFFDN
- CFGDN
- INCFBDN
- EXCFBDN
- INCFDDN
- EXCFDDN
- FDN

SERVORD limits

International 15-Digit Dialing for MDC does not have SERVORD limits.

International 15-Digit Dialing for MDC (continued)

SERVORD prompts

The SERVORD prompts to add Call Forwarding options CFB, CFD, CFF, CFGD, IECFB, IECFD, and SCF appear in the following table. The addition of these options occurs to a current line with International 15-Digit Dialing.

SERVORD prompts for International 15-Digit Dialing for MDC

Prompt	Valid input	Explanation
DN_OR_LEN	seven-digit DN or LEN	Specifies the seven-digit DN or LEN of the line to change. Enter the DN or LEN.
OPTION	CFB, CFD, CFF, CFGD, IECFB, IECFD, SCF	Indicates the name of the option. Enter CFB, CFD, CFF, CFGD, IECFB, IECFD, or SCF.
CFBDN	A maximum of 30 digits	Specifies the Call Forwarding DN for the CFB option.
CFDDN	A maximum of 30 digits	Specifies the Call Forwarding DN for the CFD option.
CFFDN	A maximum of 30 digits	Specifies the Call Forwarding DN for the CFF option.
CFGDN	A maximum of 30 digits	Specifies the Call Forwarding DN for the CFGD option.
INCFBDN	A maximum of 30 digits	Specifies the internal Call Forwarding Busy DN for the IECFB option.
EXCFBDN	A maximum of 30 digits	Specifies the external Call Forwarding Busy DN for the IECFB option.
INCFDDN	A maximum of 30 digits	Specifies the internal Call Forwarding Don't Answer DN for the IECFD option.
EXCFDDN	A maximum of 30 digits	Specifies the external Call Forwarding Don't Answer DN for the IECFD option.
FDN	A maximum of 30 digits	Specifies the Call Forwarding DN for the SCF option.

SERVORD example for adding option CFF and CFB variant IECFB to an existing line

You can use the ADO command to add option CFF and CFB variant IECFB to a current line. A description of this addition appears in the following

International 15-Digit Dialing for MDC (continued)

SERVORD example. In this example, the specification of a 26-digit external Call Forwarding Busy DN for IECFB occurs at the EXCFBDN prompt.

SERVORD example for adding option CFF and CFB variant IECFB with International 15-Digit Dialing for MDC in prompt mode

```
>ADO
SONUMBER: NOW 94 11 11 AM
>
DN_OR_LEN:
>5 0 1 5
OPTION:
>CFF
CFFDN:
>910109990114312345678901
OPTION:
>CFB
CFBCNTL:
>N
CFBDN:
>4556
OPTION:
>IECFB
INCFBDN:
>4556
EXCFBDN:
>91010999011431234874738412
OPTION:
>$
```

SERVORD example for adding option CFF and CFB variant IECFB with International 15-Digit Dialing for MDC in no-prompt mode

```
>ADO $ 5 0 1 5 CFF 910109990114312345678901 CFB N 4556 IECFB
4556 91010999011431234874738412 $
```

SERVORD example for adding option CFGD to an existing line

You can use the ADO command to add option CFGD to a current line. A description of this addition appears in the following SERVORD example. In this example, the specification of a 24-digit Call Forwarding DN occurs at the CFGDN prompt.

International 15-Digit Dialing for MDC (end)

SERVORD example for adding option CFGD with a 24-digit Call Forwarding DN with International 15-Digit Dialing for MDC in prompt mode

```

>ADO
SONUMBER:  NOW 94 11 11 AM
>
DN_OR_LEN:
>5 0 1 5
OPTION:
>CFGD
INTERNAL:
>N
CFGDN:
>910109990114312345678901
SPECTIME:
>N
CFGTYPE:
>CFGDI
OPTION:
>$

```

SERVORD example for adding option CFGD with a 24-digit DN with International 15-Digit Dialing for MDC in no-prompt mode

```

>ADO $ 5 0 1 5 CFGD N 910109990114312345678901 N CFGDI $

```

6 Datafilling LOC DOLP Selector

The following chapter describes the LOC DOLP Selector, LOC00005, functionality.

Uniform Outpulsing

Ordering codes

Functional group ordering code: LOC00005

Functionality ordering code: not applicable

Release applicability

NA0015 introduces Uniform Outpulsing Enhancements.

NA011 introduces Uniform Outpulsing.

Prerequisites

This document includes all the data table information for this functionality. Complete use of this functionality can require software or hardware not described in this document.

Description

Uniform Outpulsing (UOP) enables operating company personnel to set uniform outpulsing for direct inward dialing (DID) calls to an Automatic intercept system (AIS) and private branch exchange (PBX).

Originally, UOP restricted the number of digits dialed when routed to an automatic intercept system (AIS), and the nonsupported routes from standard pretranslations.

This feature supports the following treatment or nontreatment extension dialed calls using UOP:

- a treatment extension dialed call that routes to an AIS
- a seven-digit dialed call that routes to an AIS
- a nontreatment extension dialed call that routes to a PBX

Treatment extension calls, which do not use UOP and route to an automatic intercept (AI) trunk, send seven digits to the AIS. The AIS does not receive more than seven digits for treatment extension calls. This feature allows the use of UOP with treatment extension calls to manipulate and outpulse the 10-digit called number to 7 digits. In order to derive the 10 digit directory number (DN), set the field TENDIG_REQD to Y with the digit manipulation interface (DMI) present. The software then routes the 7 digits to the AIS.

For UOP nontreatment calls to a PBX, the software outpulses the entire 10 digit called number rather than only outpulsing the dialed extension.

Uniform Outpulsing (continued)

The Uniform Outpulsing Enhancements feature allows the extended support of the following requirements:

- the combination V (variable) selector and the L (line) route selector in the Table STDPRTCT or Table STDPRT
- the L selector (only) in Table STDPRTCT or Table STDPRT
- treatment extension dialing for calls that route out of Table DNROUTE (Directory Number Route) and Table DNINV (Directory Number Inventory) when using UOP with automatic intercept (AI) trunks
- 10-digit DN derivation for UOP/ISA calls that consist of 7 digits or less
- 10-digit DN derivation for UOP/ISA extension dialed calls
- extension dialing for non-treatment calls that route out of Table DNROUTE and Table DNINV

Note: For each of the above requirements to be supported with UOP, the call must route from Table DNROUTE or Table DNINV.

Operation

Uniform Outpulsing enables telephone operating company personnel to set up a uniform number of digits to outpulse and common digit replacement. Uniform Outpulsing replaces use of the home numbering plan area (HNPA) 1 selector in subtable HNPACONT.HNPACODE (Home NPA Code).

For per trunk signaling (PTS), Uniform Outpulsing introduces routing selector UOP to outpulse the same number of digits every time. Routing selector UOP also provides operating company personnel with the capability of common digit replacement. For ISDN signaling, use existing selector ISA for Uniform Outpulsing.

Operating company personnel can use the digit to outpulse (DTO) command in table DIGMAN (Digit Manipulation) to specify the number of digits to outpulse. To set up common digit replacement, use existing DIGMAN commands before you use the DTO command.

Uniform Outpulsing (continued)

Operating companies can require uniform outpulsing for the following office-service reasons:

- multiple numbering plan area (NPA) codes with a 7-digit home NPA call and a 10- or 11-digit foreign NPA call
- single NPA codes with a dial plan that allows both 7- and 10- or 11-digit local dialing
- multiple rate center (single or multiple NPAs) with seven-digits and 1+10-digit toll to the same terminating address

With Uniform Outpulsing, end users can dial different numbers to reach an Internet service provider (ISP) even though the ISP expects one outpulsed number. Telephone operating company personnel need only replace the dialed number with a needed number. Ensure that the switch outpulses a uniform number of digits even though the end user dials only seven or ten digits.

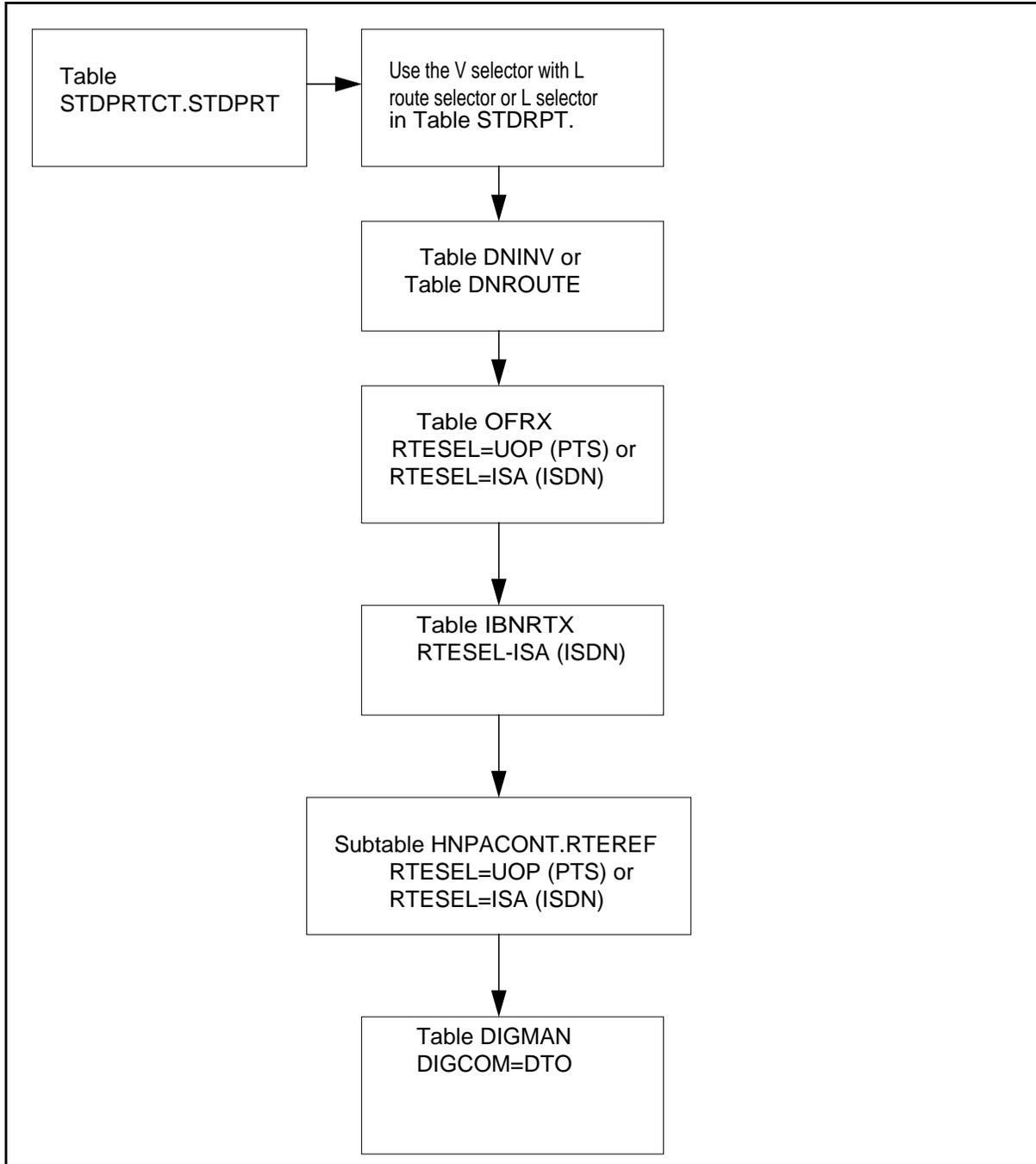
Translations table flow

The Uniform Outpulsing Enhancements feature includes the following translations tables:

- Subtable STDPRT (Standard Pretranslations) using the V selector with the L route selector in STDPRT
- Table DNVINV (Directory Number Inventory) or Table DNROUTE (Directory Number Route)
- Table OFRTX (Office Routes)
- Table DIGMAN (Digital Manipulation)
- Table IBNRTX (Integrated Business Network Routes)
- Subtable HNPACONT.RTEREF (Home Numbering Plan Area Code Route Reference)
- Subtable FNPACONT.RTEREF (Foreign Numbering Plan Area Code Route Reference)

The Uniform Outpulsing translation process is shown in the flowchart that follows.

Table flow for Uniform Outpulsing with UOP or ISA selector



Uniform Outpulsing (continued)

The following table lists the datafill content used in the flowchart.

Datafill example for Uniform Outpulsing

Datafill table	Example data
DIGMAN	1000 (CL END) (CB 7) (INC 3) (DTO 10) \$1001 (CL END) (CB 7) (INC 818) (DTO 10) \$
OFRTX	11 (UOP D MTRLPQ0201T0 1000 N) \$55 (ISA N N N PRIIBNT2NTOG1 PUB NONE N N 1001) \$
IBNRTX	11 (UOP D MTRLPQ0201T0 1000 N) \$55 (ISA N N N PRIIBNT2NTOG1 PUB NONE N N 1001) \$
HNPACONT.R TEREF	11 (UOP D MTRLPQ0201T0 1000 N) \$55 (ISA N N N PRIIBNT2NTOG1 PUB NONE N N 1001) \$

Limitations and restrictions

The following limitations and restrictions apply to Uniform Outpulsing:

- The field TENDIG_REQD must be set to Y to manipulate and outpulse based on the 10-digit DN and not the dialed DN.
- This feature only supports the following trunk and signaling types.

Uniform Outpulsing supported trunks

Trunk type	Signaling type	Route selector
AI	PTS	UOP
PX, P2	PTS	UOP
TO, T2	PTS	UOP
IBNTO, IBNT2	PTS	UOP
IBNTO, IBNT2	ISDN	ISA
PRA/PRI	ISDN	ISA

- This feature only supports direct inward calls to a PBX or to AI trunks.
- This feature does not support equal access (EA) calls.
- This feature does not support calls with leading digits, such as OZZ and circuit identification code (CIC) calls.
- The V selector with the L route selector is a UOP supported route from standard pretranslations.

Uniform Outputpulsing (continued)

- The L selector is a UOP supported route from standard pretranslations.

Note: Any tuple, other than the V and L selectors that route the call out of the Table STDPRT, will be rejected. No backward control check exists to Table STDPRT when changing routing table tuples. If a routing table tuple selector is changed to either a V selector with an L route selector or to an L route selector only, check Table STDRPT to ensure that no other entries currently use that route.

- To accomplish Uniform Outputpulsing, use the existing DIGCOM (Digit Manipulation Commands) in the Table DIGMAN. The DTO (Digits to Outputpulse) command must be either the only command or the last command. Refer to the example below:

CASE 1: Outputpulse 7 digits
 Datafill: (DTO 7)

CASE 7: Substitute the station code and outputpulse 4 digits
 Datafill: (CL END) (CB 4) (REM 4) (INC XXXX) (DTO 4)
 where XXXX equals the station code.

- UOP Enhancements feature uses the existing SOC (LOC00005) that UOP uses
- All Table DIGMAN selectors support UOP.
- The 10-digit derivation supports UOP and ISA calls that are seven digits and extension dialed calls.
- The digit manipulation interface (DMI) must be present to set the field TENDIG_REQD to Y in Table OFRTX, Table IBNRTX, Subtable HNPACONT.RTEREF, and Subtable FNPACONT.RTEREF. Otherwise, 10-digit derivation can not be done.

Interactions

The Uniform Outputpulsing feature has no functionality interactions.

Activation/deactivation by the end user

The Uniform Outputpulsing feature requires no activation or deactivation by the end user.

Uniform Outpulsing (continued)

Billing

The Uniform Outpulsing feature does not affect billing.

Station Message Detail Recording

The Uniform Outpulsing feature does not affect Station Message Detail Recording.

Datafill office parameters

The Uniform Outpulsing feature does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Uniform Outpulsing. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Uniform Outpulsing

Table	Purpose of table
DIGMAN	Digit Manipulation. This table defines the digit manipulation data for a customer group.
OFRTX (Note)	Office Route. This table is used for routing all DMS switches except the DMS-300.
IBNRTX (Note)	Office Route. This table is used for routing all DMS switches except the DMS-300.
HNPACONT.RTE REF (Note)	Home NPA Route Reference. This is one of the HNPA code subtables.
<p>Note: Tables OFRT, OFR2, OFR3, OFR4, and Subtable HNPACONT.RTEREF all share the same datafill structure. This feature description shows a datafill procedure for Table OFRT only. All datafill changes that apply to table OFRT also apply to these tables.</p>	

Datafill table DIGMAN

Uniform Outpulsing adds digit command DTO to table DIGMAN.

The following table shows the datafill specific to Uniform Outpulsing for table DIGMAN. Only those fields that apply directly to Uniform Outpulsing are

Uniform Outpulsing (continued)

shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table DIGMAN

Field	Subfield or refinement	Entry	Explanation and action
DMIDATA			Digit manipulation data. This field contains subfield DIGCOM.
	DIGCOM	DTO	Digit command. Enter one digit command for each line for the required function. For this feature, enter DTO.
	DTOCOUNT	numeric (1 to 15)	Digits to outpulse count. Enter a value from 1 to 15 to represent the number of digits that the switch is to outpulse.

Note: Nortel recommends that operating company personnel reserve a digit manipulation index (DMI) range (such as 1000 through 1100) for uniform 0 only. Also assign the same DMI for every requirement on a regional or network-wide basis.

Datafill examples for table DIGMAN

The following examples show sample datafill for table DIGMAN. For the following conditions, Nortel recommends that you enter like datafill for automatic intercept system (AIS) and direct inward dial (DID) applications.

AIS application

In both tuples in the following example, the switch is to outpulse ten digits and show a cursor back count of seven digits (CB 7). Datafill (INC 919) and (INC 818) show the terminating area code is not dialed or received in signaling.

MAP display example for table DIGMAN

DMIKEY	DMIDATA

1000	(CL END) (CB 7) (INC 919) (DTO 10) \$
1001	(CL END) (CB 7) (INC 818) (DTO 10) \$

The following tuple shows datafill when the switch is to add a prefix digit (INC 4) and outpulse eight digits (DTO 8).

Uniform Outpulsing (continued)

MAP display example for table DIGMAN

```
DMIKEY   DMIDATA
-----
1002     (CL END) (CB 7) (INC 4) (DTO 8) $
```

DID application

The following tuple shows datafill when the switch is to replace a station code (INC 1234) and outpulse four digits (DTO 4).

MAP display example for table DIGMAN

```
DMIKEY   DMIDATA
-----
1003     (CL END) (CB 4) (REM 4) (INC 1234) (DTO 4) $
```

The following tuple shows datafill when the switch is to replace the office and station code (INC 1234567) and outpulse seven digits (DTO 7).

MAP display example for table DIGMAN

```
DMIKEY   DMIDATA
-----
1004     (CL END) (CB 7) (REM 7) (INC 1234567) (DTO 7) $
```

The following tuple shows datafill when the switch is to replace the area and station codes (INC 1234) and outpulse ten digits (DTO 10). Datafill (INC 919) refers to the NPA, which is not dialed or received in signaling.

MAP display example for table DIGMAN

```
DMIKEY   DMIDATA
-----
1005     (CL END) (CB 7) (INC 919) (CF 3) (REM 4)
(INC 1234) (DTO 10) $
```

Uniform Outpulsing (continued)

The following tuple shows datafill when the switch replaces the office and station code and outpulses ten digits (DTO 10). Datafill (CB 7) (REM 7) (INC 9191234567) shows that the area code is not dialed or received in signaling, although this datafill also indicates office and station code replacement.

MAP display example for table DIGMAN

```

DMIKEY  DMIDATA
-----
1006    (CL END) (CB 7) (REM 7) (INC 9191234567) (DTO 10) $
    
```

The following tuple shows datafill when the switch is to replace the area, office and station codes (INC 9191234567) and outpulse ten digits (DTO 10).

MAP display example for table DIGMAN

```

DMIKEY  DMIDATA
-----
1007    (CL END) (CB 7) (REM 7) (INC 9191234567) (DTO 10)
$
    
```

Datafill table OFRT

Uniform Outpulsing adds route selector UOP to the office routing tables. Release 15 adds field TENDIG_REQD to Table OFRT.

Note: Tables OFRT, OFR2, OFR3, OFR4, and Subtable HNPACONT.RTEREF all share the same datafill structure. All of the following datafill that applies to Table OFRT also apply to these tables.

The following table shows the datafill specific to Uniform Outpulsing for Table OFRT. Only those fields that apply directly to Uniform Outpulsing are shown.

Uniform Outpulsing (continued)

For a description of the other fields, refer to the data schema section of this document.

Datafilling table OFRT

Field	Subfield or refinement	Entry	Explanation and action
RTELIST		see subfield	Route list. This field consists of subfield RTESEL.
	RTESEL	UOP	Route selector. Enter UOP for uniform outpulsing or ISA Integrated-services Access. If subfield RTESEL equals UOP or ISA, enter datafill for subfields CONNTYPE, CLLI, DMI, and CANCELC.
	CONNTYPE	D	Connection type. System logic does not use this field. Enter D to satisfy table control. An entry outside of this range is invalid.
	CLLI	alphanumeric (1 to 16 characters)	Common language location identifier. Enter the code in table CLLI where translation routes.
	DMI	0 to 32 767	Digit manipulation index. Enter a value that corresponds to the tuple from table DIGMAN that provides digit manipulation commands.
	CANCELC	Y or N	Cancel normal charge. Enter Y (yes) if type of call is a direct dial (DD) call and the charge is canceled. Otherwise, enter N (no). If switch routes the call to an announcement and bills the call (coins collected, off-hook returned, message rate pegged), enter Y. Otherwise, enter N. If field CANCELC equals Y, the call is charged.
	TENDIG_ REQD	Y or N	Ten digits required. Enter Y (yes), so that the host application can determine if a ten-digit DN should be derived. Otherwise, enter N (no). Enter N (no), if the host application can use UOP to manipulate and outpulse the dialed number to 7 digits.

Datafill example for table OFRT

The following example shows sample datafill for table OFRT.

Uniform Outputing (continued)

RTE	RTELIST
11	(UOP D MTRLPQ0201T0 1000 N N) \$
55	(ISA N N N PRIIBNT2NTOG1 PUB NONE N N 1001) \$

Translation verification tools

The following example shows the output from TRAVER when it is used to verify Uniform Outputing. The trace part of the TRAVER shows the tuples with selector UOP and command DTO.

Uniform Outpulsing (continued)

TRAVER output example for Uniform Outpulsing w/ the V selector/L route selector in STDRPT.

```
>traver tr al 1ti 6620051 b
TABLE TRKGRP
AL1TI TI 5 NPDGP NCRT NIL PEA NSCR 613 LCL N N $
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
TABLE STDPRTCT
PEA (1) (0) 2
.SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE BILLING. CALL TYPE
DEFAULT IS NP. PLEASE REFER TO DOCUMENTATION.
.662 662 V 7 NP 0 L 519 662 N7 NL 0 L 519 662 0
TABLE TOFCNAME
519 662 $
TABLE DNINV
519 662 0051 T OFRT 895
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
. TABLE OFRT
. 895 UOP D CARYIBNTO 1 N N
. . TABLE DIGMAN
. . 1 (DTO 4)
. . EXIT TABLE DIGMAN
. EXIT TABLE OFRT
. SUBTABLE AMAPRT
. KEY NOT FOUND
. DEFAULT VALUE IS: NONE OVRNONE N
AIN Info Collected TDP: no subscribed trigger.
Checking AIN SDS Trigger Items as SDS is compatible with current call.
+++ TRAVER: SUCCESSFUL CALL TRACE +++
DIGIT TRANSLATION ROUTES
1 CARYIBNTO 0051 ST
1 T120 +++ TRAVER: SUCCESSFUL CALL TRACE +++
```

Uniform Outpulsing (continued)**TRAVER output example for Uniform Outpulsing with the L selector**

```

>traver tr al 1ti 6620051 b
TABLE TRKGRP
AL1TI TI 5 NPDGP NCRT NIL PEA NSCR 613 LCL N N $
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
TABLE STDPRTCT
PEA (1) (0) 2
.SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE BILLING. CALL TYPE
DEFAULT IS NP. PLEASE REFER TO DOCUMENTATION.
.662 662 L NP 0519 662
TABLE TOFCNAME
519 662 $
TABLE DNINV
519 662 0051 T OFRT 895
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
. TABLE OFRT
. 895 UOP D CARYIBNTO 1 N N
. . TABLE DIGMAN
. . 1 (DTO 4)
. . EXIT TABLE DIGMAN
. EXIT TABLE OFRT
. SUBTABLE AMAPRT
. KEY NOT FOUND
. DEFAULT VALUE IS: NONE OVRNONE N
AIN Info Collected TDP: no subscribed trigger.
Checking AIN SDS Trigger Items as SDS is compatible with current call.
+++ TRAVER: SUCCESSFUL CALL TRACE +++
DIGIT TRANSLATION ROUTES
1 CARYIBNTO 0051 ST
TREATMENT ROUTES. TREATMENT IS:GNCT
1 T120 +++ TRAVER: SUCCESSFUL CALL TRACE +++

```

Uniform Outpulsing (continued)

TRAVER output example for non-treatment extension call w/ UOP routing from Table DNINV.

```

>TRAVER L 6211761 16106224430 B
TABLE KSETLINE
HOST 05 0 01 21 1 DN Y 6215021 IBNTST 0 0 613 $ MBS
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE KSETFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
TUPLE NOT FOUND
TABLE OFCVAR

AIN_OFFICE_TRIGGRP NIL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
IBNTST 0 0 0 (XLAS CXT1 RXCFN NDGT) (OHQ 0 TONE_OHQ) (CBQ 01 Y 2)
(ERWT) (ACR N)$
TABLE CUSTHEAD: CUSTGRP,PRELIMXLA,CUSTXLA,FEATXLA,VACTRMT,AND DIGCOL
IBNTST NXLA CXT3 RXCFN 0 NDGT
TABLE DIGCOL
NDGT specified: digits collected individually
TABLE IBNXLA:XLANAME CXT1
CXT 5 EXTN Y Y 613 621 4 $ $
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 5774 T OFRT 5
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
. TABLE OFRT
. 5 UOP D CARYIBNTO 1 N N
. . TABLE DIGMAN
. . 1 (DTO 6)
. . EXIT TABLE DIGMAN
. EXIT TABLE OFRT

```

—continued—

Uniform Outpulsing (end)

TRAVER output example for non-treatment extension call w/ UOP (continued)

```
AIN Info Collected TDP: no subscribed trigger.  
AIN Info Analyzed TDP: no subscribed trigger.  
AIN Term Attempt TDP: no subscribed trigger.
```

```
+++ TRAVER: SUCCESSFUL CALL TRACE +++  
    DIGIT TRANSLATION ROUTES  
    1 CARYIBNTO 215774 ST  
    TREATMENT ROUTES: TREATMENT IS: GNCT  
1 T120 +++ TRAVER: SUCCESSFUL CALL TRACE +++
```

SERVORD

The Uniform Outpulsing feature does not use the Service Order System.

7 Datafilling LOC Resale/Unbundling

The following chapter describes the LOC Resale/Unbundling, LOC00012, functionality.

Local Service Provider

Ordering codes

Functional group ordering code: LOC00012

Functionality ordering code: does not apply

Release applicability

NA009 and later versions

Local Service Provider was introduced in NA009.

Requirements

To operate, Local Service Provider has the following requirements:

- Allow ADO, DEO, CHF Redundant Features, AF7017
- TRA AMA FP/AO, AF7251
- PIC for RCFEA, AF7239

Description

The Local Service Provider (LSP) functionality allows the operating company to administer and provision LSPs and subscriber account ownership. The LSPs are local exchange carriers (LEC). These LECs lease lines or switching capacity from an incumbent LEC (ILEC) to provide local service to subscribers. The Telecom Reform Act of 1996 created LSPs. The defined LSP is the LSP account owner (LSPAO) of the subscriber. The LSPAO provides telecommunications services and billing. The LSPAO provides these services directly or through a third party.

Other LECs lease lines at a resale or an unbundled rate. Subscribers that an ILEC end office switch serves can select the ILEC or a LEC from another LEC as the LSP. The LSP that the subscriber chooses is the LSPAO of the subscriber. This feature supports lines and private trunks end office subscriber types. You can provision an LSPAO for a subset of DMS-100 end office services. The LEC can sell the end office services again.

Local Service Provider (continued)**Compatible agents**

The agents, or line class codes (LCC), that can associate with an LSP appear in the following table.

Agents compatible with LSP (Sheet 1 of 2)

Agent	Definition
1FR	Individual flat rate
1MR	Individual message rate
RES	Residential enhanced services lines
PBX	Private branch exchange (PBX) flat rate
PBM	PBX message rate
PX	Two-way PBX Direct Inward Dial (DID) or Direct Outward Dial (DOD)
IBN	Two-way digital PBX, Integrated business network; centrex or PBX station
CCF	Coin first (ground start)
CDF	Dial tone first (loop start)
CFD	Coin free dial
CSP	Semi-postpay
M5008	Meridian M5008 (MBS II)
M5009	Meridian M5009 sets, use LCM
M5018	Meridian M5018 sets
M5112	Meridian M5112 sets, use LCM
M5208	Meridian M5208 sets (MBS II)
M5209	Meridian M5209 sets, use LCM
M5212	Meridian M5212 sets
M5216	Meridian M5216 sets (MBS II)
M5312	Meridian M5312 sets, use LCM
M5316	Meridian M5316 sets (MBS II)

Local Service Provider (continued)**Agents compatible with LSP (Sheet 2 of 2)**

Agent	Definition
M5317	Meridian M5317 sets
PSET	Proprietary business sets
ISDNKSET	The M5209T, voice only; M5209TDp, voice and packet data; M5209TDpc, voice, packet, and circuit-switched data
DATA	Data unit
PDATA	Post data unit for Datapath
2WW	Individual two-way wide area telephone service (WATS)
INW	Individual inward WATS (INWATS)
OWT	Individual outward WATS (OUTWATS)
EOW	Enhanced outward WATS
ETW	Enhanced two-way WATS
TWX	Individual teletypewriter exchange (TWX)
CSD	Circuit-switched digital data service
ZMD	Zero minus denied 1FR
ZMZPA	Zero minus, zero plus allowed
attendant consoles	LSPAO specified at the customer level

Compatible services

The services that associate with an LSP appear in the following table.

Services compatible with LSP (Sheet 1 of 2)

Service type	Service	Description
Hunt groups	MLH	Multiline Hunt-hunting starts with the pilot DN and ends with the last line
	DLH	Distributed Line Hunt-hunting starts with the next line in the group

Local Service Provider (continued)**Services compatible with LSP (Sheet 2 of 2)**

Service type	Service	Description
	DNH	Directory Number Hunt-hunt mismatches group members have DNs and hunting starts at the DN dialed
	PRH	Preferential Hunting-allows a DNH group to have a hunt list associated with each of the members of the hunt group
	KSH	Key Short Hunt-allows incoming calls to search a keyset for an idle line if the original called DN is busy
	MPH	Multiple Position Hunt-allows calls to distribute evenly across multiple non-data link attendant consoles (AC)
MADN groups	SCA	Single Call Arrangement Primary Member
	MCA	Multiple Call Arrangement Primary
	EXBP	Extension Bridging Primary
Call pickup groups	CPU	Call Pickup
	DCPU	Directed Call Pickup
Secondary DN	SDN	Teen Service

Operation

The central office can enter data in an LSP as the default for the office in table LSPINFO (Local Service Provider Information). If an LSP is the default for the office, change the office parameter DEFAULT_LSPAO to reflect this default LSP. After you define the default LSP, provision the LSPAO option at the line or customer group level. You can add the LSPAO option to the switch for each line. To add the LSPAO option you do not have to perform the following actions:

- add an LSP as an office default
- define the LSP in the office parameter

Local Service Provider (continued)

Identification code

The LSPAO identification code is a four-character alphanumeric code. This code contains digits 0 through 9. This code contains uppercase alphabetical characters A through Z. Use the four character Operating Company Number (OCN)/National Exchange Carrier Association (NECA) Company codes as the LSPAO identification code.

Context identifier

Associate the identification code and an LSPAO context identifier with a subscriber. The context identifier indicates the leasing arrangement between the LSPAO and the switch owner. The LSPAO can lease the line of the subscriber at a resold rate (R) or an unbundled rate (U). The LSPAO can lease the PBX at a resold rate (R) or an unbundled rate (U). If the switch owner provides service for the subscriber, use the context identifier value native (N).

Table LSPINFO

This feature creates table LSPINFO. This table centralizes information associated with different LSPs. Provision this table with LSPs that represent LSPAOs first. Provision the one-character to sixteen-character string that defines the following for each LSP:

- the LSP name
- the four-character alphanumeric LSP identification code
- the list of correct LSP context identifier types for the LSP
- the context identifier automatic message accounting (AMA) options

Office parameter

This feature creates the office parameter DEFAULT_LSPAO in table OFCENG. This parameter provides an office-wide default LSPAO.

Line option LSPAO

This feature creates the line option LSPAO. The line option associates an LSPAO with a subset of line subscriber types. This option applies to hunt groups.

Customer group option LSPAO

This feature creates the customer group option LSPAO in table CUSTSTN. The customer group option associates an LSPAO for a customer group for centrex lines and IBN private trunks.

This feature creates option LSPAO in table CXGRP. Option LSPAO associates an LSPAO for private exchange (PX) trunk types.

Local Service Provider (continued)

This feature adds a field to table LINEATTR to identify the LSP associated with the LINEATTR tuple.

Business lines, attendant consoles, and business trunks

For business lines and attendant consoles provision the LSPAO option at the customer group level in table CUSTSTN. Business lines include LCC of IBN KSET. The value of office parameter DEFAULT_LSPAO in table OFCENG takes priority when option assignment does not occur in table CUSTSTN. Table CUSTSTN datafill takes priority over the office parameter value when you provision both.

For business trunks, provision the LSPAO option at the customer group level in table CXGRP for PX trunks. Provision the LSPAO option at the customer group level in table CUSTSTN for IBN trunks. The value of office parameter DEFAULT_LSPAO in table OFCENG can take priority. This condition occurs when option assignment does not occur in table CXGRP or CUSTSTN. Table CUSTSTN datafill takes priority over the office parameter value when you provision both.

POTS and RES lines

For POTS and RES lines, provision the LSPAO option at the DN level through SERVORD. When this condition occurs the system updates table LENFEAT. The value of office parameter DEFAULT_LSPAO in table OFCENG takes priority when you do not assign the option to the DN. Table LENFEAT datafill takes priority over the office parameter value when you provision both.

BRI lines

When the system unbundles lines at the loop, the system unbundles the loop interface for BRI terminals. A single LSPAO associates with all BRI sets, to a maximum of eight, on the loop.

Business group BRI

Provision business group BRI lines at the customer group level in table CUSTSTN. The LSPAO line option takes priority over the customer group option and the office parameter. Do not assign the option at the line level for business group lines.

Residential BRI

Provision residential BRI lines at the DN level through SERVORD. The system updates table LENFEAT. The LSPAO line option takes priority over the customer group option and the office parameter.

Local Service Provider (continued)

Hunt groups

Provision option LSPAO for a hunt group through the member DNs at the DN level or the customer group level. The set type of the DNs in the hunt group determines the level. For hunt groups with RES set members provision the LSPAO option directly to each hunt group member through SERVORD. For hunt groups with non-centrex RES set members provision the LSPAO option directly to each hunt group member through SERVORD. Non-centrex RES set members do not belong to a customer group. When this action occurs the system updates table IBNFEAT or KSETFEAT. For hunt groups with centrex member DNs provision the members at the customer group level in table CUSTSTN. Hunt groups with centrex member DNs belong to a customer group.

Note: Do not mix customer group hunt members and members that do not belong to a customer group hunt. Do not mix hunt group members across different customer groups.

The value of office parameter DEFAULT_LSPAO in table OFCENG can take priority. This value takes priority when you do not assign the option to the DN or the customer group. Table IBNFEAT or KSETFEAT datafill for the non-Centrex hunt group can take priority over the office parameter value. The data in table IBNFEAT takes priority over the office parameter value when you provision both parameters. Table CUSTSTN datafill for the centrex hunt group takes priority over the office parameter value when you provision both parameters.

Multiple Appearance Directory Number members

Provision the LSPAO option for MADN members at the DN or the customer group level. The set types of the DNs in the group determine the level.

For MADN the following group member DNs provision the option directly on the member DN through SERVORD:

- DNs that are RES sets
- DNs that do not associate with a customer group

This action causes the system to update table IBNFEAT or KSETFEAT. The LSPAO line option has priority over the office parameter.

For MADN group member DNs in a customer group, provision the option at the customer group level in table CUSTSTN. The customer group option takes priority over the office parameter.

Local Service Provider (continued)

Translations table flow

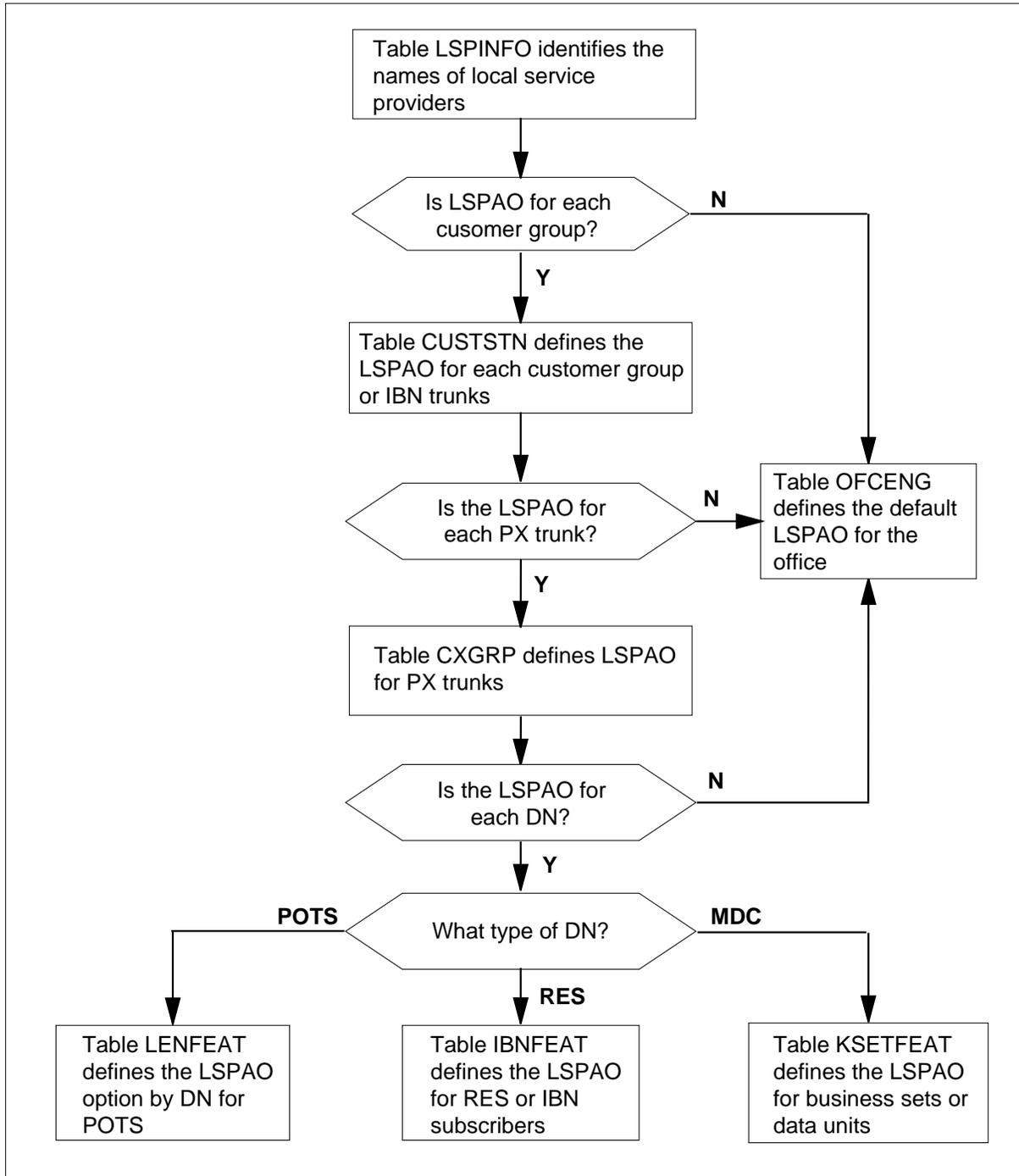
A description of the Local Service Provider translations tables appears in the following list:

- Table OFCENG (Office Engineering) identifies the default LSPAO parameter. Use the default LSPAO when no LSPAO assignment does not occur through line, trunk, or customer group.
- Table CUSTSTN (Customer Group Station) identifies the station options for each customer group for Meridian Digital Centrex (MDC) lines. Table CUSTSTN contains the station option for each customer group for Residential Enhanced Services (RES) lines. Switching units with North American translations require table CUSTSTN. Assign the LSPAO option for customer groups in this table.
- Table CXGRP (Customer Group Options) identifies the options for a PX digital trunk group. Local or combined local and toll switching units require this table. Assign the LSPAO option for PX trunks in this table.
- Table IBNFEAT (IBN Line Feature) defines the functionality assignments for RES lines. This table identifies the features assigned to the MDC lines. Table IBNLINES identifies the MDC lines. Assign the LSPAO option through SERVORD to RES or MDC lines.
- Table KSETFEAT (Business Set and Data Unit Feature) defines the functionality assignments for MDC lines. This table identifies the features assigned to the MBS lines. Table KSETLINES assigns the MBS lines. Assign option LSPAO through SERVORD to MBS lines.
- Table LENFEAT (Line Feature) defines the functionality assignments for POTS lines. This table identifies the features assigned to a specified line in table LENLINES. Assign option LSPAO through SERVORD to POTS lines.
- Table LINEATTR (Line Attribute) defines the line attributes assigned in table LENLINES or MDC translations tables for digit analysis. Option ADMININF identifies the LSPAO for a line attribute index.
- Table LSPINFO (Local Service Provider Information) defines the LSP attributes. The fields in table LSPINFO control LSP provisioning and AMA record generation. The AMA fields in table LSPINFO control generation of module code 338.

The Local Service Provider translation process appears in the following flowchart.

Local Service Provider (continued)

Table flow for Local Service Provider



Local Service Provider (continued)

The datafill content in the flowchart appears in the following table.

Datafill example for Local Service Provider

Datafill table	Example data
OFCENG	DEFAULT_LSPAO Y LEC1 N
LSPINFO	LEC1 AA01 (NATIVE N N N N N)
CUSTSTN	CUSTGRP1 LSPAO LSPAO CLEC1 U
CXGRP	50 N Y (ABC) \$ N N N N (LSPAO LEC1 R) \$
IBNFEAT	HOST 05 1 10 22 0 LSPAO LSPAO LEC1 R
KSETFEAT	HOST 04 1 10 22 1 LSPAO LSPAO LEC1 N
LENFEAT	HOST 06 1 10 22 1FR LSPAO LSPAO LEC1 R
LINEATTR	71 IBN NONE NT NSCR 0 002 NPRT NLCA NONE 0 NIL NILSFC NILATA 0 PX PSTN NIL 00 N (ADMININF CLEC1_LOCAL) \$

Limits

The following limits apply to Local Service Provider:

- The loop is in an unbundled state. You can provision more than one device on the loop. For this condition to occur all terminals on the same loop must belong to the same LSP. For example, multiple BRI terminals have more than one device available on the loop.
- The LSPAO provisioning does not support the following line class codes (LCC):
 - multiparty lines 2FR, 4FR, 8FR, 10FR. If a party line subscriber requests a specified LSP, the subscriber must upgrade the line to a 1FR or 1MR.
 - Remote Call Forward (RCF) and Remote Call Forward Equal Access (RCFEA). You cannot specify the LSPAO option for the NEWDN command when entry of RCF or RCFEA occurs.
 - Direct Inward Service Access (DISA) DNs
 - P2 trunks (P2 trunk capability is available with PX trunks)
 - public trunks
 - ISDN Primary Rate Interface (PRI) trunks
- You cannot use the SERVORD CHF (change feature) command to add LSPAO to a line.

Local Service Provider (continued)

- International LCCs do not support the LSPA0 option.
- Do not mix customer group hunt members with members that do not belong to a customer group hunt. Do not mix hunt group members across different customer groups.
- A function is not available to make sure that the DNs associated with the same BRI loop belong to the same LSPA0.
- Assign the LSPA0 option to key 1 of ISDN BRI sets.
- The SERVORD does not perform an error check to verify that you enter a correct CONTEXT.
- You can change the CONTEXT for a PROVIDER in table LSPINFO. When you change this CONTEXT use the CI commands LSPAOLIST or MDCLSPAOLIST to find the subscribers of that PROVIDER. Change the CONTEXT of these subscribers to match the new CONTEXT in table LSPINFO.

Interactions

A description of the interactions between Local Service Provider and other functionalities appears in the following paragraphs.

BRI in RES

Assign LSPA0s for residential ISDN BRI lines to the primary DN, not a customer group in the business group ISDN environment.

Call Pickup Groups (CPU)

Provision the LSPA0 option on the customer group in table CUSTSTN for the CPU and Directed CPU (DCPU) group members. The LSPA0 customer group option takes priority over the office parameter DEFAULT_LSPA0.

Call Waiting

For billing, the system treats attempts to terminate to a busy line with CWT, like the terminator is idle. The system generates a record. If the circuit usage module attaches to that record the usage time measurement begins when the call-waiting tone occurs.

Multiple Appearance Directoy Number (MADN)

A call to a MADN group with LSP assigned causes the system to generate a single terminating record. This record has all type code 128. The system generates this record when other terminating billing does not apply. The record has a single instance of module 338. The record can have a single instance of module 125. The module 125 records the time from call alerting to call disconnect. The system performs the same action when the call terminates to multiple lines.

Local Service Provider (continued)

Multiple Position Hunt (MPH)

Determine the LSPAO option for an AC from the customer group.

Preferential Hunting (PRH)

Do not assign the LSPAO option for PRH. Assign LSPAO when you establish a DNH group.

Teen Service (SDN)

Assign the LSPAO option to the primary DN through SERVORD. The LSPAO line option has priority over the office parameter DEFAULT_LSPAO.

Activation/deactivation by the end user

Local Service Provider does not requires activation or deactivation by the end user.

Billing

Feature Billing Support for TRA-LSPI-AO affects the following call type codes, data fields, and module codes:

- added call code 126 (used with structure codes 0001 and 0500)
- added call code 128 (used with structure codes 0001 and 0500)
- changed data field 730
- changed data field 638
- new module code 125
- changed module code 338

Call code 126

An originating call generates call code 126. The datafill in table LSPINFO, of a line or trunk, can indicate that the system must force originating billing. The system must force originating billing for calls that originate from the line or trunk. With originating billing, the system generates an originating LSPI record with call type code 126. The system generates this record when other originating record are not present for a call from the line or trunk. The record uses structure code 0001. The record uses structure code 0500 if the record meets high runner conditions. The system attaches the LSPI module to the record. The circuit use module can attach to the record.

An example of an AMA record the system generates for call code 126 appears in the following figure.

Local Service Provider (continued)

Call code 126, structure code 0001, with modules 125 and 338 appended

```
HEX ID:AA STURCTURE CODE:40001C CALL CODE:126C SENSOR
TYPE:036C SENSOR ID:0123456C REC OFFICE TYPE:036C REC
OFFICE ID:0123456C DATE:50120C TIMING IND:00000C STUDY
IND:0001000C CLD PTY OFF-HK:0C SERVICE OBSERVED:0C
OPERATOR ACTION:0C SERVICE FEATURE:000C ORIG NPA:919C
ORIG NUMBER:8472452C OVERSEAS IND:0C TERM NPA:00704C
TERM NUMBER:9917782C CONNECT TIME:1802275C
ELAPSED TIME:000098182C MODULE CODE:070C
BEARER CAPABILITY:001C NETWORK INTERWORKING:0C
SIG OR SUP SERVICE CAPABILITIES USAGE:11222111111100C
RELEASE CAUSE INDIATOR:00016C MODULE CODE:104C
TRUNK FACILITY ID:007879424C
MODULE CODE:125 DATE:70821C CONNECT TIME:1507585C
ELAPSED TIME:000098192C PARTY IDENTIFIER:101C
COMPLETION INDICATOR:001C MODULE CODE:338C
PARTY IDENTIFIER:101C TYPE OF SERVICE PROVIDER:007C
SERVICE PROVIDER:ID:AA01 MODULE CODE:000C
```

Call code 128

A terminating intraswitch call generates call code 128. The datafill of a line in table LSPINFO can indicate that the system must force terminating billing. The system must force billing for calls that terminate to the line. Terminating billing causes the system to generate a terminating record with call type code 128. The system generates this record when other terminating records are not present for a call to the line. The record uses structure code 0001. The record uses structure code 0500 when the record meets high runner conditions. The system attaches the LSPI module to the record. The circuit usage module can attach to the record.

An example of an AMA record that the system generates for call code 128 appears in the following figure.

Local Service Provider (continued)

Call code 128, structure code 0500, with modules 125 and 338 appended

```

HEX ID:AA STRUCTURE CODE:40500C CALL CODE:128C SENSOR
TYPE:036C SENSOR ID:0619351C REC OFFICE TYPE:036C REC
OFFICE ID:0619351C DATE:70821C CLD PTY OFF-HK:0C SERVICE
FEATURE:000C ORIG NPA:613C ORIG NUMBER:6210180C
OVERSEAS IND:1C TERM NPA:00000C TERM NUMBER:0000914C
CONNECT TIME:1507585C ELAPSED TIME:00098182C
MODULE CODE:125 DATE:70821C CONNECT TIME:1507585C
ELAPSED TIME:000098192C PARTY IDENTIFIER:102C
COMPLETION INDICATOR:001C MODULE CODE:338C
PARTY IDENTIFIER:102C TYPE OF SERVICE PROVIDER:007C
SERVICE PROVIDER:ID:F1F2F3F4 MODULE CODE:000C
    
```

Data field 730

Information for data field 730 appears in the following tables. Modules 125 and 338 use this information to describe the originating or terminating party and the context identifier of the line. The description is based on the parameters assigned to the line. This feature creates the values 101, 102, 201, 202, 301, and 302.

Data field 730 (Sheet 1 of 2)

Character	Value	Meaning
1-3		Party ID type
	001	Calling party data
	002	Called party data
	003	Third number billing or line-based calling card data
	004	Aggregate/feature record DN data (not used by TOPS)
	006	Requested party DN data
	007	Busy line verification
	101	Originating party-native
	102	Terminating party-native
	201	Originating party-unbundled
	202	Terminating party-unbundled

Local Service Provider (continued)

Data field 730 (Sheet 2 of 2)

Character	Value	Meaning
	301	Originating party-resold
	302	Terminating party-resold
	999	Unknown
4		SIGN character (HEX C)

Data field 638

Information for data field 638 appears in the following table. Module 338 uses this information to determine the type of service provider. This feature includes values 001 and 007.

Data field 638

Character	Value	Meaning
1-3		Service Provider Identity
	001	Account owner
	002	Billing service provider
	003	Facility owner
	007	Account owner network view
	999	Unknown
4		SIGN character (HEX C)

Module code 125

This feature creates module code 125 for interconnection timing.

Information for module code 125 appears in the following table.

Module code 125 (Sheet 1 of 2)

Information	Field number	Number of characters
Module code	88	4
Connect date	06	6

Local Service Provider (continued)**Module code 125 (Sheet 2 of 2)**

Information	Field number	Number of characters
Connect time	18	8
Carrier elapsed time	19	10
Party identifier	730	4
Completion indicator	260	4

Module code 338

This feature adds data field 638 to module code 338. Information for module code 338 appears in the following table.

Module code 338

Information	Field number	Number of characters
Module code	88	4
Party identifier	730	4
Type of service provider	638	4
Service provider ID	639	4

The Billing Support for TRA-LSPI-AO feature allows the subscriber to record the LSP identification (LSPI) of a line in billing records. A line that has the LSP option generates these billing records. This feature can force billing for calls that the system cannot bill. This feature forces billing for these calls to record the LSPI information. A circuit usage module measures the alerting and conversation time of a call.

Billing Support for TRA-LSPI-AO allows the billing of the line to record the LSPI. The module code 338 assigns the LSPI to that line. The system attaches this module code to the billing records of calls from, or to, the line. Call type codes 126 and 128 can carry module code 338 into the billing stream. The call type codes carry this module when the system can not attach the module to another billing record.

Module code 125 carries a measurement of the circuit use time of a line during a call. The circuit use time is the alerting time of the call plus the conversation time of the call. The module can attach to a record that has module code 338.

Local Service Provider (continued)

The system can generate modules 338 and 125 for calls incoming on PBX trunks.

Refer to the *Bellcore Format Automatic Message Accounting Reference Guide*, 297-1001-830, for more information.

Billing limits

The following limits apply to Billing Support for TRA-LSPI-AO:

- Module code 125 cannot attach to a billing record that does not have module 338 attached.
- Module code 125 does not attach to billing records that contain fields Connect Date, Connect Time, and Carrier Elapsed Time. The data is redundant.
- Module code 125 does not attach to billing records that have module 020 or 021 attached. The data is redundant.
- The system does not generate records with call code 126 for the following:
 - outgoing calls on operator trunks
 - cut-through calls
 - private virtual network (PVN) calls
- The Completion Indicator field of module code 125 supports values 001 and 002. If the attached module 125 attaches to an Advanced Intelligent Network (AIN) billing record, this field can support other values.
- The system cannot bill calls to treatment, like line busy and vacant code calls.
- Modules 338 and 125 attach to records that result from calls that come in on a trunk that has the LSP option. Modules 338 and 125 cannot attach to calls that go out on a trunk. The LSP option assigned to the call does not affect this limit.
- When the system generates multiple originating or terminating records for a single call, all records contain module codes 338 and 125.

Station Message Detail Recording

Local Service Provider does not affect Station Message Detail Recording.

Local Service Provider (continued)

Datafilling office parameters

The office parameters for the Local Service Provider appear in the following table. Refer to the *Office Parameters Reference Manual* for additional information on office parameters.

Office parameters by Local Service Provider

Table name	Parameter name	Explanation and action
OFCENG	DEFAULT_LSPAO	Default local service provider account owner identifies the LSPAO for each office. The default for the parameter is N. When the parameter is N the provider does not have service. Set the parameter to Y to identify the local service provider with the name of a provider and context identification. The name of the default LSPAO must be in table LSPINFO. Set the context identification to N for native, U for unbundled, or R for resold.
OFCENG	CRS_SUBRU_POOL2_SIZE	This parameter controls the provisioning of CRS_SUBRU_POOL2 extension blocks. This parameter is for offices that contain a user for the Call Recording Stream Platform. The Increased Flexibility of AMA Software Platform feature creates the Call Recording Stream Platform. Provision this parameter if the parameter appears in the software load. The default value is 100. This value can be too small for large offices.
OFCENG	CRS_PRU_POOL2_SIZE	This parameter controls the provisioning for the CRS_PRU_POOL2 extension block pool. This parameter is for offices that contain a recording subsystem. This recording subsystem uses the call recording stream platform. Provision this parameter if the parameter appears in the software load. The default value is 100.

Local Service Provider (continued)

Datafill sequence

The tables that require datafill to implement Local Service Provider appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Local Service Provider (Sheet 1 of 2)

Table	Purpose of table
OFCENG	The Office Engineering table identifies the default LSPAO parameter. Use the default LSPAO when an LSPAO assignment by line, trunk, or customer group is not present. See the "Datafilling office parameters" section for more information.
CUSTSTN	The station options for each customer group for MDC and RES lines appears in the Customer Group Station table. Switching units with North American translations require table CUSTSTN. Assign the LSPAO option for customer groups in table CUSTSTN.
CXGRP	The options for a PX digital trunk group appear in the Customer Group Options table. Local, or combined local and toll switching units require table CXGRP. Assign the LSPAO option for PX trunks in table CXGRP.
IBNFEAT (note)	Table IBN Line Feature defines the functionality assignments for RES lines. The features assigned to the MDC lines appear in this table. The MDC lines appear in table IBN lines. Assign the LSPAO option through SERVORD to RES or MDC lines.
KSETFEAT (note)	Table Business Set and Data Unit Feature defines the functionality assignments for MDC lines. This table indicates the features assigned to the MBS lines. Table KSETLINES indicates the MBS lines. Assign option LSPAO through SERVORD to MBS lines.
LENFEAT (note)	Table Line Feature defines the functionality assignments for POTS lines. This table indicates the features assigned to a specified line in table LENLINES. Assign option LSPAO through SERVORD to POTS lines.
LINEATTR	Table Line Attribute defines the line attributes assigned in table LENLINES or MDC translations tables for digit analysis. Option ADMININF identifies the LSPAO for a line attribute index.
<p>Note: Use SERVORD to enter data in this table. A data entry procedure or example is not available. See the "SERVORD" section for information on how to enter data in this table.</p>	

Local Service Provider (continued)

Datafill requirements for Local Service Provider (Sheet 2 of 2)

Table	Purpose of table
LSPINFO	Table Local Service Provider Information defines the LSP attributes. The fields in table LSPINFO control LSP provisioning and AMA generation of records. The AMA fields in table LSPINFO control generation of module 338.
AMAOPTS	Table AMA options controls the activation and scheduling of the recording options for AMA. To activate billing, provision RECORD_LSPI to ON. Provision RECORD_NATIVE_LSPI, RECORD_UNBUND_LSPI, and RECORD_RESOLD_LSPI.
Note: Use SERVORD to enter data in this table. A data entry procedure or example is not available. See the "SERVORD" section for information on how to enter data in this table.	

Datafilling table CUSTSTN

Datafill for Local Service Provider for table CUSTSTN appears in the following table. The fields that apply to Local Service Provider appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTSTN (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		alphanumeric (1 to 16 characters)	<i>Customer group name</i> Enter the customer group name.
OPTNAME		LSPAO	<i>Option name</i> Enter the name assigned to the option, LSPAO.
OPTION		see subfield	<i>Option</i> This field contains subfield OPTION.
	OPTION	LSPAO	<i>Option</i> Enter the name assigned to the option, LSPAO. Enter data in refinements PROVIDER and CONTEXT.

Local Service Provider (continued)

Datafilling table CUSTSTN (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	PROVIDER	alphanumeric (1 to 16 characters)	<i>Provider name</i> Enter the name of the local service. The name must be in table LSPINFO.
	CONTEXT	R, U, or N	<i>Context identifier</i> This field indicates the leasing arrangement between the LSP account owner and the switch owner. The <i>R</i> indicates that the LSPAO leases the line of the subscriber or private trunk facility at a <i>resold</i> rate. The <i>U</i> indicates that the LSPAO leases the line or trunk at an <i>unbundled</i> rate. The <i>N</i> , for <i>native</i> , indicates that the switch owner provides service for the subscriber.

Datafill example for table CUSTSTN

Sample datafill for table CUSTSTN appears in the following example.

MAP example for table CUSTSTN

CUSTNAME	OPTNAME	OPTION		

CUSTGRP1	LSPAO	LSPAO	CLEC1	U

Local Service Provider (continued)

Datafilling table CXGRP

Datafill for Local Service Provider for table CXGRP appears in the following table. The fields that apply to Local Service Provider appear in this table. See the data schema section of this document for a description of the other fields.

Local Service Provider (continued)

Datafilling table CXGRP (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
PXOPTION		ATC, CLI, CNAM, CNUM, CPH, FANI, FNT, HOT, LPIC, INTPIC, LCDR, LSPAO, ONI, RMR, RMT, TDN, TDV, WATS	<p>Customer group options. Enter up to 14 options for each group as follows:</p> <ul style="list-style-type: none"> • For the automatic time and charge option, enter ATC. • For the calling line identification option, enter CLI. • For the calling name option, enter CNAM and datafill refinement CLGNAME. • For the local call detail recording option, enter LCDR. • For the free number terminating option, enter FNT. • For the calling number option enter CNUM and datafill refinements CLGNUM and BLKPRES. • For the called party hold option, enter CPH. • For the flexible automatic number identification option, enter FANI and datafill refinement FANIDIGS.

Local Service Provider (continued)

Datafilling table CXGRP (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
PXOPTION (continued)			<p>Customer group options. (continued) Enter up to 14 options for each group as follows:</p> <ul style="list-style-type: none"> • For the hotel/motel option, enter HOT. • For the international primary carrier option, enter INTPIC. Field INTPIC contains subfields CARRIER and CHOICE. For subfield CARRIER, enter the alphanumeric that represents the selected international carrier name. (Table OCCNAME contains a list of valid carrier names.) For subfield CHOICE, enter Y or N to allow or disallow the choice for Carrier Access Code (CAC) dialing. • For the intra-LATA primary inter-LATA carrier option, enter LPIC and datafill refinement CARRIER with an alphanumeric representing the carrier. The datafill of the LPIC option prompts for field LCHOICE. Special checks are made when SOC goes from IDLE to ON to determine if it is the first time that the SOC has been turned on after a one night process (ONP). After an ONP, field LCHOICE is set to Y if the LPIC option is a valid option. • For the operator number identification option, enter ONI. • For the answer supervision local calls option, enter RMR. • For the answer supervision toll calls option, enter RMT. • For the toll denied option, enter TDN. • For the toll diverted option, enter TDV. • For the WATS service option, enter WATS and datafill refinement TYPEWATS. • For the local service provider account owner option, enter LSPA0.

Local Service Provider (continued)

Datafilling table CXGRP (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	PROVIDER	alphanumeric	Provider choice. Enter an LSP provider name, up to 16-character alphanumeric characters in length.
	CONTEXT	N, U, or R	Context identifier. Enter N for native, U for unbundled, or R for resold.

Datafill example for table CXGRP

Sample datafill for table CXGRP appears in the following example.

MAP example for table CXGRP

CUSTKEY						
		SPB				
CTD	FCTDNTER	CARRIERS	FCTDNTRA	CARRIERS	CARRIERS	CARRIERS
CARRIERS	EWATS	PXOPTION	CARRIER	LCHOICE	PXOPTION	
<hr/>						
50	N	Y (ABC)	\$	N N N N	(LSPAO DEF R)	\$

Datafilling table LINEATTR

The datafill for Local Service Provider for table LINEATTR appears in the following table. The fields that apply to Local Service Provider appear in this

Local Service Provider (continued)

table. See the data schema section of this document for a description of the other fields.

Datafilling table LINEATTR

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		AMAGRPID, HOT, LCABILL, or LDSV, ADMININF	<p>Line attribute options. This field is a vector. This field contains a maximum of three options.</p> <p>Enter AMAGRPID if a group identity for subscription basis tariff is a requirement. Enter data in subfield AMAGRPID.</p> <p>Enter HOT if identification of hotel lines to the TOPS operator for time and charge is a requirement. Enter HOT if the outgoing trunk group type is OP.</p> <p>Enter LCABILL if the system can bill a call that is not an interexchange.</p> <p>Enter LDSV if Long Distance Signal valid (LDS) is a requirement for each line-group. Enter data in datafill refinement STATUS.</p> <p>The LDS feature provisions the LDS option (LDSO). The LDS feature can provision LDS activate (LDSA) options on all lines in the same line group. This action occurs with the assignment of LDSV against the line group and the office parameter LDS_AUTO_PROV_ENABLED is Y.</p> <p>The system removes LDSO and LDSA options if LDSV is not provisioned against the line group. This autoprovisioning can occur after an incoming local or toll call terminates on the line. This autoprovisioning can occur when the end user enters the LDSA feature access code.</p> <p>Enter ADMININF to create a short explanation or note about the LINEATTR tuple. Enter data in subfield ADMININF.</p>
	ADMININF	alphanumeric (a maximum of 32 characters in length)	<p>Administration information. Enter a string that contains alphabets, numerics, or underscores. This string can be a maximum of 32 characters. This entry provides a short explanation or note about the LINEATTR tuple.</p>

Local Service Provider (continued)

Datafill example for table LINEATTR

Sample datafill for table LINEATTR appears in the following example.

MAP example for table LINEATTR

LNATTIDX	LCC	CHGCLSS	COST	SCRNCL	LTG	STS	PRTNM	LCANAME	ZEROMPOS	TRAFSNO		
MRSA	SFC	LATANM	MDI		IXNAME	DGCLNAME	FANIDIGS					
		RESINF							OPTIONS			
71	IBN	NONE	NT	NSCR	0	002	NPRT	NLCA	NONE	0	NIL	NILSFC
NILLATA	0	PX	PSTN	NIL	00	N	(ADMININF	CLECL_LOCAL)	\$			

Datafilling table LSPINFO

Datafill for Local Service Provider for table LSPINFO appears in the following table. The fields that apply to Local Service Provider appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table LSPINFO (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LSPNAME		1 to 16 characters	<i>Local Service Provider name.</i> Enter the one-character to sixteen-character name of the LSP.
LSPI		4 alphanumeric characters in the range of 0-9 and A-Z	<i>Local Service Provider identifier.</i> Enter the 4-digit alphanumeric context identifier of the LSP. Each LSPI must be different.
OPTION		UNBUNDLED, NATIVE, RESOLD	<i>Option.</i> The UNBUNDLED controls AMA records and calls that originate or terminate on unbundled lines for an LSP. The NATIVE controls AMA records and calls that originate or terminate on native lines for an LSP. The RESOLD controls AMA records and calls that originate or terminate on resold lines for an LSP.

Local Service Provider (continued)

Datafilling table LSPINFO (Sheet 2 of 2)

ORIG_AMA	Y, N	<i>Originating AMA.</i> This field controls originating AMA for lines with calls that the system normally can not bill.
TERM_AMA	Y, N	<i>Terminating AMA.</i> This field controls terminating AMA for lines with calls that the system normally can not bill.
CIRC_USAGE	Y, N	<i>Circuit usage.</i> This field generates the circuit usage module with the AMA record lines.
UNANSWERED	Y, N	<i>Unanswered.</i> This field controls AMA recording for lines with calls that are not answered.

Datafill example for table LSPINFO

Sample datafill for table LSPINFO appears in the following example.

MAP example for table LSPINFO

```

LSPINFO

LSPNAME   LSPI   OPTION
-----
LEC1      AA01   (NATIVE N N N N)
LECZ      AA02   (UNBUNDLED Y Y Y Y)(RESOLD Y Y Y Y)
    
```

Local Service Provider (continued)

Error messages for table LSPINFO

Error messages that apply to table LSPINFO appear in the following table.

Error messages for table LSPINFO

Error message	Explanation and action
LSPID MUST BE EXACTLY 4 ALPHANUMERIC CHARACTERS	This message appears when you attempt to enter an LSPID that is not four characters in length.
ONLY 0..9 AND A..Z ARE SUPPORTED	This message appears when you attempt to add an LSPID with a character specified that is not correct. A wrong character is a character that is not 0-9 and A-Z.
LSPID ALREADY EXISTS - PLEASE ENTER A UNIQUE IDENTIFIER	This message appears when you attempt to add an LSPID or change a current LSPID.
LSPNAME DATAFILLED IN TABLE {TABLE NAME}	This message appears when you attempt to delete an LSP entry from LSPINFO that a tuple in another table uses. To delete the LSP, remove all references to the LSP from other tables.
AT LEAST ONE CONTEXT OPTION MUST BE PRESENT	This message appears when you attempt to add or change an LSP entry that does not contain one of the context options.

Datafilling table AMAOPTS

Datafill for Local Service Provider for table AMAOPTS appears in the following table. The fields that apply to Local Service Provider appear in this

Local Service Provider (continued)

table. See the data schema section of this document for a description of the other fields.

Datafilling table AMAOPTS (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OPTION		see subfield	<p><i>Option</i></p> <p>This field contains subfield AMAOPT.</p>
	AMAOPT	<p>RECORD_LSPI, RECORD_NATIVE_LSPI, RECORD_UNBUND_LSPI, RECORD_RESOLD_LSPI</p>	<p><i>AMA option</i></p> <p>These options control the activation and scheduling of the recording options for AMA.</p> <p>The RECORD_LSPI is the switch-wide master switch for the LSPI recording options. When OFF, LSPI recording does not occur. When ON activation of the settings of the context ID specified controls and the billing control in table LSPINFO occurs.</p> <p>The RECORD_NATIVE_LSPI, RECORD_UNBUND_LSPI, and RECORD_RESOLD_LSPI control the production of module 338 for each office for the context IDs. The context IDs are native, unbundled, and resold. Module 338 attaches to calls with an LSPI and context ID available on the originating or terminating agent.</p>

Local Service Provider (continued)

Datafilling table AMAOPTS (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
			<p>These options control forced billing for originating and terminating calls, call codes 126 and 128. These options control the usage timing module 125. Table LSPINFO controls the forced billing of originating and terminating calls. Table LSPINFO controls the usage timing module. The control in table LSPINFO works for the context IDs when the AMA option is ON.</p> <p>Note: The RECORD_NATIVE_LSPI, RECORD_UNBUND_LSPI, and RECORD_RESOLD_LSPI do not affect AMA recording when RECORD_LSPI is OFF.</p>
SCHEDULE		see subfield	<p><i>Schedule</i></p> <p>This field contains subfields AMASEL, ONDATE, OFFDATE, SCHED, ONTIME, and OFFTIME.</p>
	AMASEL	ON, OFF	<p><i>AMA selector</i></p> <p>Enter one of the following values:</p> <ul style="list-style-type: none"> • ON: Activates the option immediately. • OFF: Deactivates the option immediately.

Datafill example for table AMAOPTS

Sample datafill for table AMAOPTS appears in the following example.

Local Service Provider (continued)

MAP example for table AMAOPTS

AMAOPTS	
OPTION	SCHEDULE
RECORD_LSPI	ON
RECORD_NATIVE_LSPI	ON
RECORD_UNBUND_LSPI	OFF
RECORD_RESOLD_LSPI	OFF

Tools for verifying translations

Local Service Provider does not use tools for verifying translations.

SERVORD

Use **SERVORD** to assign an LSP and a context identifier with the **LSPA0** option. The **SERVORD** updates tables **KSETFEAT**, **IBNFEAT**, and **LENFEAT**. Use the **SERVORD** commands **NEW**, **ADO**, **ADD**, and **EST** to provision **LSPA0** against lines and hunt groups.

Use the **NEW** command to establish new service for non-hunt lines. Use the **ADO** command to add a line option. Use the **NEW** or **ADO** command to add **LSPA0** to a DN. This action updates tables **IBNFEAT**, **LENFEAT**, or **KSETFEAT**.

Use the **ADD** command to add a line to a current hunt group. Use the **ADD** command to associate the **LSPA0** and the name of the provider and context to a **PX** trunk. This action updates table **LSPINFO**. Use the **EST** to establish a hunt group. Use the **EST** command to add **LSPA0** to a hunt group.

Use the **EST** command to add **LSPA0** to a hunt group. The **EST** command provisions the pilot line of a hunt group. The **EST** command enters data in hunt group member lines if the **EST** command input includes information on these lines.

SERVORD limits

The following **SERVORD** limits apply to Local Service Provider:

- You cannot use the **SERVORD CHF** (change feature) command to add the **LSPA0** option to a line.
- The **SERVORD** does not perform an error check to verify that you enter a correct **CONTEXT**.

Local Service Provider (continued)

- You cannot use **SERVORD** to assign the **LSPAO** option to the following LCCs:
 - IBN
 - M5008
 - M5009
 - M5208
 - M5209
 - M5112
 - M5212
 - M5216
 - M5312
 - PSET

Provision **LSPAO** for these LCCs for each customer group in table **CUSTSTN**.
- You can only assign the **LSPAO** line option to the primary DN for station sets and residential ISDN BRI terminals. Use the **ADO** command to assign this option.
- Enter data in table **LSPINFO** before you assign the **LSPAO** option with any command.
- You cannot use the **NEW** command to establish pilots and members of **DNH**, **DLH**, **MLH**, and **BNN** hunt groups. You can use the **NEW** command for single-line set **DNH** pilots and members.

SERVORD prompts

The **SERVORD** prompts to add Local Service Provider to a line appear in the following table.

SERVORD prompts for Local Service Provider (Sheet 1 of 2)

Prompt	Valid input	Explanation
DN_OR_LEN		
OPTION	LSPAO	Specifies the LSPAO line option.

Local Service Provider (continued)

SERVORD prompts for Local Service Provider (Sheet 2 of 2)

Prompt	Valid input	Explanation
PROVIDER	\$ or a correct provider name in table LSPINFO	Specifies the LSP name.
CONTEXT	N, U, R	Specifies the context identifier. N = native, U = unbundled, and R = resold.

SERVORD example for adding Local Service Provider

An example of how to add a Local Service Provider to a line appears in the following SERVORD example. In the following example, the user uses the ADO command to add a Local Service Provider to a line.

SERVORD example for Local Service Provider in prompt mode

```

>ADO
SONUMBER:  NOW 95 11 6 PM
>
DN_OR_LEN:
> 6215001
OPTION:
> LSPAO
PROVIDER:
>CLEC1
CONTEXT:
> R
OPTION:
> $

```

SERVORD example for Local Service Provider in no-prompt mode

```

> ADO $ 6215001 LSPAO CLEC1 R $

```

SERVORD example for adding Local Service Provider to a hunt group

An example of how to add a Local Service Provider to an MLH hunt group appears in the following SERVORD example. In the following example, the user uses the EST command to add a Local Service Provider to a MLH hunt group.

Local Service Provider (end)

SERVORD example for Local Service Provider in prompt mode

```
>EST
SONUMBER:  NOW 97 5 2 AM
>
GROUPTYPE:
> MLH
PILOT_DN:
> 6215000
LCC:
> 1FR
LATANAME:
> NILLATA
LTG: 0
>
PILOT_LEN:
> 0 1 9 22
MEM_LEN:
> $
OPTION:
> LSPAO
PROVIDER:
> CLEC1
CONTEXT:
> R
OPTION:
> $
GROUPSIZE:
> 2
OPTION:
> $
```

SERVORD example for Local Service Provider in no-prompt mode

```
> EST $ MLH 6215000 1FR NILLATA $ 0 1 9 22 $ LSPAO CLEC1 R $ 2 $
```

LSP - CI Reporting Tools

Ordering codes

Functional group ordering code: LOC00012

Functionality ordering code: not applicable

Release applicability

NA010 and up

Prerequisites

This document includes all the data table information for this functionality. Complete use of this functionality can require software or hardware not described in this document.

Description

This section provides some background information as well as a description of LSP - CI Reporting Tools.

Local Service Provider

The Telecom Reform Act (TRA) of 1996 mandated incumbent local exchange carriers (ILEC) to open their switching network to outside competition. This means competing local exchange carriers (CLECs) can lease lines and/or trunks now from an ILEC at either a resale or unbundled rate. Subscribers served by an ILEC end office can choose either the ILEC or a CLEC as their local service providers (LSP). The chosen LSP becomes the LSP account owner (LSPAO) of the subscriber. The carrier that leases the lines and trunks to the LSPAO is the LSP switch owner (LSPSO). The LSPAO is ultimately responsible for providing telecommunications services and billing, directly or indirectly through a third party.

The Local Service Provider feature allows customers to provision LSPAO on a DN, customer group, private trunk, and switch-wide default basis. The LSP feature also provides reporting tools to summarize LSPAO usage. These tools are command interpreter (CI) commands QLSPAO (query LSPAO) and QLSPAOMDC (query LSPAO Meridian Digital Centrex).

LSP - CI Reporting Tools

LSP - CI Reporting Tools extends the LSP functionality. New command interpreter (CI) commands provide the following functionality:

- QLSPTRK - summarizes trunk provisioning data associated with the LSPAO and LSPFE (LSP on the far end of the trunk) options by provider

LSP - CI Reporting Tools (end)

name or CLLI. When querying by CLLI, the tools present LSPSO information also, if applicable.

- QLSPSO - summarizes provisioning data associated with the LSPSO option. This tool is for private trunks (IBNTI, IBNTO, IBNT2 and PX), selected lines, and customer groups.
- QLSPI - lists the provider name from table LSPINFO in response to an LSPI.

Limitations and Restrictions

The following limitations and restrictions apply to LSP - CI Reporting Tools:

- If you change the CONTEXT for a provider in table LSPINFO, you must change the CONTEXT of the subscribers for that provider. The CONTEXT for subscribers must match their providers in table LSPINFO. Use the CI commands QLSPAO, QLSPAOMDC, or QLSPTRK to find the subscribers of the provider.

Interactions

LSP - CI Reporting Tools has no functionality interactions.

Activation/deactivation by the end user

LSP - CI Reporting Tools requires no activation or deactivation by the end user.

Billing

LSP - CI Reporting Tools does not affect billing.

Station Message Detail Recording

LSP - CI Reporting Tools does not affect Station Message Detail Recording.

Datafilling office parameters

LSP - CI Reporting Tools does not affect office parameters.

Translation verification tools

LSP - CI Reporting Tools does not use translation verification tools.

SERVORD

LSP - CI Reporting Tools does not use any service orders.

LSPI Provisioning of Switch Owner

Ordering codes

Functional group ordering code: LOC00012

Functionality ordering code: not applicable

Release applicability

NA010 and up

Prerequisites

This document includes all the data table information for this functionality. Complete use of this functionality can require software or hardware not described in this document.

Description

This section provides some background information as well as a description of LSPI Provisioning of Switch Owner.

Local Service Provider

The Telecom Reform Act (TRA) of 1996 mandated incumbent local exchange carriers (ILECs) to open their switching network to outside competition by competing LECs (CLECs). Now CLECs can lease lines and/or trunks from an ILEC at either a resale or unbundled rate. Subscribers served by an ILEC end office can choose either the ILEC or a CLEC as their local service providers (LSPs). The chosen LSP becomes the LSP account owner (LSPAO) of the subscriber. The carrier that leases the lines and trunks to the LSPAO is the LSP switch owner (LSPSO).

The LSPAO is ultimately responsible for providing telecommunications services and billing, directly or indirectly through a third party.

The Local Service Provider (LSP) feature provides the ability to provision LSPAO on a DN, customer group, private trunk, and switch-wide default basis. The LSP feature also provides reporting tools to summarize LSPAO usage (CI QLSPAO and QLSPAOMDC).

LSPI Provisioning of Switch Owner (continued)

LSPI-Provisioning of Switch Owner

LSPI-Provisioning of Switch Owner extends the LSP functionality. You can provision LSPSO as one of the following:

- OFCENG parameter

This feature creates the office parameter DEFAULT_LSPSO in table OFCENG, which provides an office-wide default LSPSO. The switch uses this default in two conditions.

- when the customer has not provisioned an SO against the DN or customer group
- when the customer has not provisioned an FE on the trunk for supported public interswitch trunks

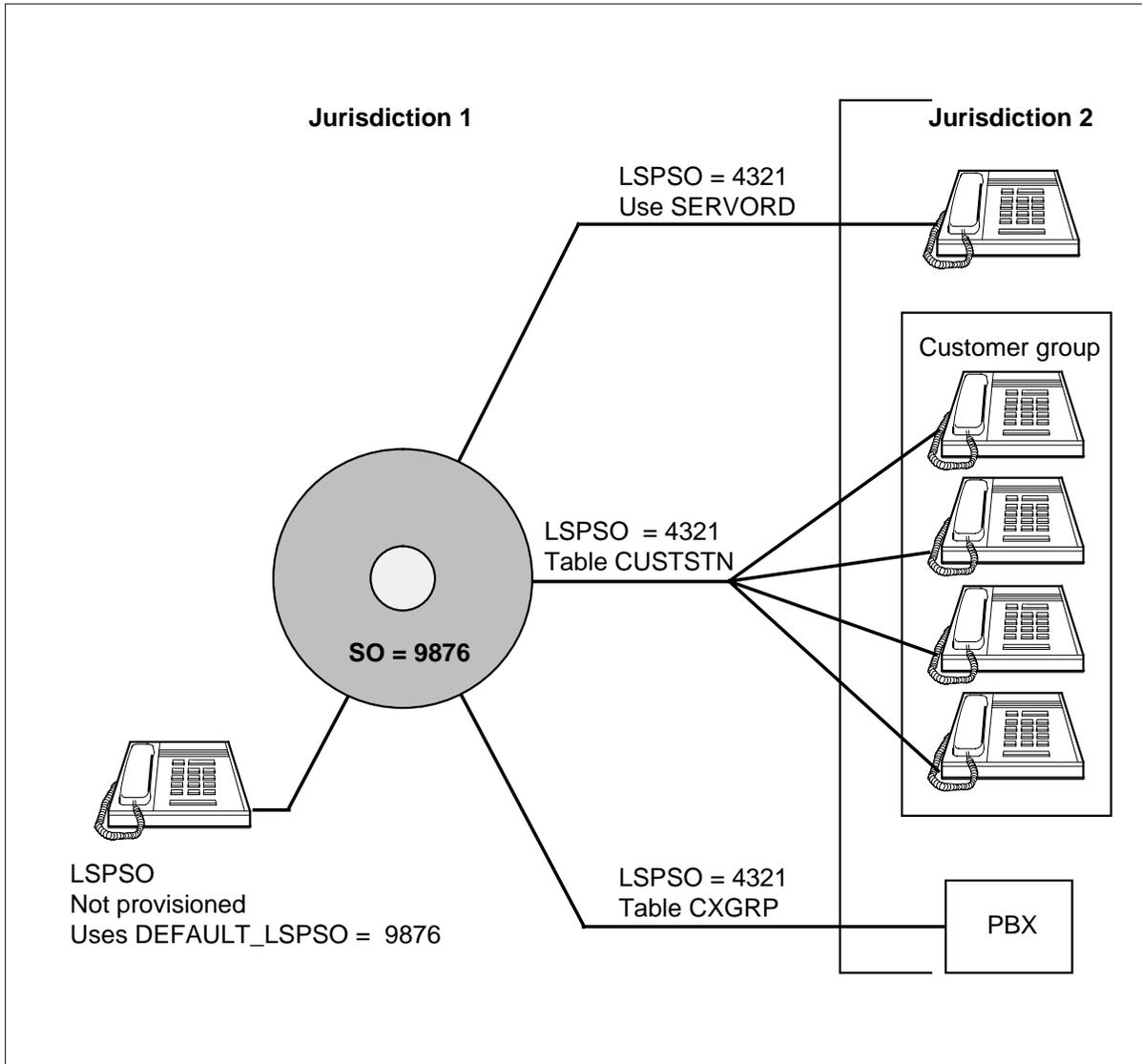
This parameter is enough to represent the LSPSO of all supported subscribers for a switch serving one jurisdiction.

- line, customer group, or private trunk option

This feature creates the line option LSPSO, which assigns a local service provider to a DN, customer group, hunt group, or private trunk. Use this feature where the switch can serve two or more jurisdictions. (There are two jurisdictions when the switch owner value for the subscriber does not equal the DEFAULT_LSPSO from table OFCENG.) For a switch serving multiple jurisdictions, the LSPSO option lets customers define the LSPSO of subscribers located in other jurisdictions. For a switch serving only one jurisdiction, you don't need the LSPSO option. If you do not provision LSPSO on the subscriber, the switch uses the DEFAULT_LSPSO described here.

LSPI Provisioning of Switch Owner (continued)

LSPSO use in a multi-jurisdictional environment



Operation

LSP Provisioning

The central office must enter the appropriate LSPs in table LSPINFO in order for customers to provision LSPSOs through SERVORD or table control. Note the following order is required.

LSPi Provisioning of Switch Owner (continued)

The following list indicates the required provisioning order.

- LSPINFO - add provider name(s)
- OFCENG - specify the default_lspso
- SERVORD, CUSTSTN, CXGRP, TRKOPTS - add option as appropriate

Note: There is no office-wide default parameter for LSPFE.

Switch-wide default LSPSO

Customers can use the new OFCENG parameter DEFAULT_LSPSO to provide a switch-wide default for LSPSO. The office must replace the default value (default_lspso N) of the parameter with an LSP from table LSPINFO. If the office does not make this change, the switch cannot use an office-wide value for LSPSO or LSPFE.

Customer group option LSPSO

This feature creates the following:

- customer group option LSPSO in table CUSTSTN. Table CUSTSTN associates an LSPSO for a customer group for Centrex lines and IBN private trunks.
- option LSPSO in table CXGRP, which associates an LSPSO for private exchange (PX) trunk types

Business lines, attendant consoles, and business trunks

For business lines (LCC of IBN and KSET) and attendant consoles, provision the LSPSO option at the customer group level in table CUSTSTN.

For business trunks, provision the LSPSO option at the customer group level in the following tables:

- CXGRP for PX trunks
- CUSTSTN for IBN trunks

The switch uses the DEFAULT_LSPSO value in table OFCENG if you do not assign the option in table CXGRP or CUSTSTN. The switch uses the table CUSTSTN datafill instead of the DEFAULT_LSPSO value if you provision both tables.

POTS and RES lines

For POTS and RES lines, provision the LSPSO option at the directory number (DN) level through SERVORD, which automatically updates table LENFEAT. The switch uses the DEFAULT_LSPSO value in table OFCENG if you do not assign the option to the line of the subscriber. The switch uses the table

LSPi Provisioning of Switch Owner (continued)

LENFEAT datafill instead of the DEFAULT_LSPSO value if you provision both tables.

BRI lines

The switch unbundles lines and the loop interface for basic rate interface (BRI) terminals at the loop. The switch associates a single LSPSO with all BRI sets (up to eight) on the loop.

Business group BRI

Provision business group BRI lines at the customer group level in the CUSTSTN table. The switch always uses the LSPSO line option instead of the customer group option and DEFAULT_LSPSO value. Do not assign the option at the line level for business group lines.

Residential BRI

Provision residential BRI lines on key 1 at the DN level through SERVORD, which automatically updates the LENFEAT table. The switch always uses the LSPSO line option instead of the customer group option and DEFAULT_LSPSO value.

Hunt groups

Provision option LSPSO for a hunt group through the lines of the subscriber at the DN level or the customer-group level. The level depends on the set type of the lines of the subscriber in the hunt group.

- For non-centrex hunt groups, provision the LSPSO option directly to each hunt group member through SERVORD. (Non-centrex groups are groups with RES set members or members that do not belong to a customer group.) SERVORD automatically updates the IBNFEAT or KSETFEAT table for these groups.
- For centrex hunt groups, provision the members at the customer group level in the CUSTSTN table. (Centrex groups have members that belong to a customer group.)

Note: Do not mix customer group hunt members and non-customer group hunt members. Do not mix hunt group members across different customer groups.

The switch uses the DEFAULT_LSPSO value in table OFCENG if you do not assign the option to the DN or the customer group. The switch uses table IBNFEAT or KSETFEAT datafill (for non-centrex hunt groups) instead of the DEFAULT_LSPSO value if you provision both tables. The switch uses table CUSTSTN datafill (for centrex hunt groups) instead of the office parameter value if you provision both tables.

LSPI Provisioning of Switch Owner (continued)

Multiple Appearance Directory Number (MADN) members

Provision the LSPSO option for MADN members at the DN or customer group level, depending on the set types of the lines in the group.

For MADN group member lines that are Residential Enhanced Services (RES) sets or not associated with a customer group, provision the LSPSO line option directly on the member lines through SERVORD. SERVORD automatically updates table IBNFEAT or KSETFEAT. The switch always uses the LSPSO line option instead of the DEFAULT_LSPSO value.

For MADN group member lines that are in a customer group, provision the LSPSO line option at the customer group level in table CUSTSTN. The switch always uses the LSPSO line option instead of the DEFAULT_LSPSO value.

Translations table flow

The following list describes the translations tables for LSPI Provisioning of Switch Owner:

- Table OFCENG (Office Engineering) identifies the default LSPSO parameter. Use the default LSPSO when there is no LSPAO assignment by line, trunk, or customer group.
- Table CUSTSTN (Customer Group Station) lists the station options for each customer group for Meridian Digital Centrex (MDC) and RES lines. Switching units with North American translations require the CUSTSTN table. Assign the LSPSO option for customer groups in this table.
- Table CXGRP (Customer Group Options) lists the options for a PX digital trunk group. Local (or combined local and toll) switching units require the CXGRP table. Assign the LSPSO option for PX trunks in this table.
- Table IBNFEAT (IBN Line Feature) defines the functionality assignments for RES lines. This table lists the features assigned to the MDC lines listed in the IBNLINES table. Assign the LSPSO option through SERVORD to RES or MDC lines.
- Table KSETFEAT (Business Set and Data Unit Feature) defines the functionality assignments for MDC lines. This table lists the features assigned to the MBS lines listed in the KSETLINES table. Assign option LSPSO through SERVORD to MBS lines.
- Table LENFEAT (Line Feature) lists and defines the line features assigned to plain ordinary telephone service (POTS) lines. Assign option LSPSO through SERVORD to POTS lines.

LSPI Provisioning of Switch Owner (continued)

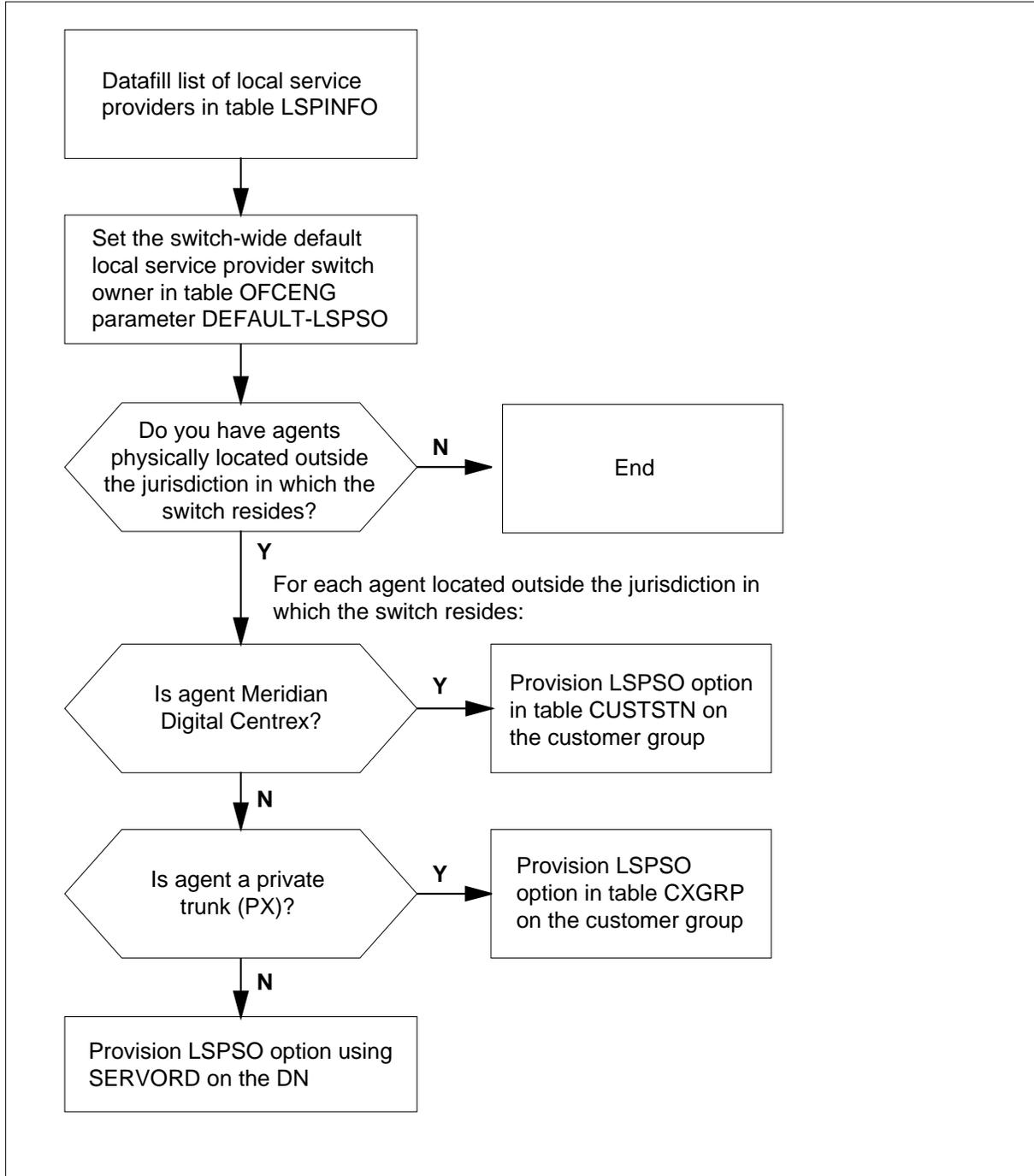
The following flowchart illustrates the LSPI Provisioning of Switch Owner translation process.

Note: The LSP feature created table LSPINFO, which contains information associated with each LSP. The entries in this table are one- to sixteen-character strings that define the following:

- LSP name
- four-character alphanumeric LSP identification code
- list of LSP context identifier types valid for the LSP
- context identifier automatic message accounting (AMA) options for each LSP

LSPI Provisioning of Switch Owner (continued)

Table flow for LSPI Provisioning of Switch Owner



LSPI Provisioning of Switch Owner (continued)

The following table lists the datafill content used in the flowchart.

Datafill example for LSPI Provisioning of Switch Owner

Datafill table	Example data
CUSTSTN	COMKODAK LSPSO LSPSO CLEC1
CXGRP	50 N Y (ABC) \$ N N N N (LSPSO) 9876 \$
IBNFEAT	HOST 06 1 10 22 0 LSPSO LSPSO CLEC1
KSETFEAT	HOST 06 1 10 22 1 LSPSO LSPSO CLEC1
LENFEAT	HOST 06 1 10 22 1FR LSPSO LSPSO CLEC1

Limitations and restrictions

The following limitations and restrictions apply to LSPI Provisioning of Switch Owner:

- This feature does not support LSPSO provisioning for P2 or PRI trunks. P2 trunk capability is available with PX trunks.
- This feature supports Line Overflow to Directory Number (LOD) and Line Overflow to Route (LOR). An LOD DN can be outside the customer group of the hunt group. The administrator must ensure the LOD DN belongs to the same local service provider as the hunt group.
- The software does not let customers mix customer group hunt members with hunt members that are not in a customer group.
- The software does not let customers mix hunt group members across customer groups.
- Customer groups cannot span jurisdictional boundaries.
- A multi-party line (for example, 2FR, 4FR, 8FR, and 10FR) should not span more than one jurisdiction. Customers should assign the same LSPSO to all parties on a loop. The switch does not prohibit customers from assigning different LSPSOs to parties on a loop. The switch does not prevent a party line from spanning more than one jurisdiction. The administrator is responsible for enforcing these recommendations.
- There is no control to ensure the lines associated with the same BRI loop belong to the same LSPSO. The administrator must ensure these lines do not span jurisdictions.
- LSPSO is on to key 1 of ISDN BRI sets.
- LCCOPT and OPTOPT are not referenced when you make bulk entries to the line tables. The system does not check for set types that are not

LSPI Provisioning of Switch Owner (continued)

supported or that have incompatible options. (This is a restriction for bulk entries in general.)

- Feature AF7532 provides support for RCF and DISA in NA010.
- There is no error checking in SERVORD to ensure that the CONTEXT entered matches the CONTEXT in the LSPINFO table for the PROVIDER.
- If you change the CONTEXT for a provider in the LSPINFO table, you must change the CONTEXT of the subscribers of that provider. The CONTEXT for subscribers must match their providers in table LSPINFO. Use the CI commands (QLSPAO, QLSPAOMDC, QLSPTRK) to find the subscribers of the provider.
- Nortel recommends that private business exchanges (PBX) members/customer groups do not span jurisdictions. When a single LSPSO serves all subscribers for a PBX/customer group, you can provision the LSPSO by private trunk groups.

Interactions

LSPI Provisioning of Switch Owner has no functionality interactions.

Activation/deactivation by the end user

LSPI Provisioning of Switch Owner requires no activation or deactivation by the end user.

Billing

Customers can use LSPI Provisioning of Switch Owner in billing records and reporting tools to facilitate settlement.

Station Message Detail Recording

LSPI Provisioning of Switch Owner does not affect Station Message Detail Recording.

LSPI Provisioning of Switch Owner (continued)

Datafilling office parameters

The following table shows the office parameter that LSPI Provisioning of Switch Owner uses. For more information about office parameters, refer to *Office Parameters Reference Manual*.

Office parameters used by LSPI Provisioning of Switch Owner

Table name	Parameter name	Explanation and action
OFCENG	DEFAULT_LSPSO	This parameter is the office-wide default local service provider switch owner (LSPSO). If you do not provision a switch owner on a line/customer group/service, this parameter indicates the switch owner. By default, the parameter is set to N, which means there is no default local service provider switch owner. To identify an LSPSO as the switch-wide default, set the parameter to Y <provider_name>. The provider name must be the name of a provider provisioned in table LSPINFO.

Datafill sequence

The following table lists the tables that require datafill to implement LSPI Provisioning of Switch Owner. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for LSPI Provisioning of Switch Owner (Sheet 1 of 2)

Table	Purpose of table
OFCENG	The office engineering table identifies the default LSPSO parameter. Use the default LSPSO when there is no LSPSO assignment by line, trunk, or customer group. Refer to the "Datafilling office parameters" section for more information.
CUSTSTN	The customer group station table lists the station options for each customer group for MDC and RES lines. Table CUSTSTN is required in a switching unit with North American translations. Assign the LSPSO option for customer groups in this table.
CXGRP	The customer group options lists the options for a PX digital trunk group. Local (or combined local and toll) switching units require the CXGRP table. Assign the LSPSO option for PX trunks in this table.
<p>Note: This documentation provides no data entry procedure or example for noted tables because SERVORD fills the table automatically. See the "SERVORD" section for information on how to complete this table.</p>	

LSPI Provisioning of Switch Owner (continued)

Datafill tables required for LSPI Provisioning of Switch Owner (Sheet 2 of 2)

Table	Purpose of table
IBNFEAT (note)	The IBN line feature table defines the functionality assignments for RES lines. This table lists the features assigned to the MDC lines listed in table IBNLINES. Assign the LSPSO option through SERVORD to RES or MDC lines.
KSETFEAT (note)	The business set and data unit feature table defines the functionality assignments for MDC lines. This table lists the features assigned to the MBS lines listed in the KSETLINES table. Assign option LSPSO through SERVORD to MBS lines.
LENFEAT (note)	Table line feature defines the functionality assignments for POTS lines. This table lists the features assigned to lines in table LENLINES. Assign option LSPSO through SERVORD to POTS lines.
<p>Note: This documentation provides no data entry procedure or example for noted tables because SERVORD fills the table automatically. See the "SERVORD" section for information on how to complete this table.</p>	

Datafilling table CUSTSTN

The following table shows datafill for table CUSTSTN. This table shows only the fields that apply directly to LSPI Provisioning of Switch Owner. For a description of the other fields, refer to the data schema section of this document.

Datafill for table CUSTSTN

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		alphanumeric (1 to 16 characters)	Customer group name. Enter the customer group name.
OPTNAME		LSPSO	Option name. Enter the name of the option, LSPSO.
OPTION		see subfield	Option. This field consists of the subfield OPTION.
	OPTION	LSPSO	Option. Enter the name of the option, LSPSO.
	PROVIDER	alphanumeric (1 to 16 characters)	Provider name. Enter a provider name from table LSPINFO.

Datafill example for table CUSTSTN

The following example shows sample datafill for table CUSTSTN.

LSPI Provisioning of Switch Owner (continued)

MAP display example for table CUSTSTN

>CUSTSTN			
CUSTNAME	OPTNAME	OPTION	
COMKODAK			
	LSPSO	LSPSO	CLEC1

Datafilling table LENFEAT

The following table shows datafill for table LENFEAT. The table shows only the fields that apply directly to LSPI Provisioning of Switch Owner. For a description of the other fields, refer to the data schema section of this document.

Datafill for table LENFEAT

Field	Subfield or refinement	Entry	Explanation and action
DF		LSPSO	Feature. Enter LSPSO for the Local Service Provider Switch Owner feature.
FEATURE		LSPSO	Feature. Enter LSPSO for the Local Service Provider Switch Owner feature.
DATA	PROVIDER	alphanumeric (1 to 8 characters)	Provider name. Enter the provider name of the switch owner. The name can be any provider name in table LSPINFO.

Datafill example for table LENFEAT

The following example shows sample datafill for table LENFEAT.

LSPI Provisioning of Switch Owner (continued)

MAP display example for table LENFEAT

```

>LENFEAT

LEN                PTY    DF      FEATURE      DATA
-----
HOST 06 1 10 22   1FR    LSPSO    LSPSO        CLEC1

```

Datafilling table IBNFEAT

The following table shows datafill for table IBNFEAT. The table shows only the fields that apply directly to LSPI Provisioning of Switch Owner. For a description of the other fields, refer to the data schema section of this document.

Datafill for table IBNFEAT

Field	Subfield or refinement	Entry	Explanation and action
DF		LSPSO	Data feature. Enter LSPSO for the Local Service Provider feature.
FEATURE		LSPSO	Data feature. Enter LSPSO.
DATA	PROVIDER	alphanumeric (1 to 8 characters)	Provider name. Enter the provider name of the switch owner. The name can be any provider name datafilled in table LSPINFO.

Datafill example for table IBNFEAT

The following example shows sample datafill for table IBNFEAT.

MAP display example for table IBNFEAT

```

>IBNFEAT

LEN                DNNO   DF      FEATURE      DATA
-----
HOST 06 1 10 22    0     LSPSO    LSPSO        CLEC1

```

LSPI Provisioning of Switch Owner (continued)

Datafilling table KSETFEAT

The following table shows datafill for table KSETFEAT. The table shows only the fields that apply directly to LSPI Provisioning of Switch Owner. For a description of the other fields, refer to the data schema section of this document.

Datafilling table KSETFEAT (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
FEATKEY		see subfields	<i>KSET feature key.</i> This field consists of subfields LEN, KEY, and FEAT.
	LEN	see subfields	<i>Line equipment number.</i> This field defines the location of the equipment to which a telephone line connects. Because field LEN is common to more than 60 tables, Nortel documents this field in a single section to avoid duplication. Refer to section "Common entry field LEN" for a complete description of field LEN and associated subfields.
	LEN(continued)		For ISDN lines, field LEN consists of subfield LTID. For non-ISDN lines, field LEN consists of subfields SITE, FRAME, UNIT, DRAWER or LSG, SHELF, SLOT, and CIRCUIT.
	KEY	1 to 69	<i>Physical key.</i> Enter the number associated with the DN appearance for the assigned feature. For M2317 digital telephones, you can use only keys 1 to 11.
	FEAT	LSPSO	<i>Feature.</i> Enter LSPSO for the Local Service Provider Switch Owner feature
FEATURE		LSPSO	<i>Feature.</i> Enter LSPSO.

LSPI Provisioning of Switch Owner (continued)

Datafilling table KSETFEAT (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
KVAR		see subfield	<i>Key variable area.</i> This field consists of subfield DN.
	PROVIDER	alphanumeric (1 to 8 characters)	<i>Provider.</i> Enter the local service provider switch owner name. The provider name must be in table LSPINFO.

Datafill example for table KSETFEAT

The following example shows sample datafill for table KSETFEAT

MAP display example for table KSETFEAT

```

>KSETFEAT

FEATKEY                                FEATURE    KVAR
-----
HOST 06 1 10 22 1  LSPSO    LSPSO    CLECL1

```

LSPI Provisioning of Switch Owner (continued)

Datafilling table CXGRP

The following table shows datafill for table CXGRP. Only the fields that apply directly to LSPI Provisioning of Switch Owner are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table CXGRP

Field	Subfield or refinement	Entry	Explanation and action
PXOPTION		LSPAO, LSPSO	Customer group options. For the local service provider account owner option, enter LSPAO followed by the PROVIDER field. The PROVIDER entry is the local service provider name. The PROVIDER field is alphanumeric and can be up to 16 characters. For the local service provider switch owner option, enter LSPSO followed by the PROVIDER field. The PROVIDER entry is the local service provider name. The PROVIDER field is alphanumeric and can be up to 16 characters.
	PROVIDER	1 to 16 alphanumeric characters	Provider selection.

Datafill example for table CXGRP

The following example shows sample datafill for table CXGRP

LSPi Provisioning of Switch Owner (continued)

MAP display example for table CXGRP

CUSTKEY									
CTD	FCTDNTER	SPB		FCTDNTRA	EWATS	EWATSI	PXOPTION		
69	Y	3485921388							
N	Y	\$	Y	TEST	C111	SOR323	(LCDR	(RMR)	(RMT) \$
N	LPIC	C222	Y	\$					
90	N	N	N	N	Y	EOWATS	VACT	Y	Y
					1	LATA1	(CAR3	0THRU1)	\$
							Y	(CAR4	0THRU1)
								\$	\$
50	N	Y	(ABC)	\$	N	N	N	N	(LSPSO)
									9876 \$

Translation verification tools

LSPi Provisioning of Switch Owner does not use translation verification tools.

SERVORD

Use **SERVORD** to assign a switch owner to a DN with the **LSPSO** line option. When you provision a line with **SERVORD**, error checking ensures the **PROVIDER** name you enter is valid. Table **LSPINFO** lists valid **PROVIDER** names. Provision **LSPSO** on a DN/custgrp/service only in a multi-jurisdictional environment, in occurrences where the `default_lspso` is not applicable.

LSPSO as a Line Option

A new **SERVORD** line option, **LSPSO**, assigns an **LSP** to a DN.

LSPI Provisioning of Switch Owner (end)

SERVORD prompts

The following table shows the SERVORD prompts used to add LSPI Provisioning of Switch Owner to a DN.

SERVORD prompts for LSPI Provisioning of Switch Owner

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line to be changed
OPTION	LSPSO	Indicates the name of the option
PROVIDER	1 to 8 alphanumeric	Indicates the name of the local service provider switch owner.

SERVORD example for adding LSPI Provisioning of Switch Owner

The following SERVORD example shows how to add LSPI Provisioning of Switch Owner to a line with the the ADO command.

SERVORD example for LSPI Provisioning of Switch Owner in prompt mode

```

> ADO
SONUMBER:    NOW 95 11 6 PM
DN_OR_LEN:
>6215001
OPTION:
> LSPSO
PROVIDER:
> CLEC 1
> $
COMMAND AS ENTERED:
ADO NOW 95 11 6 PM 6215001 (LSPSO CLEC1) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT

```

SERVORD example for LSPI Provisioning of Switch Owner in no-prompt mode

```
> ADO $ 6215001 LSPSO CLEC1 $
```

LSPI Trunk Option Datafill

Ordering codes

Functional group ordering code: LOC00012

Functionality ordering code: not applicable

Release applicability

NA010 and up

Prerequisites

This document includes all the data table information for this functionality. Complete use of this functionality can require software or hardware not described in this document.

Description

This section provides some background information as well as a description of LSPI Trunk Option Datafill.

Local Service Provider

The Telecom Reform Act (TRA) of 1996 mandated incumbent local exchange carriers (ILECs) to open their switching network to outside competition by competing LECs (CLECs). This means competing local exchange carriers (CLECs) can lease lines and/or trunks now from an ILEC at either a resale or unbundled rate. Subscribers served by an ILEC end office can choose either the ILEC or a CLEC as their local service providers (LSPs). The chosen LSP becomes the LSP account owner (LSPAO) of the subscriber. The carrier that leases the lines and trunks to the LSPAO is the LSP switch owner (LSPSO). The LSPAO is ultimately responsible for providing telecommunications services and billing, directly or indirectly through a third party.

The Local Service Provider feature allows customers to provision LSPAO on a directory number (DN), customer group, "private" trunk, and switch-wide default basis. The LSP feature also provides reporting tools to summarize LSPAO usage. These tools are command interpreter (CI) commands QLSPAO (query LSPAO) and QLSPAOMDC (query LSPAO Meridian Digital Centrex).

LSPI Trunk Option Datafill extends the LSP functionality by allowing customers to provision LSPAO on public, interswitch trunks. The provisioning of LSPAO indicates the traffic on a trunk is dedicated to that LSP and context only. The switch treats all separate calls that traverse this trunk group like calls that originate from a DN with that LSPAO. The switch uses this information currently in billing. In the future, the switch will use this information to signal forward LSPI information when there is no LSPI-AO in

LSPi Trunk Option Datafill (continued)

the incoming signaling. Customers must be careful when they provision this trunk group attribute.

LSPAO identification code

The LSPAO identification code is four alphanumeric characters (0 through 9 and uppercase A through Z). Use this four-character Operating Company Number (OCN)/National Exchange Carrier Association (NECA) Company codes as the LSPAO identification code.

Context identifier

Along with the identification code, you must associate an LSPAO context identifier with a subscriber. The context identifier indicates the leasing arrangement between the LSPAO and the switch owner. The LSPAO can lease the line or PBX of the subscriber at either a resold rate (R) or an unbundled rate (U). If the switch owner is providing service for the subscriber, use the context identifier value native (N).

LSPFE on Public Interswitch Trunks

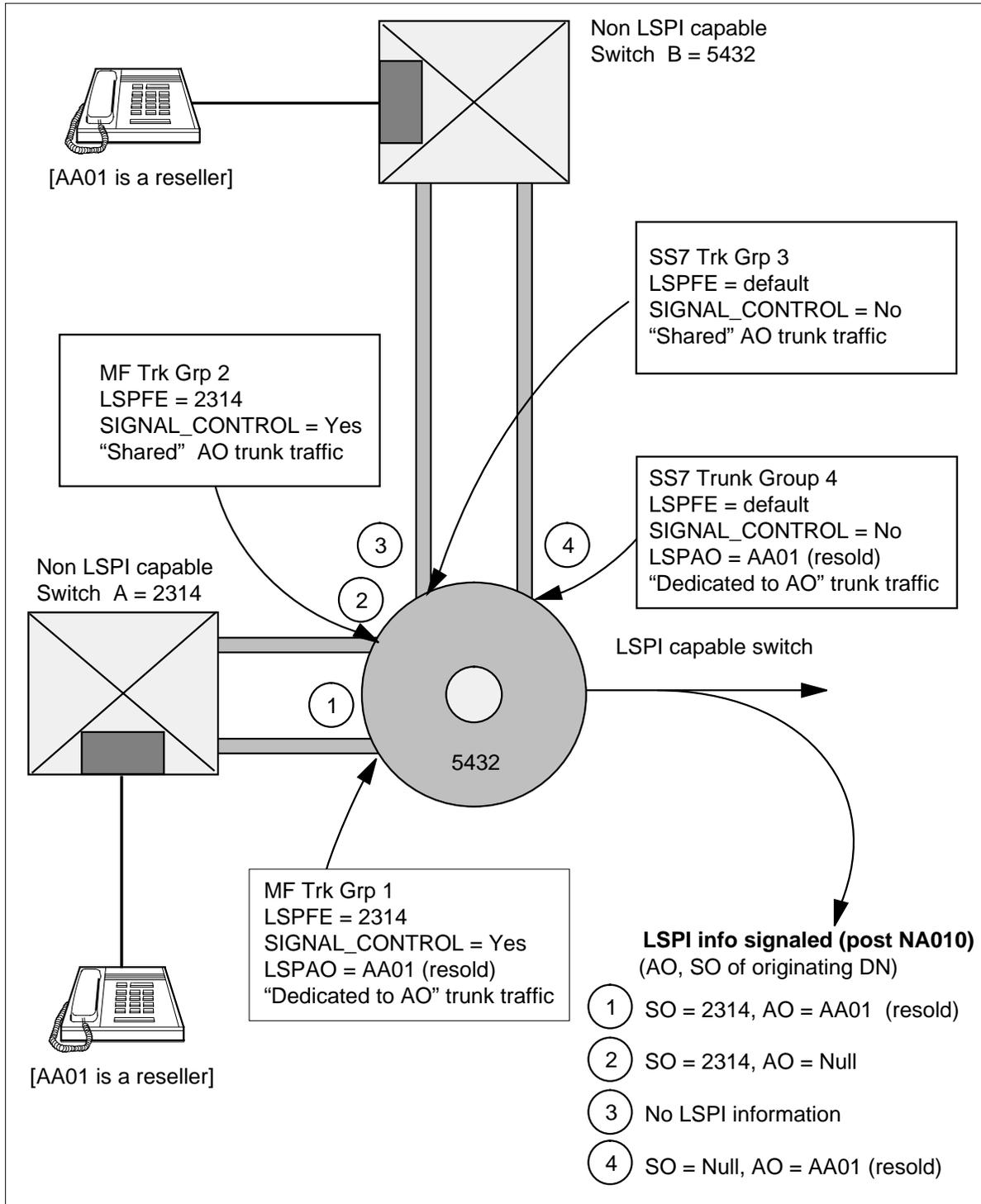
On public, interswitch trunks, provision option LSPFE to indicate the switch owner (SO) on the far end (FE) of the trunk. Provision option LSPFE when the far-end switch has a different SO value (such as another network) from the switch you are provisioning. Set the SIGNAL_CONTROL subfield in table TRKOPTS to Y to use this LSPFE as the switch owner when the switch does not receive an SO for signaling. This results in one or both of the following:

- The FE value of the incoming trunk is the same as the SO of the originating DN.
- The FE value of the outgoing trunk is the same as the SO of the terminating DN.

Note: For the NA010 release, you must set the SIGNAL_CONTROL field in table TRKOPTS to N; the switch does not permit any other values. Signaling work will be available in future releases.

LSPI Trunk Option Datafill (continued)

LSPFE use



LSPI Trunk Option Datafill (continued)

Operation**LSP Provisioning**

On receiving the new NA010 load, the central office must enter an LSP in table LSPINFO in order to continue with LSPxx provisioning. Then customers can provision the LSPAO and LSPFE options through table control.

The list below indicates the recommended provisioning order.

1. LSPINFO - add provider name(s)
2. OFCENG - DEFAULT_LSPAO
3. TRKOPTS - add option(s)

Note 1: You must provision Table LSPINFO (item 1) first.

Note 2: The LSP feature created table LSPINFO, which contains information associated with each LSP. The entries in this table are one- to sixteen-character strings that define the following:

- LSP name
- four-character alphanumeric LSP identification code
- list of LSP context identifier types valid for the LSP
- context identifier automatic message accounting (AMA) options for each LSP

LSPSO, LSPFE Provisioning

The office does not have to provision the OFCENG parameter DEFAULT_LSPSO. The office can still add an LSPSO on a DN/cust grp/trunk group/service basis if there is an entry in table LSPINFO. Note that there is no office-wide parameter for LSPFE.

LSPAO Provisioning of Public Trunks

The office does not have to provision the OFCENG parameter DEFAULT_LSPAO. The office can add the LSPAO on a supported interswitch trunk group if there is an entry in table LSPINFO.

Translations table flow

The following list describes the LSPI Trunk Option Datafill translations tables:

- Table LSPINFO (Local Service Provider Information) enables customers to inventory local service providers and their attributes. The central office

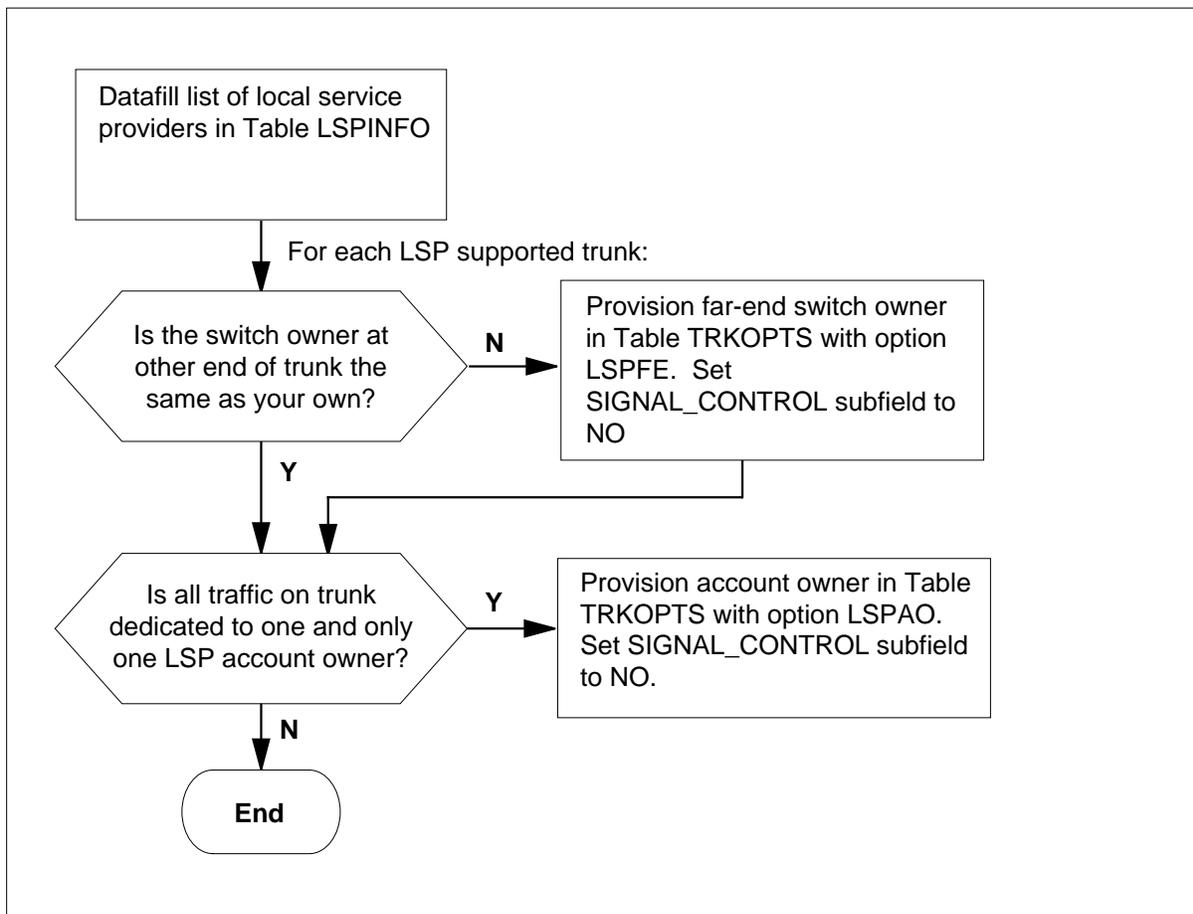
LSP Trunk Option Datafill (continued)

must enter the LSPs in table LSPINFO before customers can provision options LSPAO and LSPFE for these LSPs.

- Table TRKOPTS (Trunk Options) defines the trunk options for any trunk type that supports the LSPAO and LSPFE options. This table contains the provider's name and context for the LSPAO and the provider's name and signal control option for LSPFE.

The following flowchart illustrates the LSP Trunk Option Datafill translation process.

Table flow for LSP Trunk Option Datafill



LSPI Trunk Option Datafill (continued)

The following table lists the datafill content used in the flowchart.

Datafill example for LSPI Trunk Option Datafill

Datafill table	Example data
LSPINFO	LEC1 AA01 (NATIVE N N N N)
TRKOPTS	LSPFE LSPFE LECNAME2 N
TRKOPTS	LSPAO LSPAO LECNAME1 R

Limitations and restrictions

The following limitations and restrictions apply to LSPI Trunk Option Datafill:

- If you change the CONTEXT for a provider in table LSPINFO, you must change the CONTEXT of the subscribers of that provider. The CONTEXT for subscribers must match their providers in table LSPINFO. Use the CI commands (QLSPAO, QLSPAOMDC, QLSPTRK) to find the subscribers of the provider.
- When provisioning the LSPFE option in NA010, N is the only acceptable entry for subfield SIGNAL_CONTROL.
- The IT interswitch trunk type supports LSPAO provisioning, except as noted in restrictions for STD signaling type. The software does not support the outgoing (OG) trunk direction.
- OP, IT and DA are the interswitch trunk types that support LSPFE provisioning, except as noted in restrictions for STD signaling type.
- For STD signaling type, you must use the MF pulse type to permit LSPxx provisioning against the supported interswitch trunk types.
- The software does not support LSPxx provisioning for carrier-specific trunk group types OC and ATC. The switch uses the carrier identification code (CIC) to identify the connecting network.
- The software does not support LSPxx provisioning for cellular switch interconnection trunk types because the switch uses the `billnum` to identify cellular providers. This restriction applies to the CELL trunk group type and IT trunk group type with the CELL option.
- If you do not provision LSPAO on a public trunk, the switch does not use any default. Defaults indicate a dedicated traffic relationship that does not exist.
- There is no LSPSO associated with public trunks.

LSPI Trunk Option Datafill (continued)

Interactions

LSPI Trunk Option Datafill has no functionality interactions.

Activation/deactivation by the end user

LSPI Trunk Option Datafill requires no activation or deactivation by the end user.

Billing

Customers can use LSPI Trunk Option Datafill in billing records and reporting tools to facilitate settlement.

Station Message Detail Recording

LSPI Trunk Option Datafill does not affect Station Message Detail Recording.

Datafill sequence

The following table lists the tables that require datafill to implement LSPI Trunk Option Datafill.

Datafill tables required for LSPI Trunk Option Datafill

Table	Purpose of table
LSPINFO	Table LSPINFO enables customers to inventory local service providers and their attributes. The central office must enter the LSPs in table LSPINFO before customers can provision options LSPAO and LSPFE for those LSPs.
TRKOPTS	Table Trunk Options defines the trunk options for any trunk type that supports the LSPAO and LSPFE options. This table contains the provider's name and context for LSPAO and the provider's name and signal control for LSPFE.

Datafilling table LSPINFO

The following table shows the datafill specific to LSPI Trunk Option Datafill for table LSPINFO. Only those fields that apply directly to LSPI Trunk Option

LSPI Trunk Option Datafill (continued)

Datafill are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table LSPINFO

Field	Subfield or refinement	Entry	Explanation and action
LSPNAME		1 to 16 characters	Local Service Provider name. Customers use this name to provision the LSP with lines or trunks.
LSPI		four alphanumeric characters in the range of 0-9 and A-Z	Local Service Provider identifier. A four-digit alphanumeric identifier of the LSP. Each LSP must be unique.

Datafill example for table LSPINFO

The following example shows sample datafill for table LSPINFO.

MAP display example for table LSPINFO

LSPINFO		
LSPNAME	LSPI	OPTION

LEC1	AA01	(NATIVE N N N N)

Datafilling table TRKOPTS

The following table shows the datafill specific to LSPI Trunk Option Datafill for table TRKOPTS. Only those fields that apply directly to LSPI Trunk Option Datafill are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table TRKOPTS (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OPTINFO	OPTION	LSPAO	Enter LSPAO and fill in subfields PROVIDER and CONTEXT.
	PROVIDER	16 character alphanumeric	Enter a provider name that is in table LSPINFO.

LSPi Trunk Option Datafill (end)

Datafilling table TRKOPTS (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	CONTEXT	R, U, or N	Enter R for resold, U for unbundled, n for native.
	SIGNAL_CONTROL	Y or N	Enter Y or N to use the LSPFE and the SO when the switch does not receive an SO for signaling.

Datafill example for table TRKOPTS

The following example shows sample datafill for table TRKOPTS.

MAP display example for table TRKOPTS

OPTKEY	OPTINFO		
LSPAO	LSPAO	LECNAME1	R
LSPFE	LSPFE	LECNAME2	N

Translation verification tools

LSPi Trunk Option Datafill does not use translation verification tools.

SERVORD

LSPi Trunk Option Datafill does not use service orders.

8 Datafilling Local Service Provider-Networks

The following chapter describes the Local Service Provider-Networks, LOC00022, functionality.

SS7 Local Service Provider (LSP) Signaling

Ordering codes

Functional group ordering code: LOC00022

Functionality ordering code: does not apply

Release applicability

NA011 and up

NA011 introduced SS7 Local Service Provider (LSP) Signaling.

Requirements

To operate, SS7 Local Service Provider (LSP) Signaling requires the functional groups that follow:

- LOC Resale/Unbundling, Local Service Provider, LOC00012
- LOC Resale/Unbundling, TRA AMA FP/AO, LOC00012
- LOC Resale/Unbundling, LSPI Trunk Option Datafill, LOC00012
- LOC Resale/Unbundling, LSPID for DISA, RCF, and PRI, LOC00012
- LOC Resale/Unbundling, Billing Support for TRA, LOC00012
- LOC Resale/Unbundling, Billing Support for TRA - Signalled LSPI, LOC00012

Description

The SS7 Local Service Provider (LSP) Signaling feature makes it possible for the DMS to send LSP information over the signaling system 7 (SS7). The switch uses an IAM optional parameter to pass the LSP information forward in the SS7 Initial Address Message (IAM).

SS7 LSP Signaling makes LSP information available to the intermediate or terminating switch that might not be available because of the following reasons:

- The previous switch was not LSPI-compliant: the switch did not have LSP datafill and therefore could not signal the information forward.
- There was multifrequency (MF) signaling between the switches. MF signaling does not use an IAM and could not signal LSP information.

When the LSP information is not available, the signaling feature tries to get the information from the datafill (field OPTINFO in table TRKOPTS). If the operating company has set the office parameter LSPI_FORWARD to Y, the

SS7 Local Service Provider (LSP) Signaling (continued)

ISDN user part (ISUP) signaling feature includes the LSP information in the outgoing IAM.

The information signaled forward is a local service provider identifier (LSPI). The LSPI provides a one of a kind identifier for the service provider involved with a call or service. The LSPI indicates which LSP originates, terminates, or transports a call. The LSP can be either the switch owner (LSPSO) or account owner (LSPAO). The identifier also defines the rate at which an LSP leases the lines. Rates identify the business relationship, which can be resale, unbundled, or native.

This signaling capability is available within a single network and with multiple interconnecting networks.

When the intermediate or terminating switch is not LSPI-compliant, the switch still passes any information it receives in the incoming IAM to the outgoing IAM.

Note: The Telecommunications Act 1996 (TA96) requires all local exchange carriers (LEC) to interconnect with other network providers and resell their basic telecommunications services to other LSPs. The NPA-NXX is no longer exclusive to one company. The LSPI provides a reliable unique identifier for the service provider(s) for a call or service.

Operation

Message Protocol

The switch uses optional parameter(s) in the SS7 Initial Address Message (IAM) to send LSP information forward from the originating switch to the terminating switch.

LSPI-Type Parameter Values

Under specific conditions, the switch can signal both the LSPSO and LSPAO forward. The LSPI parameter has a field that indicates if the LSPI parameter is transporting account owner or switch owner information, or both. When the outgoing IAM includes both types of information, the order is not important. If an incoming IAM has more than one LSPI parameter of the same type, the switch uses the first one. This behavior is standard for duplicate parameters.

The table that follows provides LSPI-type parameter values.

(Sheet 1 of 2)

00000	spare
00001	switch owner

SS7 Local Service Provider (LSP) Signaling (continued)

(Sheet 2 of 2)

00010	account owner
00011 to 11111	spare

ISDN User Part (ISUP) LSPI Parameter

The LSPI parameter has a minimum length of five octets, which include

- a parameter name code octet
- a parameter length octet
- an octet that contains the encoding design and LSPI type
- a context (rate) identification octet
- at least one octet that contains a character

The maximum parameter length supported is 15 bytes. The table that follows provides ISUP LSP identification parameters.

8	7	6	5	4	3	2	1
Parameter Name Code = xxxx xxxx							
Parameter Length							
Encoding Design				LSPI Type			
Spare				Context Identification			
Character							

Encoding Design Parameter Values

Nortel billing and provisioning applications support IA5 encoding for the LSPI parameter.

Note: See documentation for LSPI Trunk Option Datafill for additional information on supported LSPI encoding designs.

The software supports binary coded decimal (BCD) and binary coding for the LSPI parameter in multi-switch networks. The LSPI parameter allows flexibility in the number of characters the switch can send in a single LSPI parameter. These characters include the digits 0 through 9 and letters A through Z (upper case only). The switch sends the most significant character first. For BCD encoding, the first digit appears in bits 1 through 4 of the first

SS7 Local Service Provider (LSP) Signaling (continued)

byte. Subsequent digits follow in successive 4-bit fields. If the character field is carrying an odd number of digits coded using BCD, a filler code of 0000 appears after the last digit. In IA5 coding, each character is coded in one byte. The table that follows provides encoding design parameter values.

000	spare
001	BCD odd
010	BCD even
011	IA5
100	binary
101 to 111	spare

Context identifier parameter values

The context identifier (CI) indicates the lease arrangement between the account owner and the switch owner. The account owner can lease the subscriber's line or the private trunk facility at either a resold rate or an unbundled rate. A CI value of native indicates the switch owner provides service for the subscriber. The CI reflects the nature of the LSP information as specified in switch provisioning. The table that follows provides CI parameter values.

0000	null
0001	native
0010	unbundled
0011	resold
0100 to 1111	spare

Originating Switch

The originating switch signals the LSP information forward in the IAM if the operating company sets office parameter LSPI_FORWARD in table OFCENG to Y. This indicates an LSPI-compliant office.

If LSPSO information is not available on the subscriber in the incoming IAM, the switch looks for office parameter DEFAULT_LSPSO in table OFCENG. If

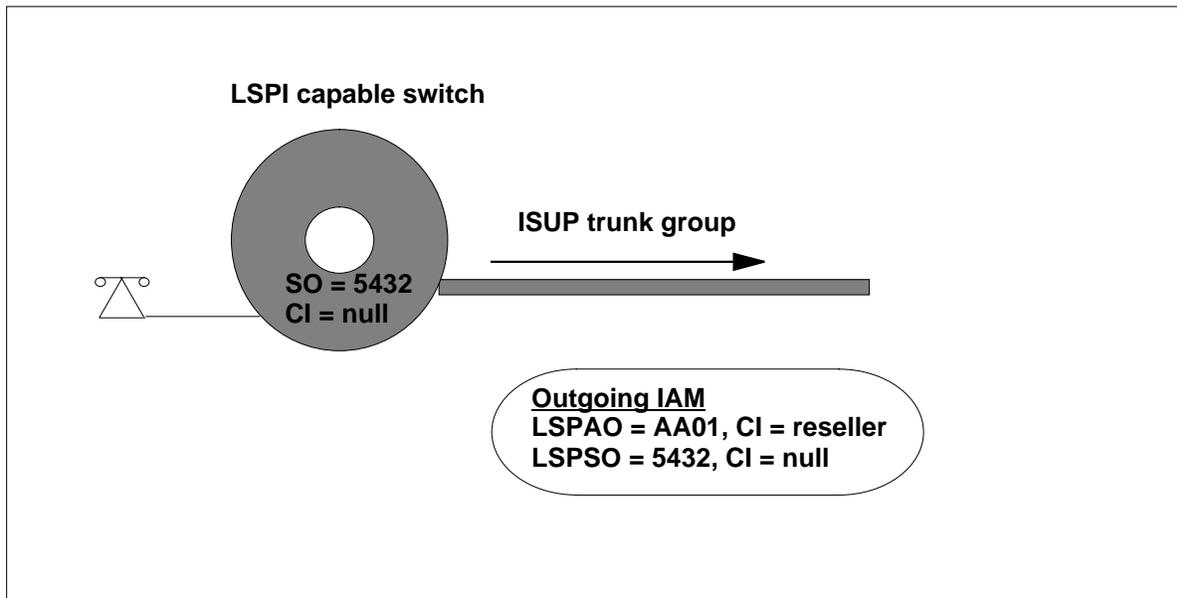
SS7 Local Service Provider (LSP) Signaling (continued)

the parameter has datafill, the switch uses the default LSPSO value to fill the LSPSO parameter in the outgoing IAM.

If LSPAO information is not available on the subscriber in the incoming IAM, the switch looks for office parameter DEFAULT_LSPAO in table OFCENG. If the parameter has datafill, the switch uses the default LSPAO value and context identification value of native, resold, or unbundled to fill the LSPAO parameter in the outgoing IAM.

When the outgoing trunk from the originating switch is an MF trunk, the switch cannot signal any LSP information forward. The figure that follows describes the subscriber to outgoing trunks situation.

Subscriber to outgoing ISUP trunk



Refer to LSPI Trunk Option Datafill for LSP account owner information from the originating switch perspective.

Intermediate switch

The calling party's LSPAO and LSPSO information is not always available to the intermediate switch. Availability depends on both

- the type(s) of trunk signaling that routed the call from the originating switch to the intermediate switch.
- the provisioning connected with those trunk groups. Supported incoming trunk groups that route the call to the intermediate switch are either SS7 or MF trunk groups.

SS7 Local Service Provider (LSP) Signaling (continued)

SS7 Signaling on incoming and outgoing trunks

The intermediate switch signals the LSPI parameters forward in the outgoing IAM from the intermediate switch if

- SS7 signaling is available on both the incoming and the outgoing trunks, and
- an intermediate switch in an incoming IAM receives both LSPSO and LSPAO parameters

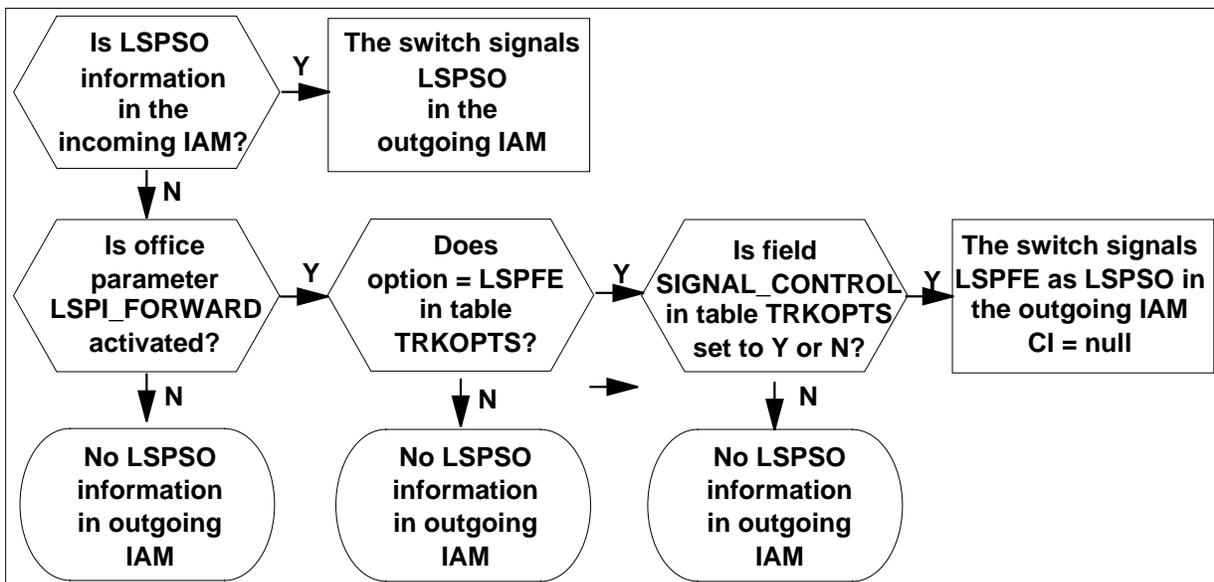
The status of office parameter LSPI_FORWARD is not important here.

When there is not an LSPSO parameter in the incoming IAM, the intermediate switch tries to get this information from option LSPFE or LSPFE of field OPTINFO in table TRKOPTS if

- There is a Y entry for office parameter LSPI_FORWARD in table OFCENG.
- There is an LSPFE value in table TRKOPTS for the incoming trunk group.
- There is a Y entry in the corresponding field Signal_Control in table TRKOPTS, which allows the switch to signal forward the LSPFE as the switch owner. LSPFE refers to the switch owner on the far end of the trunk, which is the originating subscriber.

The figure that follows describes the LSPSO from the intermediate office perspective.

LSPSO from the intermediate office perspective



SS7 Local Service Provider (LSP) Signaling (continued)

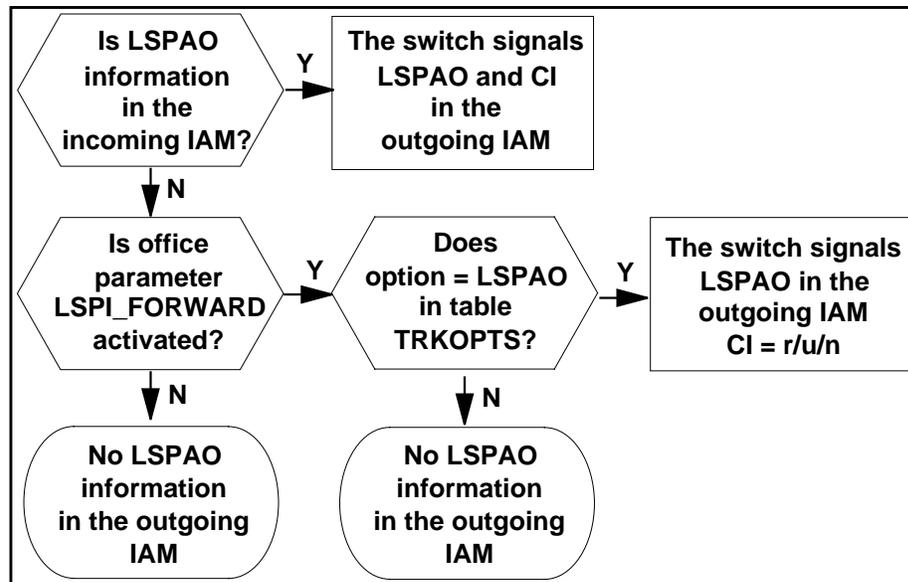
When there is not an LSPAO parameter in the incoming IAM, the intermediate switch tries to get this information from table TRKOPTS if

- There is a Y entry for office parameter LSPI_FORWARD.
- There is an LSPAO value in table TRKOPTS for the incoming trunk group. The context identifier for the account owner is either native, resold, or unbundled. On public, interswitch trunks, provisioning LSPAO indicates that the traffic on that trunk is dedicated to that LSP and context only. The switch signals this LSP information forward when it receives no LSPAO in incoming signaling because of a non-LSPI compliant switch or MF trunk interworking.

Note: In this case, the switch considers each call that moves across this trunk group as originating from directory numbers (DN) with that LSPAO. Use extreme caution provisioning this attribute. Refer to LSPI Trunk Option Datafill for more details on provisioning LSPAO.

The figure that follows describes the LSPAO from the intermediate office perspective.

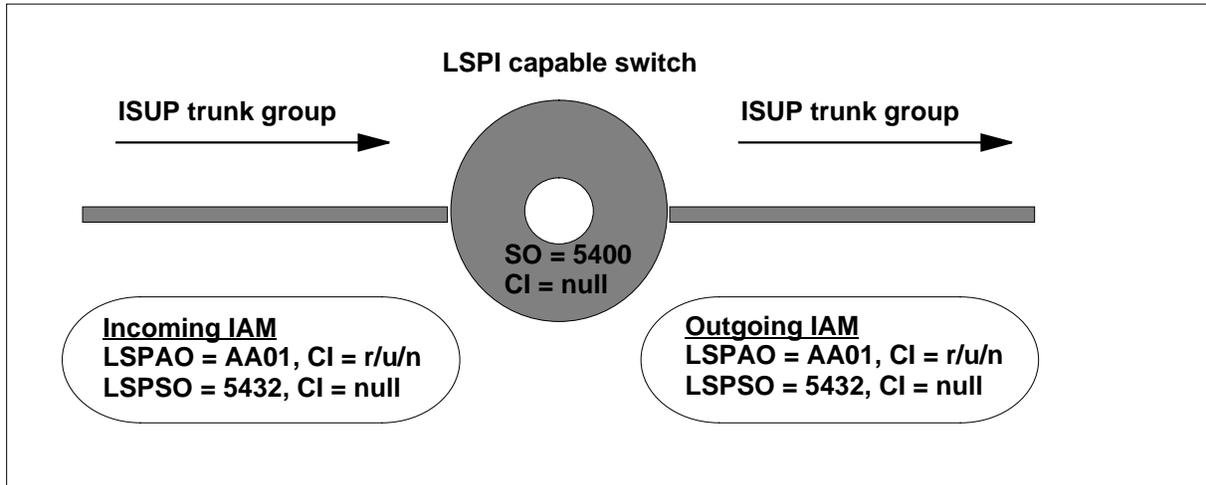
LSPAO from the intermediate office perspective



When the switch cannot get the LSP information, the switch signals forward only the LSP parameter(s) it receives in the incoming IAM from the originating switch. The following figure describes ISUP to ISUP signaling in intermediate offices.

SS7 Local Service Provider (LSP) Signaling (continued)

ISUP to ISUP signaling in intermediate offices



MF Signaling on incoming trunks and SS7 Signaling on outgoing trunks

When the incoming trunk to an intermediate office is an MF trunk group, LSP information does not arrive from the originator. The switch can get this information (LSPSO and LSPAO) from table TRKOPTS if the operating company has entered LSP information for the switch and set office parameter LSPI_FORWARD to Y.

- The switch can get the switch owner information from table TRKOPTS if:
 - There is an LSPFE value in table TRKOPTS for the incoming trunk group.
 - There is a Y entry in the corresponding field SIGNAL_CONTROL in table TRKOPTS, which allows the switch to signal forward the LSPFE as the switch owner. LSPFE refers to the switch owner on the far end of the trunk, that is, the originating subscriber. Operating companies use the LSPFE entry when they provision a switch for which the owner is not the originating subscriber. The context identifier for the switch owner should be null.

See figure LSPSO from the intermediate office perspective for more details.

- The switch can get the account owner information from table TRKOPTS if there is an LSPAO value in table TRKOPTS for the incoming trunk

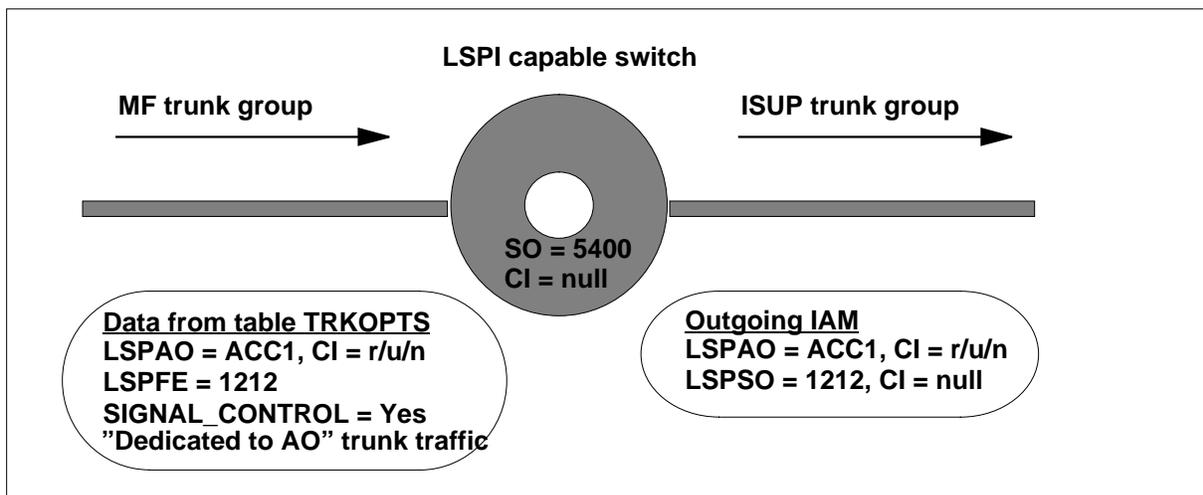
SS7 Local Service Provider (LSP) Signaling (continued)

group. The context identifier for the account owner should be native, resold, or unbundled.

See figure LSPAO from the intermediate office perspective for more details. If the operating company has not set this office parameter to Y, the switch cannot get LSP information from table TRKOPTS for signaling.

The figure that follows describes MF to ISUP signaling in intermediate offices.

MF to ISUP signaling in intermediate offices



Terminating switch

LSPSO and LSPAO information on the calling party might or might not be available to the terminating switch. Availability depends on

- the type(s) of trunk signaling that routes the call from the originating switch to the terminating switch. The incoming trunk group that routes the call to the terminating switch could be either an SS7 trunk group or MF trunk group.
- the provisioning associated with the trunk groups.

ISUP Signaling Incoming to the Terminating Switch

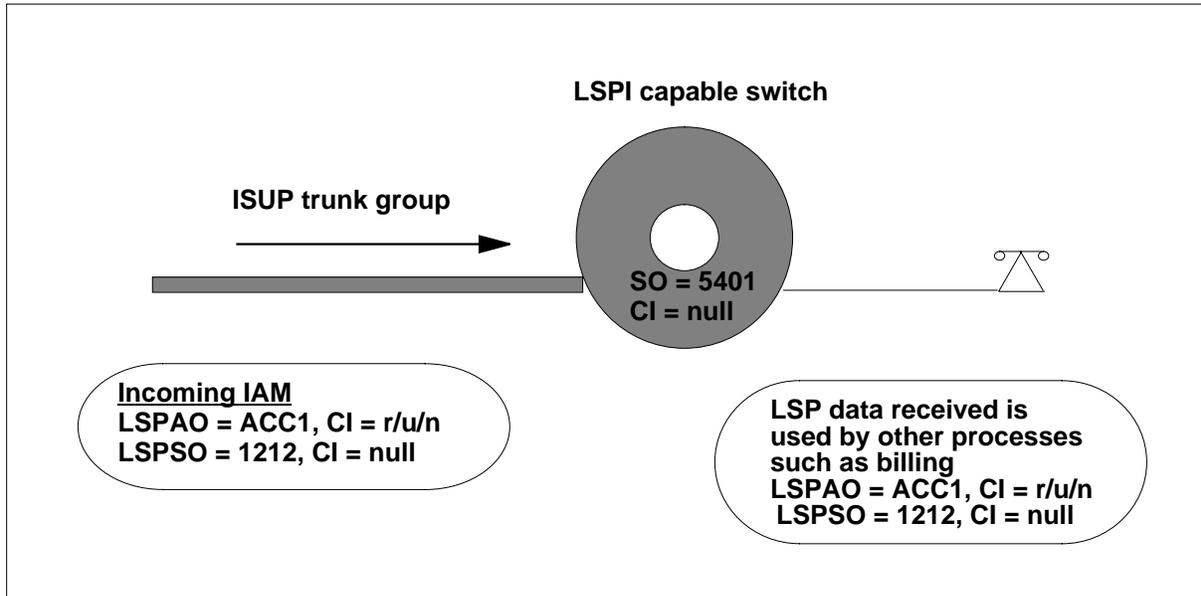
When the incoming trunk group to the terminating switch is an ISUP trunk group, the terminating switch can receive signaled LSP information.

All incoming IAM LSP information is available in the LSPI_HDB for end user applications to use. The end user application is responsible for getting LSP information at the end office.

The figure that follows describes the incoming ISUP to terminating offices.

SS7 Local Service Provider (LSP) Signaling (continued)

Incoming ISUP to terminating offices



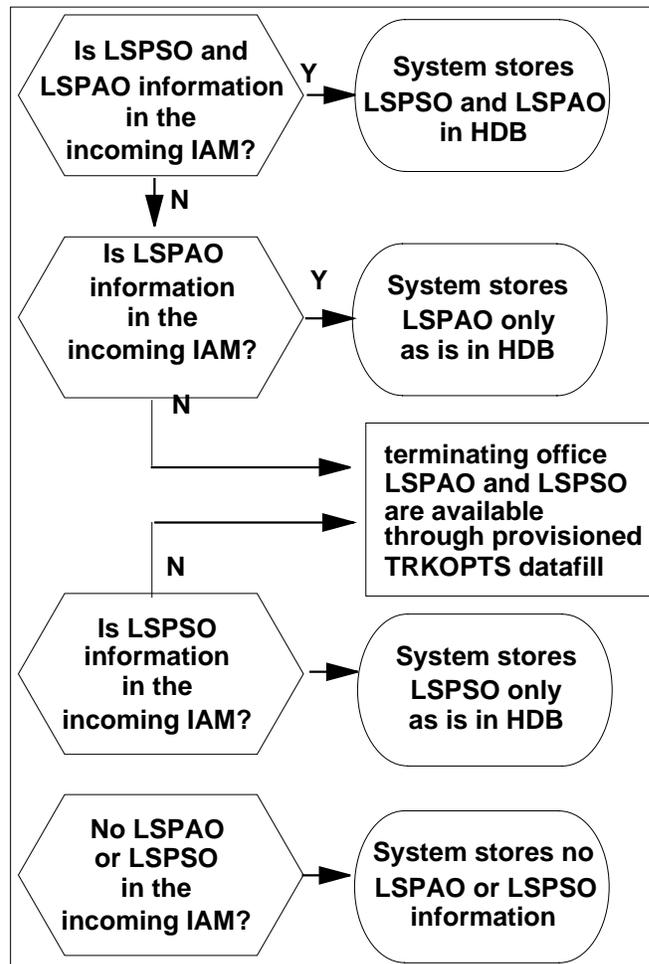
MF Signaling incoming to the terminating switch

Incoming MF trunk groups to an LSPI-compliant terminating switch do not provide LSP information. The end user application is responsible for getting LSP information at the end office.

The figure that follows describes LSPSO and LSPAO from the terminating office perspective.

SS7 Local Service Provider (LSP) Signaling (continued)

LSPSO and LSPAO from the terminating office perspective



Translations table flow

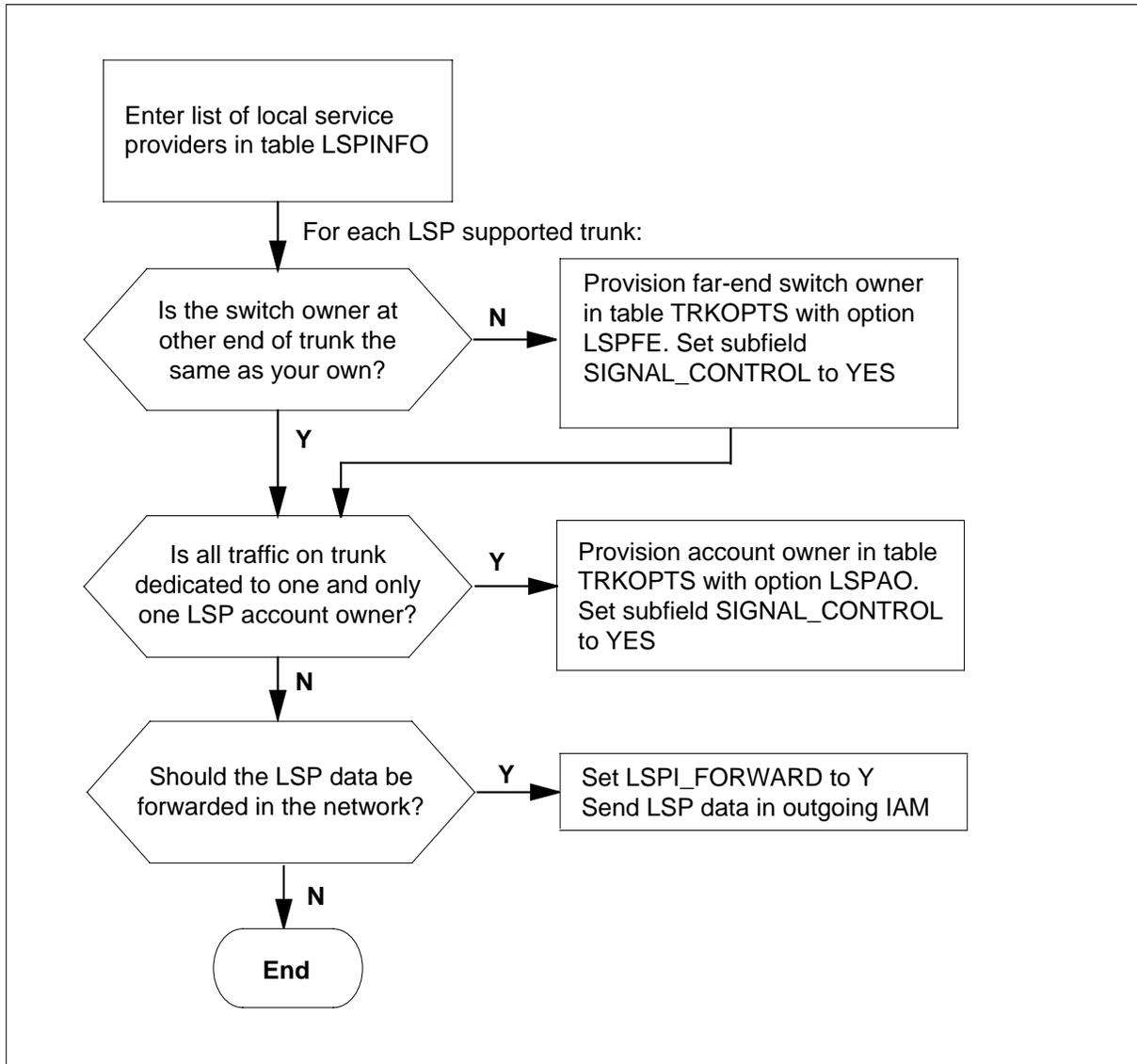
The list that follows includes the SS7 Local Service Provider (LSP) Signaling translations tables:

- Table LSPINFO (Local Service Provider Information) defines the LSP attributes. The fields in table LSPINFO control LSP provisioning and AMA record generation.
- Table OFCENG (Office Engineering) identifies the default LSPSO and LSPAO parameters. The switch uses the default LSPSO or LSPAO when the operating company has not entered information for LSPSO or LSPAO.
- Table TRKOPTS (Trunk Options) defines the trunk options for any trunk type that supports options LSPAO and LSPFE. This table contains the provider's name and context identifier for the LSPAO and the provider's name and signal-control option for LSPFE.

SS7 Local Service Provider (LSP) Signaling (continued)

The flowchart that follows provides the SS7 Local Service Provider (LSP) Signaling translation process.

Table flow for SS7 Local Service Provider (LSP) Signaling



SS7 Local Service Provider (LSP) Signaling (continued)

The following table lists the datafill content used in the flowchart.

Datafill example for SS7 Local Service Provider (LSP) Signaling

Datafill table	Example data
LSPINFO	LEC1 AA01 (NATIVE N N N N N)
OFCENG	LSPI_FORWARD Y
TRKOPTS	ISUP2WIT1 LSPFE CLEC1 Y

Limitations and restrictions

The following limitations and restrictions apply to SS7 Local Service Provider (LSP) Signaling:

- This feature does not signal LSP information backward.
- The switch does not use MF signaling to pass LSP information. A switch that uses incoming MF signaling to process calls must get LSP information from the incoming trunk group datafill in table TRKOPTS.
- The software does not support LSP provisioning/signaling for an IT trunk group type with option CELL.
- The switch passes LSP information to IXC's in the SS7 IAM when a call originates from an LSPI-compliant switch. The switch does not require interexchange calls incoming from IXC's to contain LSP information.
- The software does not support DISA agents in SS7 Signaling for LSPI.
- If the calling party or charge number has been replaced on an advanced intelligence network (AIN) call, the software discards the LSP information.
- The switch handles call forwarding for each leg.
- The software does not support AIN call forwarding.

Interactions

This feature uses all LSPI feature work and provides the signaling capability to make this information available in the whole network.

Activation/deactivation by the end user

LSPAO Provisioning

On public, interswitch trunks, provisioning LSPAO indicates the traffic on that trunk is dedicated to that LSP and context only. The switch uses this information to signal LSP information forward when there is no LSPAO in the incoming signaling. No LSPAO in the incoming signal indicates a non-LSPI

SS7 Local Service Provider (LSP) Signaling (continued)

compliant switch or MF trunk interworking. In this case, the switch considers every call that moves across this trunk group as originating from DNs with that LSPAO. Users need to provision this trunk group attribute carefully and refer to LSPI Trunk Option Datafill for more details on provisioning LSPAO.

LSPSO Provisioning

On public, interswitch trunks, LSPFE in table TRKOPTS indicates who the switch owner is on the far end of the trunk. Provision LSPFE for a switch when the far-end switch (original subscriber) of that switch has a different SO value. When you set subfield SIGNAL_CONTROL in table TRKOPTS to Y, the switch signals the LSPFE value forward in the IAM as the switch owner for the subscriber that originated the call.

Billing

SS7 Local Service Provider (LSP) Signaling does not generate billing records or changes. Billing Support for TRA - Signalled LSPI handles LSPI billing.

Station Message Detail Recording

SS7 Local Service Provider (LSP) Signaling does not require Station Message Detail Recording.

Office parameters used by SS7 Local Service Provider (LSP) Signaling

The table that follows lists the office parameters used by SS7 Local Service Provider (LSP) Signaling. For additional information about office parameters, refer to the *Office Parameters Reference Manual*.

Office parameters used by SS7 Local Service Provider (LSP) Signaling

Table name	Parameter name	Explanation and action
OFCENG	LSPI_FORWARD	This parameter turns the signaling of LSP information on and off. Signaling is in the forward direction only.

SS7 Local Service Provider (LSP) Signaling (continued)

Datafill sequence

The table that follows lists the tables that require datafill to put SS7 Local Service Provider (LSP) Signaling into operation. You must enter data into the tables in this order.

Datafill requirements for SS7 Local Service Provider (LSP) Signaling

Table	Purpose of table
LSPINFO	Table Local Service Provider Information defines the LSP attributes. The fields in table LSPINFO control LSP provisioning and AMA generation of records.
TRKOPTS	Table Trunk Options defines the trunk options for any trunk type that supports options LSPAO and LSPFE. This table contains the provider's name and context for LSPAO and the provider's name and signal control for LSPFE.
OFCENG	The office engineering table identifies the default LSPSO and LSPAO parameters and contains office parameter LSPI_FORWARD. The operating company turns the parameter on to signal LSP information forward in the network. Refer to the "Datafilling office parameters" section for more information.

Datafill related to SS7 Local Service Provider (LSP) Signaling for table LSPINFO

Datafill for SS7 Local Service Provider (LSP) Signaling for table LSPINFO appears in the following table. The fields that apply to SS7 Local Service Provider (LSP) Signaling appear in this table.

Datafill related to table LSPINFO (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LSPNAME		1 to 16 characters	<i>Local Service Provider name.</i> Enter the one-character to sixteen-character name of the LSP.

SS7 Local Service Provider (LSP) Signaling (continued)

Datafill related to table LSPINFO (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LSPI		4 alphanumeric characters in the range of 0-9 and A-Z	<i>Local Service Provider identifier.</i> Enter the 4-digit alphanumeric context identifier of the LSP. Each LSPI must be different.
OPTION		UNBUNDLED, NATIVE, RESOLD	<i>Option.</i> The UNBUNDLED controls AMA records and calls that originate or terminate on unbundled lines for an LSP. The NATIVE controls AMA records and calls that originate or terminate on native lines for an LSP. The RESOLD controls AMA records and calls that originate or terminate on resold lines for an LSP.

Datafill example for table LSPINFO

The figure that follows shows sample datafill for table LSPINFO.

MAP display example for table LSPINFO

```

LSPINFO

LSPNAME   LSPI   OPTION
-----
LEC1      AA01   (NATIVE N N N N)
LECZ      AA02   (UNBUNDLED Y Y Y Y)(RESOLD Y Y Y Y)
    
```

SS7 Local Service Provider (LSP) Signaling (end)

Datafill related to SS7 Local Service Provider (LSP) Signaling for table TRKOPTS

The table that follows provides the datafill related to SS7 Local Service Provider (LSP) Signaling for table TRKOPTS. This table includes only those fields that apply directly to SS7 Local Service Provider (LSP) Signaling.

Datafill related to table TRKOPTS

Field	Subfield or refinement	Entry	Explanation and action
OPTINFO	OPTION	LSPFE	Enter LSPFE to identify the switch owner on the far end of the trunk. Provision LSPFE when the far-end switch has a different switch owner value from the switch you are provisioning. A different SO indicates that the switch is from another network.
	PROVIDER	16 character alphanumeric	Enter a provider name that is in table LSPINFO.
	SIGNAL_CONTROL	Y or N	Enter Y or N to use the LSPFE as the SO when the switch does not receive an SO for signaling.

Datafill example for table TRKOPTS

The figure that follows shows sample datafill for table TRKOPTS.

MAP display example for table TRKOPTS

```

OPTKEY          OPTINFO
-----
LSPFE          LSPFE  CLEC1  Y
    
```

Translation verification tools

SS7 Local Service Provider (LSP) Signaling does not use translation verification tools.

SERVORD

SS7 Local Service Provider (LSP) Signaling does not use SERVORD.

9 Datafilling Local Call Area Screening

The following chapter describes the Local Call Area Screening, LOC00023, functionality.

LCA Six-Digit Screening and STS Decoupling

Ordering codes

Functional group ordering code: LOC00023

Functionality ordering code: not applicable

Release applicability

NA010 and later

Prerequisites

This document includes all the datafill information for this functionality. Complete implementation, however, can require prerequisite software or hardware.

Description

The Telecom Reform Act (TRA) of 1996 created a demand for greater screening capabilities in telephone switching. Local Number Portability (LNP) allows subscribers to port their home number to different switches in the telephone network. Subscribers can now port their numbers from switch to switch. As a result, the numbering plan areas (NPAs) for the current local calling area screening table, LCASCRCN, increase substantially. The TRA also mandates that incumbent local exchange carriers (ILECs) must open their switching network to competitive local exchange carriers (CLECs). Each new CLEC can request separate screening capabilities to differentiate their services from the ILEC.

This competition creates additional strain and maintenance issues for provisioning. Also, a local service provider identifier (LSPID) identifies each new CLEC, which increases the necessity for differentiated screening capabilities. To meet this demand, Nortel is introducing Local Calling Area (LCA) Six-Digit Screening and Service Translations Scheme (STS) Decoupling, a more flexible and efficient replacement for three-digit local call screening provided by table LCASCRCN.

-Digit Screening and STS Decoupling offers the following enhancements and improvements:

- removal of double indexing for areas with overlapping NPAs in the same local calling area. Six-digit screening requires only one lookup, while three-digit screening requires two lookups.
- the ability to screen 10-digit local numbers and 7-digit toll numbers when the NPA and OFC are the same (for example, AMBI codes)

LCA Six-Digit Screening and STS Decoupling (continued)

- removal of indexing based on the caller's STS and ability to index based on the LCANAME, called NPA, and OFC
- additional flexibility to define different screening rules based on dialing patterns and call types

The new design includes the following changes and additions to the DMS-100 switch:

- a new table, Local Call Area Information (LCAINFO), for provisioning LCAs and their associated data
- a new table, Dial Plan and Call Type Screening (DPCTSCRN), for maintaining customized screening plans
- a new table, Local Calling Area Six Screen (LCA6SCRN), for screening local calls using a six-digit screening method
- LCAs that are not associated with an STS
- local calling area names (LCANAMEs) that are five to eight characters
- an increase in the number of LCANAMEs supported for provisioning
- a screening method to mark ten-digit dialed calls as local or non-local
- ONP and translation verification (TRAVER) support for tables LCAINFO, DPCTSCRN, and LCA6SCRN
- AIN national digit conversion for six-digit screening

Six-digit screening is optional at this time. Three-digit screening, which uses table LCASCRN, is still available. Nortel plans to replace three-digit screening with the improved six-digit screening in the future.

Operation

Table control

The DMS-100 switch uses three tables to control six-digit screening:

- DPCTSCRN (Dial Plan and Call Type Screening). Table DPCTSCRN defines the screening plans referenced by each tuple in table LCAINFO. Table DPCTSCRN enables the customer to define screening rules based on office dialing patterns and call types. Each dialing pattern and call type can have a customized treatment. With 6-digit screening, users specify treatments through datafill. With three-digit screening, the PFXFOR10 and LOC0005 options provide pre-set rules for screening calls.
- LCAINFO (Local Calling Area Information). This table provides a local calling area index based on the LCANAMEs only and not the serving NPA or STS. Table LCAINFO also provides a method of linking each LCANAME with a customized screening plan in table DPCTSCRN.

LCA Six-Digit Screening and STS Decoupling (continued)

Options PFXSELECT and LOCALOVR are also available and function the same as in table LCASCRCN.

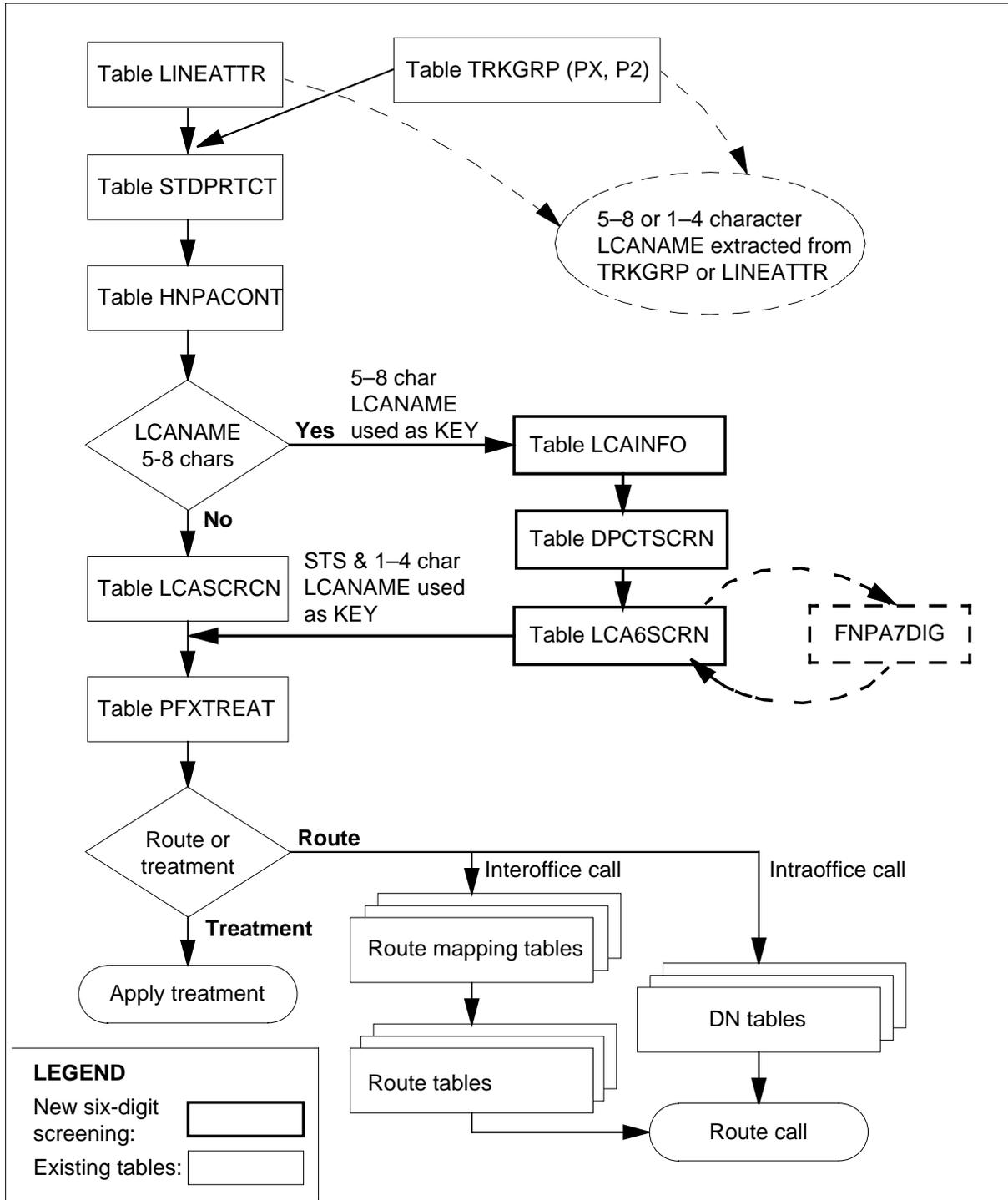
- LCA6SCRN (Local calling area 6 Screen). Table LCA6SCRN performs the LCA six-digit screening based on the LCANAME, NPA, and OFC provided. This table also controls the local setting for ten-digit calls.

Six-digit screening is easy to activate and deactivate through table LCAINFO. Five- to eight-character LCANAMEs distinguish six-digit screening from three-digit screening, which uses one- to four-character names. All tables supported to use six-digit screening can provision five- to eight-character LCANAMEs through table control.

The following figure illustrates the internal flow and the use of tables DPCTSCRN, LCAINFO, and LCA6SCRN in the six-digit screening process.

LCA Six-Digit Screening and STS Decoupling (continued)

The LCA Six-Digit Screening and STS Decoupling process



LCA Six-Digit Screening and STS Decoupling (continued)

Excluding the STS as an index value

With three-digit screening, agents and applications derive the STS and LCANAME attributes needed to index LCASCRCN through tables LINEATTR and TRKGRP. Six-digit screening still uses LINEATTR and TRKGRP to get LCANAMES. Six-digit screening, however, excludes the STS as an index value by using tables LCAINFO and LCA6SCRN. Customers must analyze all STS/LCANAME combinations and migrate them to a new five- to eight-character LCANAME in table LCAINFO.

Six-digit screening is not available with TOPS translations. You cannot enter LCANAMES longer than four characters in tables TOPSBC, ISUPTRK, TOPSDP, CLGSET, OPRTRANS, and TRKGRP (for TOPS trunk group type).

Determining normal or six-digit screening

The switch examines the LCANAME to determine whether to use three-digit or six-digit screening. If the LCANAME is four characters or less, the switch executes three-digit screening using table LCASCRCN. If the LCANAME is five to eight characters, the switch executes six-digit screening.

Eliminating double indexing

Three-digit screening means the switch must refer to table LCASCRCN twice for calls dialed as 10 digits. The switch must refer to table LCASCRCN once to screen the NPA, and again to screen the OFC. Table LCA6SCRN eliminates the need for a second reference by performing a single lookup with both the NPA and OFC.

Defining screening requirements using table DPCTSCRN

Table DPCTSCRN provides the flexibility to screen calls based on the dial plan and call type. With three-digit screening, there are pre-set rules. The screening varies, depending on the setting of field PFXFOR10 and Software Optionality Control (SOC) option LOC0005. Table DPCTSCRN enables users to maintain, change, or define new screening requirements.

After the user defines all screening names in table DPCTSCRN, the switch adds the names to field DPCTNAME in table LCAINFO. Call processing uses the screening name, in conjunction with the following steps, to determine which SCRNOPT is correct for the call:

1. Examine the digits dialed to determine which dial pattern to use, 7 digits (SEVEND), 10 digits (TEND), 0/1 + 7 digits (PFXPLUS7D) or 0/1 + 10 digits (PFXPLUS10D).
2. Determine the call type set for the call in table STDPRTCT, {no prefix (NP), direct dialed (DD), operator assisted (OA)}.

LCA Six-Digit Screening and STS Decoupling (continued)

If the switch finds a dialing pattern and call type, it applies the treatment associated with the screening option. If the switch does not find a dialing plan and call type, it does not apply any treatment at this point. The DPCTSCRN implementation occurs just after all valid lookups in table LCAINFO, and just before checking for a local or toll disposition in table LCA6SCRN.

Mimicing three-digit screening rules

You can mimic the current three-digit screening rules. The permanent "PFXFOR10" screening plan name in table DPCTSCRN enables subscribers to use the existing PFXFOR10 screening capability in table LCASCRCN with the new DPCTSCRN table.

Using table PFXTREAT

This method is the same as in three-digit screening.

Deriving the called NPA from table FNPA7DIG

Six-digit screening requires six digits, NPA and NXX, to perform local call area screening. Because calls can originate as seven digits, the switch must derive the NPA before screening can occur. The switch looks at table Foreign Numbering Plan Seven Digits (FNPA7DIG) first to accomplish this task.

Call processing uses the caller's originating STS (ORIGSTS) and NXX of the seven-digit number (FROMNXX and TONXX) from table FNPA7DIG to determine the terminating NPA (TERMNPA). For example, if a caller with an originating STS of 613 dials a seven-digit number, 563-xxxx, the terminating NPA would be 907.

>Table FNPA7DIG			
ORIGSTS	FROMNXX	TONXX	TERMNPA
613	563	563	907

During six-digit screening, the lookup searches for a terminating NPA for the caller's STS and dialed NXX in table FNPA7DIG. If it doesn't find one, the caller's home NPA serves as the terminating NPA. This situation occurs when there is no datafill available in the table and for all home NPA derivations.

For Automatic Route Selection (ARS) translations, users must provision table FNDA7DIG. For ARS seven-digit calls, the switch cannot derive the caller's home NPA because the caller's STS in table LINEATTR does not represent a valid NPA.

LCA Six-Digit Screening and STS Decoupling (continued)

Blocking casually dialed Equal Access calls

The Equal Access Call Attributes Control feature blocks casually dialed (10xxx/101xxxx) local calls. Pretranslations apply the equal access call attribute for 10xxx/101xxxx-dialed digits. The control feature allows the switch to control and interpret the equal access call attribute as local for blocking calls. This feature eliminates the necessity to send the calls back to the local exchange carrier (LEC) for resolution of access charges between the LEC and inter-exchange carrier (IEC). Nortel added the LOCALOVR field to table LCAINFO to determine when blocking is applicable during call processing. Field LOCALOVR in table LCAINFO provides the same functionality as field LOCALOVR in table LCASCRCN.

AIN digit conversion

Advanced Intelligence Network (AIN) National Digit Conversion uses six-digit screening to determine the retractions characteristics for national and national carrier direct calls. Six-digit screening helps determine how to handle ten-digit numbers returned from a service control point (SCP) Analyze_Route or Forward_Call response. The options are to keep the number as ten digits, convert it to seven digits, or add 1 as a prefix.

AIN translations simplification can reuse existing pretranslators and translation datafill for AIN response translations. The switch must convert the called digits received in the SCP response into a digit format consistent with existing translations datafill. The conversion process depends on the triggering agent type, which may have different translation datafill requirements. To reuse a single pretranslator for translation of multiple call types, the digit conversion process indicates the call type through prefix digits. This process alleviates the requirement for AIN to define separate pretranslators for each call type in the AIN response datafill.

Part of the conversion process involves changing the ten-digit number received from the SCP into a dialable (7D, 0/1+7D, 10D, or 0/1+10D) format for direct-dialed calls. The number returned from the SCP must appear as if the caller dialed it directly, including or excluding the NPA or prefix digits.

With six-digit screening, the digit conversion process is like the process used for three-digit screening. The difference is six-digit screening uses tables LCAINFO, DPCTSCRN, and LCA6SCRN instead of table LCASCRCN and the rules associated with PFXFOR10.

For six-digit screening, the conversion process follows these steps:

1. The same mechanism determines the number of digits used to start each search. The number is seven if the called number's NPA matches the

LCA Six-Digit Screening and STS Decoupling (continued)

caller's home NPA and the NPA is not present in HNPACODE. Otherwise, the number is 10.

2. Table LCA6SCRN determines whether the call is local or toll. The call is local if the table contains an NPA and OFC entry. The call is toll when there is no entry.
3. After determining the digit count and whether the number is toll or local, AIN uses table DPCTSCRN to determine the screening rules. Table DPCTSCRN provides 12 different dialing patterns and call type combinations (SCRNOPTS), which the customer selects. AIN digit conversion considers only calls that are national or national carrier direct. Therefore, the conversion process uses only DD and NP call types, not the OA call type.

Translations table flow

The LCA Six-Digit Screening and STS Decoupling translations tables are described in the following list:

- Table LINEATTR (Line Attribute) contains attributes for normal lines in table LENLINES, and Meridian stations and attendant consoles in the Meridian Digital Centrex (MDC) translation tables. Only NA100 line class codes are involved in this feature.
- Table TRKGRP (Trunk Group) contains operating company-defined data associated with each trunk group in the switching unit. Only two trunk group types, PX and P2, are involved in this feature.
- Table DIGMAN (Digit Manipulation) offers simplified dialing. Subscribers can adopt a destination code-based dialing plan for the private network where the switching unit resides. This enables users served by the switch to dial a fixed number of digits to reach a party. The dialing plan is similar to the direct distance dialing (DDD) network in which a user dials NPA-Nxx-xxxx.
- Table LCAINFO (Local Calling Area Information) is one of the three tables that provide table control for six-digit screening. Table LCAINFO is the table in which you enter the LCA information for six-digit screening. The table provides an LCA index based on the LCANAME only, and eliminates an STS as an index value. This removal makes LCA screening functionality independent of the STS key. Table LCAINFO can link each LCANAME with a customized screening plan in the dial plan and call type table.
- Table DPCTSCRN (Dial Plan and Call Type Screening) is one of the three tables that provide table control for six-digit screening. A screening plan consists of a name and a set of screening options. Use this table to establish a set of local screening rules.

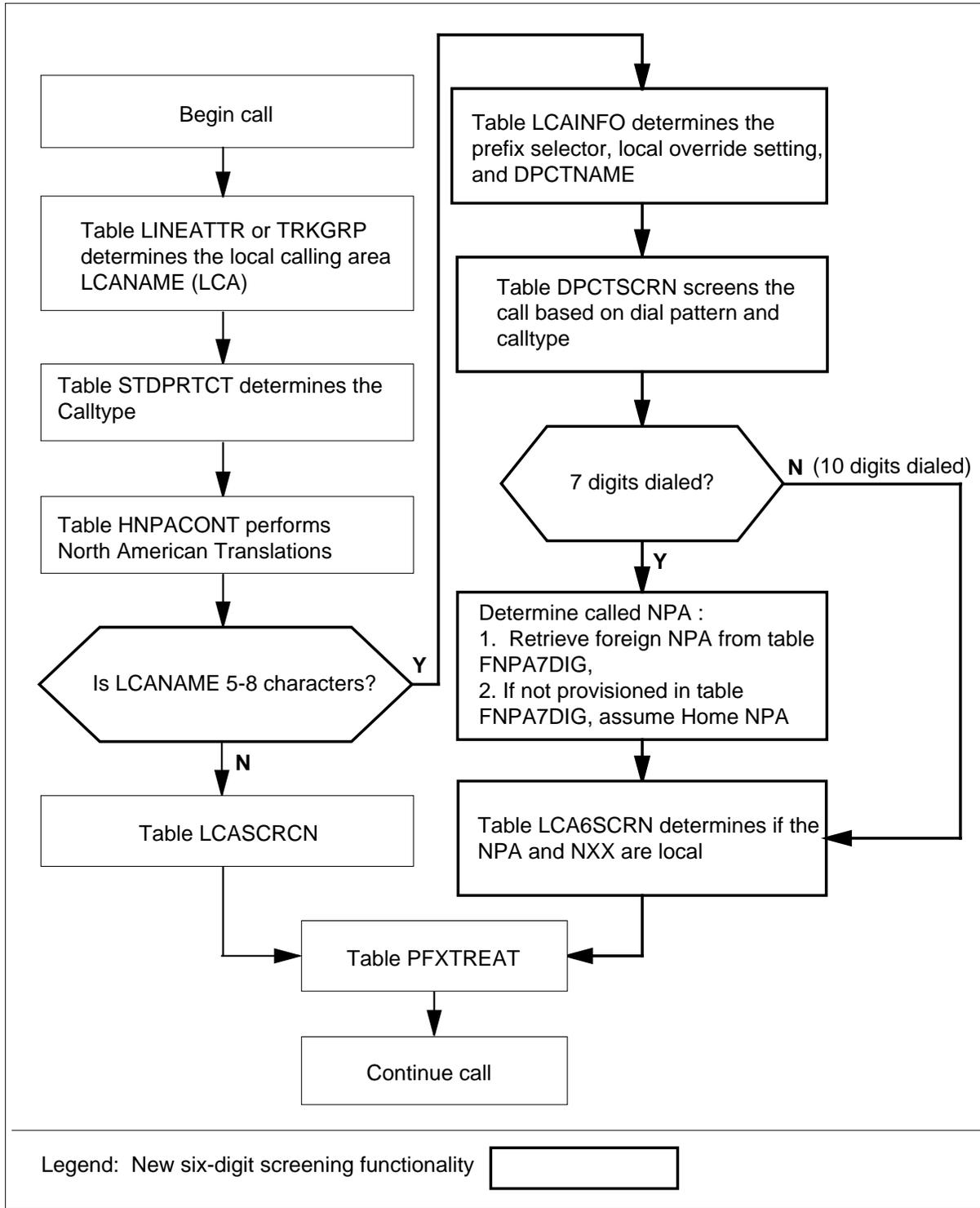
LCA Six-Digit Screening and STS Decoupling (continued)

- Table LCA6SCRN (Local Calling Area Six Screen) is one of the three tables that provide table control for six-digit screening. Table LCA6SCRN performs the LCA six-digit screening based on the LCANAME, NPA, and OFC code provided. These three values combined serve as the index to the table.
- Table BILLCODE contains translations attributes for incoming Centralized Automatic Message Accounting (CAMA) trunk groups.

The following flowchart shows the LCA Six-Digit Screening and STS Decoupling translation process.

LCA Six-Digit Screening and STS Decoupling (continued)

Table flow for LCA Six-Digit Screening and STS Decoupling



LCA Six-Digit Screening and STS Decoupling (continued)

The following table lists the datafill content used in the flowchart.

Datafill example for LCA Six-Digit Screening and STS Decoupling

Datafill table	Example data
DPCTSCRN	PFXFOR10 (SEVEND DD MSCA) (PFXPLUS7D DD MSCA) (TEND NP MSLC) (PFXPLUS10D NP MSLC)
LCAINFO	LCA00001 OPTL Y PFXFOR10
LCA6SCRN	LCA00001 704 471 471 Y
LINEATTR	0 IBN NONE NT NSCR 0 613 NPRT LCA00001 NONE 0 NIL NILSFC LATA1 0 NIL NIL 00 N AMAGRPID MR_GRP
TRKGRP type PX	OGR2NONECD PX 25 ELO NCID 2W MI MIDL Y P621 NSCR 613 LCL NONE TSPS LCA00001 N N 32 NIL 6211234 DIALTN Y Y NZOCC Y NILLATA Y 7 (BCNAME 56KDATA) \$
TRKGRP type P2	X95PBX P2 55 ELO NCID MI MIDL 7 Y P621 PBX1 613 LCL NONE TSPS 6211234 LCA00001 N N N N N N NIL Y CARR1 N LATA1 Y 10 CHGNUM
DIGMAN	(FLD DDD LCA00001 613 N N) \$
BILLCODE	841 LCA00001 TCA3 613841 CAM0

Limitations and restrictions

The following limitations and restrictions apply to LCA Six-Digit Screening and STS Decoupling:

- In table DPCTSCRN, you cannot delete or change the permanent tuple PFXFOR10. The switch rejects any attempt to delete or change this tuple.
- In table DPCTSCRN, you cannot add a tuple with a DPCTNAME of NONE. The switch rejects any attempt to add this name.
- Tables DPCTSCRN and LCAINFO have a table threshold of 75 percent. If you attempt to add too many tuples, the switch displays a warning indicating you have exceeded the 75 percent threshold. The switch generates a DFIL800 log report also.
- LCA NAMES in tables LCAINFO and LCA6SCRN must be at least five characters. If you attempt to enter an LCA NAME less than five characters, the switch displays the error message "LCA NAME must be greater than 4 characters."

LCA Six-Digit Screening and STS Decoupling (continued)

- The Local Call Area Six-Digit Screening capability applies to the NA100 software release. Provisioning support of Local Call Area Six-Digit Screening capability applies to the following tables only:
 - TRKGRP, for PX and P2 trunks only
 - LINEATTR, for NA100 line class codes only
 - BILLCODE
 - DIGMAN, for command FLD only
- The software does not support table DATAOWNR for tables LCAINFO, DPCTSCRN, or LCA6SCRN.
- For Automatic Route Selection (ARS) translations, users must provision table FNDA7DIG. For ARS seven-digit calls, the switch cannot derive the caller's home NPA because the caller's STS in table LINEATTR does not represent a valid NPA.
- In table LCA6SCRN, you cannot enter a TOOFC that is less than the FROMOFC. The switch rejects any attempt to make such an entry.
- In table LCA6SCRN, you cannot add a new tuple with a FROMOFC and TOOFC range that is already in the table. The switch rejects any attempt to add such an entry.
- In table LCA6SCRN, you cannot use the CHANGE command to increase the TOOFC range of a tuple. The switch rejects any attempt to make such a change.
- In table LCA6SCRN, you can use the CHANGE command to change the TENDLOC field only. The switch rejects any attempt to change a tuple in table LCA6SCRN without changing field TENDLOC.
- In table LCA6SCRN, you cannot use the DELETE command to delete a range of OFCs. You must delete OFCs within a range one at a time. When you perform a tuple DELETE, the switch deletes the OFC specified as the FROMOFC.

Interactions

-Digit Screening and STS Decoupling has no functionality interactions.

Activation/deactivation by the end user

-Digit Screening and STS Decoupling requires no activation or deactivation by the end user.

Datafilling office parameters

-Digit Screening and STS Decoupling does not affect office parameters.

LCA Six-Digit Screening and STS Decoupling (continued)

Datafill sequence

The following table lists the tables that require datafill to implement LCA Six-Digit Screening and STS Decoupling. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for LCA Six-Digit Screening and STS Decoupling

Table	Purpose of table
DPCTSCRN	Table Dial Plan and Call Type Screening is one of three tables that provide table control for six-digit screening. A screening plan consists of a name and a set of screening options. Use this table to establish a set of local screening rules.
LCAINFO	The Local Calling Area table contains the local calling area (LCA) information for six-digit screening. The table provides an LCA index based on the LCANAME only, and eliminates an STS as an index value. Table LCAINFO can link each LCANAME with a customized screening plan in the dial plan and call type screening plan table.
LCA6SCRN	Local Calling Area Six Screen. This table performs the six-digit screening based on the LCANAME, NPA, and OFC code provided. These three values are the index to the table. This table can also mark a 10-digit call as non-local.
LINEATTR	Line Attribute. This table contains attributes that are assigned to normal lines in table LENLINES and to Meridian stations and attendant consoles in the MDC translation tables. The LCANAME is assigned in this table.
TRKGRP	Trunk Group. This table contains operating company-defined data associated with each trunk group that exists in the switching unit. The LCANAME is assigned in this table.
DIGMAN	Digit Manipulation. This table contains destination codes for simplified dialing. The subscriber can adopt a destination code-based dialing plan for the private network that includes the switching unit.
BILLCODE	Billing Code. This table lists information for each Nxx central office code, special billing code, and wide area telephone service originating code that is allowed to originate DDD calls over incoming lines from North Electric, AMR5, or centralized automatic message accounting (CAMA) trunk groups.

LCA Six-Digit Screening and STS Decoupling (continued)

Datafilling table DPCTSCRN

The following table shows the datafill for LCA Six-Digit Screening and STS Decoupling for table DPCTSCRN.

Datafilling table DPCTSCRN

Field	Subfield or refinement	Entry	Explanation and action
DPCTNAME		1 to 16 characters	Dial plan and call type screening name. This field is the key index field. Enter the dial plan and call type screening name. The switch rejects any attempt to add the name of NONE to this table. The screening plan name PFXFOR10 is always the first tuple. It is permanent and read only. Table LCAINFO can always reference the PFXFOR10 tuple. For any other desired screening behavior, define a screening plan in table DPCTSCRN. Reference the screening plan on a local calling area basis from table LCAINFO.
SCRNOPTS		1 to 12 characters	Screening options. This field contains the screening options associated with a dial plan and call type screening name. There can be as many as 12 screening options, one for each combination of dialing pattern and call type. Each screening option contains three fields, DIALPAT, CALLTYPE, and TREAT. A dollar sign (\$) indicates no screening options. In that case, all call scenarios default to UNDT treatment and complete with no screening.
	DIALPAT	SEVEND, PFXPLUS7D, TEND, PFXPLUS10D	Dialing patterns. Enter SEVEND for 7 digits, PFXPLUS7D for 0/1+ 7 digits, TEND for 10 digits, and PFXPLUS10D for 0/1+10 digits.
	CALLTYPE	NP, DD, OA	Call types. Enter NP, DD, or OA for the call type.
	TREAT	EXTENDED_TREATMENT	Treatment. Enter EXTENDED_TREATMENT to indicate all standard treatments of this type.

Datafill example for table DPCTSCRN

The following example shows sample datafill for table DPCTSCRN.

LCA Six-Digit Screening and STS Decoupling (continued)

MAP display example for table DPCTSCRN

```

>DPCTSCRN

DPCTNAME                                SCRNOPTS
-----
PFXFOR10      (SEVEND DD MSCA) (PFXPLUS7D DD MSCA)
              (TEND NP MSLC) (PFXPLUS10D NP MSLC)
LCA1PLAN      (PFXPLUS7D DD MSCA) (PFXPLUS10D OA MSOA)
SOCLOC005     (PFXPLUS7D NP MSCA) (PFXPLUS7D DD MSCA)
              (PFXPLUS7D OA MSOA)
    
```

Datafilling table LCAINFO

The following table shows the datafill for LCA Six-Digit Screening and STS Decoupling for table LCAINFO.

Datafilling table LCAINFO (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LCANAME		5 to 8 characters	Local calling area name. This field is the key index to the table. Enter a unique LCANAME for six-digit screening. The LCANAME must be at least five characters. If you attempt to enter an LCANAME of less than five characters, the switch displays the error message "LCANAME must be greater than 4 characters." LCANAMEs defined in table LCASCRCN are not allowed as datafill in table LCAINFO.
PFXSELEC		OPTL, MAND, MNDT, or OWAT	Prefix selector. Enter one of the four values. This field functions exactly like the PFXSELEC in table LCASCRCN. The values in this field are an index into table PFXTREAT.
<p>Note: For any other desired screening behavior, define a screening plan in table DPCTSCRN. Reference the screening plan on a local calling area basis from table LCAINFO.</p>			

LCA Six-Digit Screening and STS Decoupling (continued)

Datafilling table LCAINFO (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LOCALOVR		Y OR N	Local override. Enter Y or N. The Equal Access Call Attributes Control feature uses this field. The control feature blocks local calls when the subscriber dials a carrier access code by accident. The carrier network does not have to resend local calls to resolve charges between the local exchange carrier and interexchange carrier. The LOCALOVR field determines when the switch should block misdialed calls. Y indicates the local nature of the call takes precedence.
DPCTNAME		1 to 16 characters	Dial plan and call type screening plan name. Enter the same DPCTNAME entered in table DPCTSCRN or "NONE".

Note: For any other desired screening behavior, define a screening plan in table DPCTSCRN. Reference the screening plan on a local calling area basis from table LCAINFO.

Datafill example

Datafill example for table LCAINFO

The following example shows sample datafill for table LCAINFO.

MAP display example for table LCAINFO

```

>LCAINFO

LCANAME      PFXSELECT  LOCALOVR  DPCTNAME
-----
LCA00001     OPTL       Y          NONE
LSP00002     MAND       N          NONE
LOCL1001     OPTL       Y          PFXFOR10
LOCL2001     MNDT       N          LOC2001
LOCL1002     OWAT       Y          SOCL0C0005
    
```

LCA Six-Digit Screening and STS Decoupling (continued)

Datafilling table LCA6SCRN

The following table shows the datafill for LCA Six-Digit Screening and STS Decoupling for table LCA6SCRN.

Datafilling table LCA6SCRN (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LCANAME		5 to 8 characters	Local calling area name. This field is the key index to the table. Enter the LCA name of the location to provision the new LCA information for six-digit screening. The LCANAME must be at least five characters. If you attempt to enter an LCANAME of less than five characters, the switch displays the warning "LCANAME must be greater than 4 characters." LCANAMEs defined in table LCASCRCN are not allowed as datafill in table LCAINFO.
NPA		Three_digit_code (200 to 999)	Numbering plan area. Enter a three-digit code. For seven-digit dialed calls, the NPA comes from table FNPA7DIG. If there is no corresponding tuple in FNPA7DIG, the home NPA becomes the default.
FROMOFC		Three_digit_code (200 to 999)	From office code. This field defines the beginning office code for the range of office codes designated as local. If the range of office codes you entered spans the entire NPA, enter a value of 200 in this field. Office codes 000-199 are restricted. You can enter N11 codes, if necessary. For these codes, the switch prefixes the home NPA on the OFC code.

LCA Six-Digit Screening and STS Decoupling (continued)

Datafilling table LCA6SCRN (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
TOOFC		Three_digit_code (200 to 999)	To office code. Enter the three-digit code. This field defines the ending code for the range of office codes. If the range of office-code entries spans the entire NPA, enter a value of 999 in this field. You can enter N11 codes, if necessary. For these codes, the switch prefixes the home NPA on the NXX code. The TOCOFC field cannot be less than the FROMOFC field.
TENDLOC		Y, N	Ten-digit local. Enter Y or N. If you set this field to Y, 10-digit or prefix+10-digit dialed calls are local. If you set this field to N, 10-digit or prefix+10-digit dialed calls are toll. Complete this field on an OFC range basis. If a specific OFC code requires a TENDLOC value different from the OFC range, break out the required OFC code. The TENDLOC field is valid only on 10-digit or prefix+10-digit dialed calls. This field is not applicable to a 7-digit or prefix+7-digit dialed calls.

Datafill example**Datafill example for table LCA6SCRN**

The following example shows sample datafill for table LCA6SCRN.

LCA Six-Digit Screening and STS Decoupling (continued)

MAP display example for table LCA6SCRN

```

>LCA6SCRN

LCANAME      NPA      FROM_OFC    TO_OFC      TEND_LOC

-----

LOCL0001    704      471         471         Y
LOCL0001    704      479         479         Y
LOCL0001    704      682         684         Y
LOCL0001    704      990         991         Y
LOCL0001    704      992         992         N
LOCL0001    919      471         471         Y
LOCL0001    919      479         479         Y
LOCL0001    919      682         684         Y
LOCL0001    919      990         991         Y
LOCL0001    919      992         992         N
    
```

Datafilling table LINEATTR

The following table shows the datafill for LCA Six-Digit Screening and STS Decoupling for table LINEATTR. Only the fields that apply directly to LCA Six-Digit Screening and STS Decoupling are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table LINEATTR

Field	Subfield or refinement	Entry	Explanation and action
LCANAME		alphanumeric (5 to 8 characters) or NLCA	Local calling area screening name. If you require screening of local central office codes (NNX), enter the local calling area screening name assigned to the line attribute index. Enter a local calling area screening name provisioned in table LCAINFO. If screening of local NNX codes is not required, enter NLCA.

Datafill example

The following example shows sample datafill for table LINEATTR.

LCA Six-Digit Screening and STS Decoupling (continued)

MAP display example for table LINEATTR

```

>LINEATTR

LNATTIDX  LCC  CHGCLSS  COST  SCRNL  LTG  STS  PRTNM  LCANAME  ZEROMPOS  TRAFSNO
MRSA      SFC  LATANM  MDI      IXNAME  DGCLNAME  FANIDIGS
                RESINF                                OPTIONS
-----
      0  IBN      NONE    NT     NSCR   0   613  NPRT    LCA613    NONE      0
NIL  NILSFC  NILLATA  0     NIL      NIL      00
                N                AMAGRPID MR_GRP      $
      1  IBN      NONE    NT     NSCR   0   613  NPRT    NLCA      NONE      0
NIL  NILSFC  NILLATA  0     NIL      NIL      00
                N                AMAGRPID FR_GRP     $
      2  1FR      NONE    NT     NSCR   0   613  NPRT    NLCA      NONE      0
NIL  NILSFC  NILLATA  0     NIL      NIL      00
                N                LCABILL HOT LDSV ACT  $
    
```

Datfilling table TRKGRP

The following table shows the datfill for LCA Six-Digit Screening and STS Decoupling for table TRKGRP. Only the fields that apply directly to LCA Six-Digit Screening and STS Decoupling are shown. For a description of the other fields, refer to the data schema section of this document. For table TRKGRP, the LCANAME field change affects only two trunk group types, PX and P2.

Datfilling table TRKGRP type PX and P2

Field	Subfield or refinement	Entry	Explanation and action
GRPINFO			Group information. This field consists of subfield LCANAME.
	LCANAME	alphanumeric (5 to 8 characters) or NLCA	<i>Local calling area screening name</i> If you require screening of local NNX codes, enter the the local calling area screening name assigned to the trunk group. Enter a local calling area screening name provisioned in table LCAINFO. If you do not require screening of local NNX codes, enter NLCA.

Datfill example

The following examples show sample datfill for table TRKGRP.

LCA Six-Digit Screening and STS Decoupling (continued)

MAP display example for table TRKGRP PX

```

TRKGRP

GRPKEY          GRPINFO
-----
OGR2NONECD
PX  25  ELO  NCID  2W  MI  MIDL  Y  P621  NSCR  613  LCL
NONE  TSPS  LCA613  N  N  32  NIL  6211234  DIALTN  Y  Y
NZOCC  Y  NILLATA  Y  7  (BCNAME  56KDATA)$
    
```

MAP display example for table TRKGRP P2

```

TRKGRP

GRPKEY          GRPINFO
-----
X95PBX         P2  55  ELO  NCID  MI  MIDL  7  Y  P621  PBX1  613  LCL
NONE  TSPS  6211234  LCA613  N  N  N  N  N  N  NIL  Y  CARR1
N  LATA1  Y  10  CHGNUM
    
```

Datafilling table DIGMAN

The following table shows the datafill for LCA Six-Digit Screening and STS Decoupling for table DIGMAN. Only the fields that apply directly to LCA Six-Digit Screening and STS Decoupling are shown. For a description of the other fields, refer to the data schema section of this document. (In the DMIDATA field, with a DIGCOM of FLD, and a field of DDD, the LCA subfield requires the LCANAME from one to eight characters.

Datafilling table DIGMAN

Field	Subfield or refinement	Entry	Explanation and action
DDD			Direct distance dialing. This field consists of subfield LCA.
	LCA	alphanumeric (1 to 8 characters) or NLCA	Local calling area screening name. Enter a local calling area screening name provisioned in either table LCASCRCN or LCAINFO.

LCA Six-Digit Screening and STS Decoupling (continued)

Datafill example for table DIGMAN

The following example shows sample datafill for table DIGMAN.

MAP display example for table DIGMAN

```

>DIGMAN

DMIKEY          DMIDATA
-----
1              (FLD DDD LOCL0001 919 N N)$
```

Datafilling table BILLCODE

The following table shows the datafill for LCA Six-Digit Screening and STS Decoupling for table BILLCODE. Only the fields that apply directly to LCA Six-Digit Screening and STS Decoupling are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table BILLCODE

Field	Subfield or refinement	Entry	Explanation and action
LCANAME		alphanumeric (1 to 8 characters) or NLCA	Local calling area screening name. If you require screening of local NXX codes, enter the local calling area screening name assigned to the trunk group. Enter a local calling area screening name provisioned in either table LCASRCN or LCAINFO.

Datafill example for table BILLCODE

The following example shows sample datafill for table BILLCODE.

MAP display example for table BILLCODE

```

> BILLCODE

CLLA          BILLCODE  LCANAME  SCRNL  ACTUALBC  CHGCLSS
-----
ICADCM       621        LOC00001  TCA9   613621   CAMO
```

LCA Six-Digit Screening and STS Decoupling (continued)

Translation verification tools

TRAVER support for six-digit screening provides TRACE and No TRACE capability for each of the new tables, LCAINFO, DPCTSCRN, and LCA6SCRN. As shown in the following figure, the new five- to eight-character LCA NAME is visible in table LINEATTR.

Table LCAINFO is the first table accessed. The display for Table LCAINFO shows the LCA NAME, PFXSELECT, LOCALOVR, and DPCTNAME. Next, TRAVER displays table DPCTSCRN, which shows the selected DPCTNAME, dialing pattern, call type, and treatment for the call. If table LCAINFO does not specify a DPCTNAME (for example, NONE), the TRAVER output does not display table DPCTSCRN. If TRAVER does not find the specified dial plan and call type in the SCRNOPTS list of table DPCTSCRN, TRAVER displays the message "DIALPLAN CALLTYPE not found in option list for DPCTNAME. Treatment does not apply." TRAVER substitutes DIALPLAN CALLTYPE, and DPCTNAME with the actual values of the call.

The last of the three new tables to be accessed is table LCA6SCRN. In order to index into table LCA6SCRN, the switch needs to obtain the called NPA. If the call is a ten-digit call, then the NPA comes from the dialed digits. If the call is a seven-digit call, then the NPA comes from table FNPA7DIG. However, if table FNPA7DIG does not contain the tuple, then the home NPA becomes the NPA. Table LCA6SCRN is then accessed using the LCA NAME, NPA and NXX. The display for table LCA6SCRN shows the LCA NAME, NPA, and office code range that contains the dialed NXX. If the NPA is not found or the dialed NXX is not contained in the office code range for the LCA NAME, a message is displayed indicating the tuple is not found.

The following example shows the output from TRAVER when it is used to verify LCA Six-Digit Screening and STS Decoupling.

LCA Six-Digit Screening and STS Decoupling (continued)

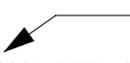
TRAVER output example for LCA Six-Digit Screening and STS Decoupling

```

>traver 1 5210122 5210100 b
TABLE LINEATTR
0 1FR NONE NT NSCR 0 619 POT1 LPOT0001 RTE1 0 NIL NILSFC L123 0 NIL NIL 00 Y RES1 0 0
$
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE DNATTRS
TUPLE NOT FOUND
TUPLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP NIL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
POT1 (1) (1) 3
.SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING. CALL TYPE DEFAULT IS NP. PLEASE REFER TO
DOCUMENTATION
.52 610 N NP 0 NA
.SUBTABLE AMAPRT
.KEY NOT FOUND
.DEFAULT VALUE IS: NONE OVRNONE N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
619 Y 911 8 (94) (1) (0) (0) 1 $
.SUBTABLE HNPACODE
.521 521 DN 619 521
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
AIN Info Analyzed TDP: no subscribed trigger.
TABLE TOFCNAME
619 521 $
TABLE DNINV
619 521 0100 L HOST 00 1 10 13
AIN Term Attempt TDP: no subscribed trigger.
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND

```

New expanded
LCANAME



—continued—

LCA Six-Digit Screening and STS Decoupling (end)

TRAVER output example for LCA Six-Digit Screening and STS Decoupling (cont.)

```
LNP Info: Called DN resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCAINFO
LPOT0001 OPTL N SOCLOC0005 ←
TABLE DPCTSCRN
SEVEND NP not found in option list for SOCLOC0005
Treatment does not apply
Seven digit call: Using Table FNPA7DIG to obtain NPA.
TABLE FNPA7DIG
TUPLE NOT FOUND
Performing lookup based on home NPA.
TABLE LCA6SCRN
LPOT0001 619 521 521 N ←
TABLE PFXTREAT
OPTL NP Y NP UNDT

+++TRAVER: SUCCESSFUL CALL TRACE +++

DIGIT TRANSLATION ROUTES

1 LINE          6195210100          ST

TREATMENT ROUTES. TREATMENT IS: GNCT
1 ATB

+++TRAVER: SUCCESSFUL CALL TRACE +++
```

New LCA six-screening tables and additional lookup in table FNPA7DIG

SERVORD

-Digit Screening and STS Decoupling does not use SERVORD.

10 Datafilling LOC Generic CPN

The following chapter describes the LOC Generic CPN, LOC00032, functionality.

Alternate Trunk Group Selection

Ordering codes

Functional group ordering code: LOC00033

Functionality ordering code: LOC00033

Release applicability

NA013 and up

NA013 introduced the Alternate Trunk Group Selection feature.

Requirements

The Alternate Trunk Group Selection feature has no functional group requirements.

Description

The Alternate Trunk Group Selection feature provides the capability to evenly distribute E911 calls over a set of trunk groups in the route list. This feature capability is optional. The user can turn on the feature using the password controlled Software Optionality Control (SOC) and the routing datafill.

Operation

This feature introduces the alternate trunk group selection (ATGS) SOC and the ATGS option.

The elements in the route list become equal primary routes under the following conditions:

- The user turns on the ATGS SOC.
- The user provisions the ATGS option in the route list.

This feature provides route selection in a clockwise direction. When the feature reaches the end of the list of elements, the search continues with the first element in the list. The search stops when the system finds an idle member to complete the call. The select sequence methods for the trunk group control the search for an idle member within an element. The trunk search mechanism includes a control for the maximum number of elements in a route list that search for an idle member. The maximum number of elements in a route list ranges from 1 to 50.

Alternate Trunk Group Selection (continued)

The element search continues until one of the following conditions is met:

- The search locates an idle member to complete the call. The search offers the call to the element in the route list.
- The search reaches the maximum attempt (MAX_ATMPT) number for the given route list. This condition is the route exhaust condition which can route the call to treatment. In this case, the DFIL802 log does not generate.
- The number of elements attempted reaches or exceeds the maximum value of 50 and one of the routes in the call has ATGS functionality turned on. In this case, the DFIL802 log generates and the call routes to treatment.

There is office-wide control for this feature through SOC. The SOC provides a mechanism to activate and deactivate the ATGS software. The software supports the IDLE (inactive) and ON (active) states.

The ATGS option is independent of the ATGS SOC. The operating company can provision the ATGS option when the ATGS SOC is idle. However, the feature only works when the operating company provisions the option, and the ATGS SOC is on.

This feature adds the OPTIONS field with the ATGS option to the following tables:

- IBNRTE
- IBNRT2
- IBNRT3
- IBNRT4
- OFRT
- OFR2
- OFR3
- OFR4

The user selects the option after entering elements in the route list. The user either enters an ATGS option or a dollar sign (\$) after the route elements. The MAX_ATMPT subfield appears when the user provisions the ATGS option. The MAX_ATMPT subfield has values ranging from 1 to 50.

Alternate Trunk Group Selection (continued)

Translations table flow

The list that follows includes the Alternate Trunk Group Selection feature translations tables:

- Table IBNRTE. This table contains the route lists that a route reference index number identifies. This feature adds the OPTIONS field with the ATGS option. This option has a MAX_ATMPT subfield with values ranging from 1 to 50.
- Table OFRT. The system uses this table if the system translates an originating call, and a previous stage identifies a route reference index. This feature adds the OPTIONS field with the ATGS option. This option has a MAX_ATMPT subfield with values ranging from 1 to 50.

The table that follows lists the datafill content used in the flowchart.

Datafill example for Alternate Trunk Group Selection

Datafill table	Example data
IBNRTE	911 (N N N N N E911OGES 0) (N N N N N ALESOG 0) \$(ATGS 2) \$
OFRT	912 (N D E911OGOP 3 911 N) (N D E911OGES 3 911 N) \$(ATGS 2) \$

Limitations and restrictions

The system provides this feature for routes in the following tables:

- IBNRTE
- IBNRT2
- IBNRT3
- IBNRT4
- OFRT
- OFR2
- OFR3
- OFR4

This feature supports the following trunk types for E911 call applications in North American translations:

- ES—emergency services
- OP—operator position

Alternate Trunk Group Selection (continued)

- ISUP IT—integrated services digital network user part intertoll
- ISUP ATC—integrated services digital network user part access tandem to carrier

The operating company is responsible for ensuring that all trunk groups in the route list have enough members.

Interactions

The element search for the call starts from the head element of the route list under the following conditions:

- after a reload restart
- after the ATGS SOC state changes from ON to IDLE and then IDLE to ON. The element search for the call in the route list starts from the element next to the last selected element during the first ON state.
- after the route list datafill changes

Translation verification (TRAVER)

The following occurs when ATGS SOC is on, and the system provisions ATGS for the route list:

- TRAVER only displays the element attempted for the next call.
- The system displays the following message:
ATGS IS TURNED ON: Alternate Routes will be used.

The TRAVER display remains the same under the following conditions:

- when ATGS SOC is idle
- when the system does not provision ATGS for a route list

If a call tries to terminate on the route selected by the first TRAVER, a second TRAVER can display the route. This condition assumes that the two TRAVER commands attempt to terminate the call on the same route list.

Activation and deactivation by the user

The Alternate Trunk Group Selection feature does not require activation or deactivation by the user.

Billing

The Alternate Trunk Group Selection feature does not generate billing records or changes.

Alternate Trunk Group Selection (continued)

Station Message Detail Recording

The Alternate Trunk Group Selection feature does not require Station Message Detail Recording.

Office parameters used by Alternate Trunk Group Selection

The Alternate Trunk Group Selection feature does not generate office parameters.

Datafill sequence

The table that follows lists the tables that require datafill to put the Alternate Trunk Group Selection feature into operation. You must enter data into the IBNRTE table or the OFRT table.

Datafill requirements for Alternate Trunk Group Selection

Table	Purpose of table
IBNRTE	IBN Route. This table contains route lists that a route reference index number identifies.
OFRT	Office Route. The system uses this table if the system translates an originating call and a previous stage identifies a route reference index.

Datafill related to Alternate Trunk Group Selection for table IBNRTE

The table that follows provides the datafill related to the Alternate Trunk Group Selection feature for the IBNRTE table. This table includes only those fields that apply directly to the Alternate Trunk Group Selection feature.

Datafill related to table IBNRTE

Field	Subfield	Entry	Explanation and action
OPTIONS		option	Options.
	ATGS	see subfield	Alternate trunk group selection. This parameter allows subscription to the Alternate Trunk Group Selection feature.
	MAX_ATMPT	1-50	Maximum attempts. This subfield gives the maximum number of attempts to select a route.

Datafill example for table IBNRTE

The figure that follows shows sample datafill for table IBNRTE.

Alternate Trunk Group Selection (continued)

MAP example for table IBNRTE

```

TABLE IBNRTE
RTE
-----
911 (N N N N N E911OGES 0) (N N N N N AL5ESOG 0) $
                                           (ATGS 2) $
    
```

Datafill related to Alternate Trunk Group Selection for table OFRT

The table that follows provides the datafill related to the Alternate Trunk Group Selection feature for the OFRT table. This table includes only those fields that apply directly to the Alternate Trunk Group Selection feature.

Datafill related to table OFRT

Field	Subfield	Entry	Explanation and action
OPTIONS		option	Options.
	ATGS	see subfield	Alternate trunk group selection. This parameter allows subscription to the Alternate Trunk Group Selection feature.
	MAX_ATMPT	1-50	Maximum attempts. This subfield gives the maximum number of attempts to select a route.

Datafill example for table OFRT

The figure that follows shows sample datafill for table OFRT.

MAP example for table OFRT

```

TABLE OFRT
RTE
-----
912 (N D E911OGOP 3 911 N) (N D E911OGES 3 911 N) $
                                           (ATGS 2) $
    
```

Translation verification tools

The figure that follows shows sample TRAVER output for the Alternate Trunk Group Selection feature.

Alternate Trunk Group Selection (continued)

TRAVER output example for Alternate Trunk Group Selection

```
>TRAVER 1 2461170 9911 b
TABLE KSETLINE
HOST 00 1 01 05 1 DN Y 2461170 BNR 0 0 919 (3WC) (LNR) $ MBS
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE KSETFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP NIL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
BNR 0 0 0 UNREST (XLAS BNRXLA BNRFEAT BNRDIG)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, and
DIGCOL
BNR NXLA BNRXLA BNRFEAT 0 BNRDIG
TABLE DIGCOL
BNRDIG 9 POTS Y
TABLE IBNXLA: XLANAME BNRXLA
BNRXLA 9 NET N N 1 Y POTS N N GEN (LATTR 4 919_IBN1_4 NLCA_LATA1_0)
(EA MCI Y 0) $ $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
4 IBN NONE NT 0 0 NILSFC 0 NIL NIL 00 919_IBN1_4 NLCA_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
919_IBN1_4 NSCR 919 IBN1 NONE N $ $
TABLE RATEAREA
NLCA_LATA1_0 NLCA NIL LATA1 $
TABLE STDPRTCT
IBN1 (1) (0) 2
. SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING. CALL TYPE DEFAULT IS NP. PLEASE REFER TO DOCUMENTATION.
-CONTINUED-
```

Alternate Trunk Group Selection (end)

TRAVER output example for Alternate Trunk Group Selection (cont'd)

```

. 911 911 T DD IBNRTE 911 3 3 NONE
. . TABLE IBNRTE
. . 911 N N N N N E911OGES 0
. .     N N N N N AL5ESOG 0
. . ATGS IS TURNED ON: Alternate Routes will be used.
. . EXIT TABLE IBNRTE
. SUBTABLE AMAPRT
. KEY NOT FOUND
. DEFAULT VALUE IS: NONE OVRNONE N
TABLE HPCPATTN
TUPLE NOT FOUND
LNP00100 SOC Option is IDLE.
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
AIN Info Collected TDP: no subscribed trigger.
AIN Info Analyzed TDP: no subscribed trigger.

+++ TRAVER SUCCESSFUL CALL TRACE +++
INVALID TRUNK GROUP CLLI: E911OGES, OR GROUP TYPE: ES NOT SUPPORTED
DIGIT TRANSLATION ROUTES
INVALID TRUNK GROUP CLLI: E911OGES, OR GROUP TYPE: ES NOT SUPPORTED
1 E911OGES
TREATMENT ROUTES. TREATMENT IS: GNCT
1 ATB
+++ TRAVER: SUCCESSFUL CALL TRACE +++
                                -END-

```

SERVORD

The Alternate Trunk Group Selection feature does not use the Service Order System (SERVORD).

Generic MC164 Capabilities and CNAR Enhancements

Ordering codes

Functional group ordering code: LOC00032

Functionality ordering code: not applicable

Release applicability

NA012 and up

NA012 introduced Generic MC164 Capabilities and CNAR Enhancements

Requirements

Generic MC164 Capabilities and CNAR Enhancements has no functional group requirements.

Description

The Generic Module Code (MC) 164 Capabilities feature allows for recording of additional telephone number information into module codes. The module codes are part of billing records. The CNAR (Connecting Network Access Record) Enhancements feature allows recording of the billing number into the originating number field of the record.

Operation

This feature provides a generic capability to record additional telephone number information on a per-trunk basis. This capability does not depend on the demands of a selected feature, and does not require documents or customer specification.

Currently, the switch determines the telephone number information recorded for a call by the call type code. The switch only supports the dialed number and charge number for non-cellular trunks.

Trunk signaling information can contain of the following telephone number information:

- dialed number (CdN)
- calling party number (CPN)
- charge number (ChN)
- redirecting number
- billing number provisioned against a trunk (BTN)
- original called number (OCN)

Generic MC164 Capabilities and CNAR Enhancements (continued)

This section of the feature supports two primary requirements for additional telephone number information:

- add to module 164 containing charge number signaling information for incoming trunk calls
- add to module 164 containing the calling party number signaling information for incoming trunk calls

This feature provides the above functionality for Integrated Services Digital Network Primary Rate Interface trunks (ISDN PRI) and ISDN User Part intertoll trunks (ISUP IT) for incoming side only.

The switch does not support multifrequency trunks for enhancements of this feature. This feature attaches Module 164 to all billable ISUP IT and ISDN PRI incoming trunk calls. This module does not force billing records for an otherwise non-billable call.

Enabling Module 164 Generic Capabilities

The existing Record Calling Party Number (RECORDCPN) option is valid for the ISUP IT and ISDN PRI incoming trunk calls. The Record Charge Number (RECORDCHN) option is also valid for the supported trunks. The switch adds this feature by provisioning the RECORDCPN or RECORDCHN options in table Automatic Message Accounting Trunk Group Option (AMATKOPT).

Connecting Network Access Record Enhancements

The CNAR Enhancements include support for a per-trunk group billing number as follows:

- Provide CNAR call type 720 structure 625 support for record billing number indicating the provisioned trunk group billing number.
- Update Originating Calling Number to increase compliance as indicated follows:
 - If the CNAR subfield RECORDBTN is active, record the billing number.
 - If the CNAR subfield RECORDBTN is inactive, record the ChN, CPN, RN or OCN selections.

CNAR is a valid option for the IT, TI, T2, SC, OC, OP, and OI trunk types.

Translations table flow

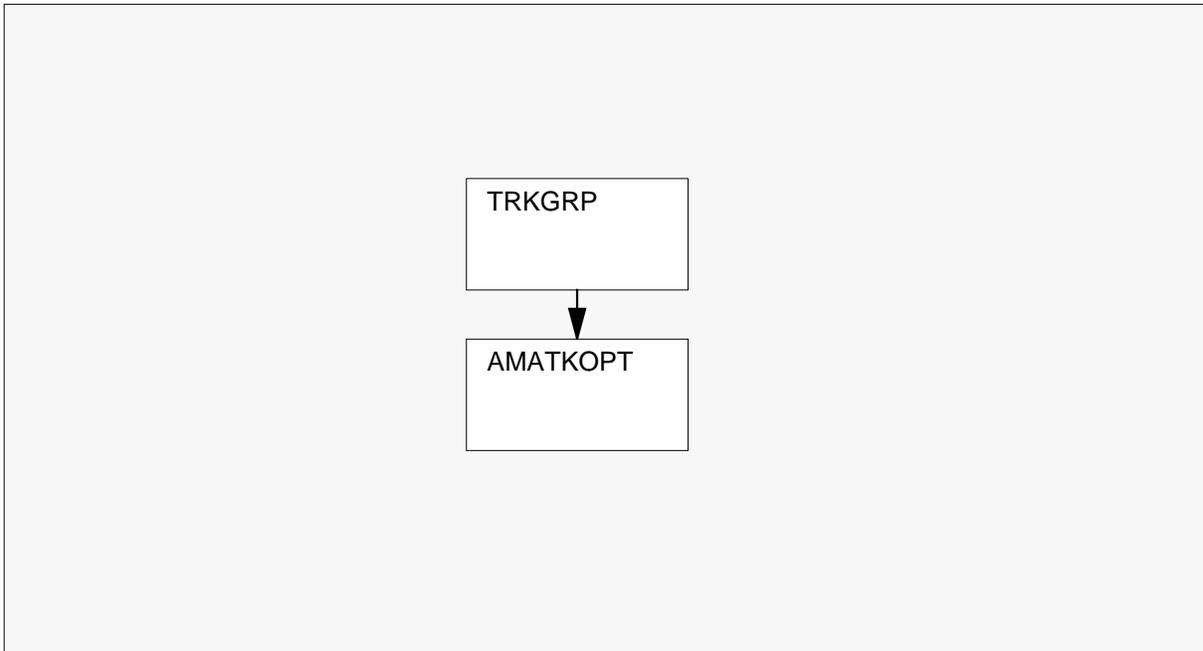
Table AMATKOPT allows the application of Bellcore-format automatic message accounting (AMA) options to separate trunk groups. This feature

Generic MC164 Capabilities and CNAR Enhancements (continued)

adds option RECORDBTN to subfield CNAR in table AMATKOPT. The feature also adds field RECORDCHN to table AMATKOPT.

The flowchart that follows provides the Generic MC164 Capabilities and CNAR Enhancements translations process.

Table flow for Generic MC164 Capabilities and CNAR Enhancements



The table that follows lists the datafill content used in the flowchart.

Datafill example for Generic MC164 Capabilities and CNAR Enhancements

Datafill table	Example data
AMATKOPT	ISUP2WITRTPB1 (TGMU) (RECORDCHN) (RECORDCPN) \$ ISUP2WITEA (CNAR N Y 9199918425) (RECORDCPN) \$ AL7ITICS7 (RECORDCPN) \$ AL7ITOGS7 (TGMU) (RECORDCHN) \$ AT9CELL2W (RECORDCPN) (TRKINFO) \$

Limitations and restrictions

The switch limits the Generic MC164 Capabilities and CNAR Enhancements to the following trunk types:

- IT
- TI

Generic MC164 Capabilities and CNAR Enhancements (continued)

- T2
- SC
- OC
- OP
- OI

The switch does not support any additional trunk types or multifrequency signaling.

Interactions

Generic MC164 Capabilities and CNAR Enhancements does not interact with other functionalities.

Activation and deactivation by the user

Generic MC164 Capabilities and CNAR Enhancements does not require activation or deactivation by the user.

Billing

Generic MC164 Capabilities and CNAR Enhancements does not generate billing records or changes.

Station Message Detail Recording

Generic MC164 Capabilities and CNAR Enhancements does not require Station Message Detail Recording.

Office parameters used by Generic MC164 Capabilities and CNAR Enhancements

Generic MC164 Capabilities and CNAR Enhancements does not generate office parameters.

Datafill sequence

The table that follows lists the table that requires datafill to put Generic MC164 Capabilities and CNAR Enhancements into operation.

Datafill requirements for Generic MC164 Capabilities and CNAR Enhancements

Table	Purpose of table
AMATKOPT	AMA Trunk Group Option Table. Table AMATKOPT allows the application of Bellcore-format automatic message accounting (AMA) options to separate trunk groups. The options apply to the complete trunk group.

Generic MC164 Capabilities and CNAR Enhancements (continued)

Datafill related to Generic MC164 Capabilities and CNAR Enhancements for table AMATKOPT

This feature modifies table AMATKOPT. The feature adds option RECORDBTN to subfield CNAR in table AMATKOPT. The feature also adds field RECORDCHN to table AMATKOPT.

The table that follows provides the datafill related to Generic MC164 Capabilities and CNAR Enhancements for table AMATKOPT. This table includes only those fields that apply directly to Generic MC164 Capabilities and CNAR Enhancements.(ISDN) PRI

Datafill related to table AMATKOPT (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
OPTIONS		CNAR	Enter CNAR for connecting network access record. This entry prompts the operating company personnel to datafill field LCNAR, RECORDBTN {Y, N} and a 10-digit billing number. CNAR includes three fields: BILLNO, LCNAR, and RECORDBTN. Note: This option enables the connecting network access record generation for the indicated trunk group.
	BILLNUM	10-digit vector {0,1,2,3,4,5, 6,7,8,9}	Enter a 10-digit billing number. This field is mandatory and is bound against option CNAR. If the the switch does not receive the ANI of the calling party, the billing number fills the originating billing number field in the CNAR AMA record. Note: The CNAR record uses the BILLNUM and does not affect other billing records.
	LCNAR	Y or N	Enter Y or N. If set to Y, the switch generates the connecting network access record when the switch performs an LNP query for the call originated by the CLLI. If set to N, the switch generates the CNAR value for all calls originated by the CLLI.

Generic MC164 Capabilities and CNAR Enhancements (end)

Datafill related to table AMATKOPT (Sheet 2 of 2)

Field	Subfield	Entry	Explanation and action
	RECORDBTN	Y or N	Enter Y or N. The default for the record billing number for each trunk is N.
	OPTION	RECORDCHN	Record Charge Number. Enter RECORDCHN to assign the charge number on the ISUP IT or PRI trunks. The default = absent.
	OPTION	RECORDCPN	Calling Number Recording. Enter RECORDCPN to assign the charge number on the ISUP IT or PRI trunks. The default = absent.

Datafill example for table AMATKOPT

The figure that follows shows sample datafill for table AMATKOPT.

MAP example for table AMATKOPT

```

CLLI          OPTIONS
-----
ISUP2WITRTPBI (TGMU) (RECORDCHN) (RECORDCPN) $
ISUP2WITEA (CNAR N Y 9199918425) (RECORDCPN) $
AL7ITICS7 (RECORDCPN) $
AL7ITOGS7 (TGMU) (RECORDCHN) $
AT9CELL2W (RECORDCPN) (TRKINFO) $

```

Translation verification tools

Generic MC164 Capabilities and CNAR Enhancements does not use translation verification tools.

SERVORD

Generic MC164 Capabilities and CNAR Enhancements does not use the Service Order System (SERVORD).

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Nortel Networks

P.O. Box 13010

RTP, NC 27709-3010

Telephone: 1-877-662-5669

email: cits@nortelnetworks.com

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